This Technical Session listing, which provides the most detailed information. The listing is presented chronologically by day/time, showing each session and the papers/abstracts/authors within each session.

The Session Codes

TA01

Room number. Room locations are also indicated in the listing for each session.

The day of

Time Block. Matches the time blocks shown in the Program Schedule.

Time Blocks

Thursday

A — 9:00am - 10:30am
B — 11:00am - 12:30pm
C — 2:00pm - 3:30pm
D — 4:00pm - 5:30pm

Friday

A — 9:00am - 10:30am
B — 11:00am - 12:30pm
C — 2:00pm - 3:30pm
D — 4:00pm - 5:30pm

Saturday

A — 9:00am - 10:30am
B — 11:00am - 12:30pm
C — 2:00pm - 3:30pm
D — 4:00pm - 5:30pm

Thursday, 9:00am - 10:30am

■ TA01

Aula 01

Ethics

Contributed Session

Chair: Daniel Böger, Bielefeld University, Universitÿstraße 25, Bielefeld, 33615, Germany

1 - Consumer Perceptions of CSR Activities: A Cross-National Comparison

Woo Jin Choi, Associate Professor, University of Seoul, Seoul, Korea, Republic of, Ho-Jung Yoon, Jiyun Kang

While a considerable amount of research has been done in the corporate social responsibilities (CRS) literature, not many are known regarding how consumers define CSR and what type of activities are perceived as appropriate CSR activities of firms. Further, despite of the fact that consumers' cultural backgrounds might influence their prioritizing of various types of CSR-related activities of firms, how consumers' perceptions of CSR activities vary in the country level has not been yet actively researched. To fill this gap in the literature, in this research we investigate how consumers in Korea vs. the United States perceive CSR activities. Specifically, following Carroll (1979)'s model, we categorize firms' CSR activities into four types: philanthropic, ethical, legal, and economic responsibilities and compare how Korean and U.S. consumers perceive these four activities differently. Previous studies demonstrate that US executives place greatest importance on economic concern, followed by legal, ethical, and lastly philanthropic concerns (Aupperle 1984). Pinkston and Carroll (1996), using the U.S. samples, show that the order of the four types is the same, but the gap between economic and legal responsibilities is decreased and the importance of ethical responsibilities is increased. A later study by Sheth and Babiak (2009) show that executives in the U.S. sports industry put the greatest emphasis on philanthropic and ethical activities. As shown, many previous works have been done in the United States. Therefore, we believe that our findings will contribute to the CSR literature by advancing how consumers' cultural difference make them perceive the importance of the four types of CSR activities differently.

2 - Diversity Management: The Mediating Role of Trust

Monica Grosso, Professor of Marketing, Emlyon Business School, Ecully, France, Sandro Castaldo

The paper investigates the impact of a diversity-based company strategy on brand reputation, trust and loyalty. The aim of the research is to measure consumers' perceptions of the level of brand inclusion and their commitment to D&I, considering all forms of diversity. We adopt an holistic approach for investigating many types of diversities (disability, age, ethnicity, gender, sexual orientation and religion) integrated with a branding perspective, is at the heart of the research to pursue the following objectives: 1) understanding the perception of the final market regarding the brands' D&I actions; 2) measuring the impact of consumers' perceptions of inclusion on reputation, trust, brand loyalty, and Net Promoter Score. To comply with these objectives, we followed a two steps research process: i. Desk Analysis: Mapping of all companies and brands that have implemented D&I initiatives or activities aimed in the Italian market, classifying them on the base of the previous seven forms of diversity recognized in the literature. At this stage, we detected 112 different initiatives. ii. Survey: Construction of a questionnaire, using mainly scales already tested in literature, and measurement of consumers' perceptions about the level of brand inclusion, through a CAWI (Computer-aided web survey) on a representative sample of the Italian population composed by 1,068 respondents. Our results show that brands that have a continuous relationship with their customers can feed a rich and multifaceted experience in which the D&I can play a decisive role in the growth of trust, loyalty and NPS.

3 - Designing a Successful CSR Communication Strategy to Consumers – Three Steps All Managers Should Take

Sofía López-Rodríguez, Visiting Professor, University of the Balearic Islands, Palma, Spain

Despite many firms finding that there is an ever stronger business case for attention to CSR, consumer reactions to company social and environmental initiatives often differ markedly from company expectations. To help explain this divergence between the expected business case and the market reality, this article draws on existing empirical research to isolate key patterns in consumer (mis)perceptions and preferences regarding corporate responsibility—at the product as well as the company level. It proposes that if a business case is to be advanced for CSR, managers should give close attention to these diverse contingencies and avoid a 'one-size-fits-all' approach in CSR communications. It presents a conceptual framework to design a successful CSR communication strategy where various company context and consumer characteristics are analysed. This framework advances three sequential questions managers should ask as they apply specifically to their organization—whether, what and how? The goal is to help companies decide their CSR communication strategy in such a way these communications are more in tune with consumer concerns as citizens, as well as with their specific expectations of the products they purchase and the companies they buy from.

4 - The Financial Impact of Digitally Articulated Consumer Boycotts

Daniel Böger, Bielefeld University, Bielefeld, Germany, Jan Klostermann, Manuel Batram, Reinhold Decker

In recent years, there has been an enormous growth in digitally articulated consumer boycotts (DCBs), especially on Twitter. The most prominent way for consumers to articulate their participation in such DCBs is by using #boycott or #boycott'brand' in their tweets. In contrast to traditional consumer boycotts, which are often initiated by the political left and reasoned through causes like labor disputes or environmental issues, DCBs are more and more initiated by the political right. Regardless of the individual political background of a boycott, a common motivation for participating is to financially harm the boycotted company. Against this background, this research project investigates how and under which conditions DCBs impact the boycotted companies' financial value. In order to do so, we identified all publicly traded companies that have experienced major boycotts on twitter in the last ten years. Building on a database of more than 500k tweets, we detected 151 DCBs, which have primarily occurred within the last three years. Using an event study approach, we show a negative short-term financial impact of DCBs. By analyzing the influence of moderators (e.g., volume of tweets, topic of the boycott) regarding this impact, we derive strategic implications on how to deal with this increasing challenge for business and in particular marketing practice.

■ TA02

Aula 02

Retailing 1

Contributed Session

Chair: Yunqing Ma, Monash Business School, 103/803 Dandenong Road, Melbourne, 3145, Australia

1 - Selling Smokes or Smoking Sales: Investigating the Consequences of Ending Tobacco Sales

Ali Goli, University of Chicago, Chicago, IL, United States, Pradeep Chintagunta

Measuring the cross-category spillover effects of product offerings by a retail firm on the outcomes for that firm and for others in the industry is a challenging task given the difficulty in accounting for environmental factors concomitant with the action. In this paper, we study the voluntary decision by a national drugstore chain to drop the tobacco category from its stores in 2014. By leveraging the quasi-experimental nature of the exit "intervention" on revenue outcomes for other drugstore chains, we measure the spillover effect of selling tobacco on the revenue generated by non-tobacco products. We show, using Nielsen RMS data, that for each 1% increase of cigarettes sales in non-EC stores that are located near an "exiting" EC store relative to those non-EC drugstores that are not, the revenue generated by non-tobacco products grows by 0.04%. Next, using Nielsen Homescan panel data, we attempt to understand the underlying mechanism for this spillover using household purchase behavior. We find that the transfer of non-tobacco revenue to other retailers is mainly explained by reductions in the frequency of trips made by smokers to exiting stores rather than changes in the basket size. In particular, the frequency of trips to the exiting stores that included some tobacco product was negatively affected, suggesting that tobacco was one of the main drivers of store patronage for those trips. For non-smokers, we find that they react to EC's action by increasing the frequency of trips to the exiting chain. However, the gains from attracting new non-smokers to the store does not seem to outweigh losses. To test the generalizability of these results, we analyze the impact of a set of tobacco bans imposed by municipalities in Massachusetts and find similar cross-category loss patterns. Our results show that prohibiting tobacco sales in pharmacies can have cross-category spillover effects and may lead to distortions in competition between retail chains by changing the nature of store visit behavior by consumers.

2 - How Does Customization of Assortments Affect Sales?

Pei-Yu (Amy) Chien, University of New South Wales, Sydney, Australia, Jack Cadeaux, Hueimei Liang

Retailers implement micro-marketing product strategies by customizing assortments within categories. For 235 stores of an Asia convenience retailer, we observe, for each store, indexes for both expected and actual customization of assortment of SKUs that weights 25 categories within each store by each category's store-specific assortment proportion. A new customization measure using absolute differences between these indexes captures the degree to which each store implements this strategy. We then investigate: 1) how the degree of assortment customization of a store affects its sales, and 2) under what market and category conditions will the degree of customization have the strongest effect on sales. Findings reveal that a store's degree of customization has a significant and positive effect on its sales. Furthermore, such an effect is more strongly positive in the contexts of stores with high sales volatility and stores in areas with high population density. To examine the effect of the degree of customization on the sales of each category-store combination, we then adapt the measure by weighting each SKU by its revenue proportion across all stores. We apply this measure to the top six categories. Results reveal that, within food categories at the store level, the effect of the degree of customization on category sales is significant and positive. However, this result does not extend to drinks categories. Sales volatility at the category-store level and population density at the store-level moderate this effect within some categories.

3 - Managing Brands under Competitive Set Variation: An Assortment Centric Approach

Piyush Kumar, Associate Professor of Marketing, University of Georgia, Athens, GA, United States, Mayukh Dass

Given an upsurge in retailers' emphasis on the efficiency of their product portfolios, brand managers face increasing variation in the composition of the brand assortments they compete against across the various points of sale. The increased variability in assortment composition raises new questions regarding the definition of a competitor, the brand's susceptibility to the point-of-sale marketing activity of rivals, and the effectiveness of the brand's own marketing mix instruments. It is important for brand marketers to answer these questions in order to decide upon how much variation to build into their own marketing plans and what marketing mix elements to deploy to reduce their brand's vulnerability. In this paper, we propose that the marketing planning process can be made efficient by conceptualizing competition as a unified assortment and understanding the patterns in a brand's susceptibility to alternative assortment configurations and the marketing mix activities of the brand and its rival assortments. We suggest that alternative assortment configurations to which a brand exhibits similar levels of susceptibility can be systematically grouped together, within which there may be relatively little need for variation in the intensity of the brand' marketing activity. We use a mixture-type model on store-level transactions data to discover these assortment-centric vulnerability clusters and show that they vary substantially across brands. We also find substantial variation in the rivals' marketing mix elements to which different brands within the same category are vulnerable. We also find that the marketing mix elements that a brand needs to deploy to defend itself may be different from the rivals' marketing mix elements that raise its vulnerability. Our results provide guidance for marketers regarding how to use information on brand vulnerability to systematically adjust their marketing efforts across alternative assortment configurations.

4 - Supermarket Price Wars: Competitive Reactions, Their Determinants and Outcomes

Yunqing Ma, Monash University, Melbourne, Australia

The heavy promotional environment is "an intractable problem" in the US supermarkets industry. To succeed in this never-ending sequence of competitive promotional actions and reactions, it is vital for retail managers to know the implications of their competitors' actions and their own reactions, and understand whether or not their reactions are justified and how to improve the effectiveness of their reactions. However, there is a conspicuous absence of literature studying competitive reactions in the context of inter- store competition. Therefore, the authors conduct a systematic investigation of inter-store competitive reactions to price promotional attacks for 20 categories from 109 store pairs across the US, using 4 years of weekly data from IRI. The authors find that the predominant (65%) form of inter-store competitive response is retaliation—defenders price promoting the same category as the attacker. This is in stark contrast with brand level competition where 'no reaction' is the predominant reaction form. In addition, retaliations are short-lived and tend to be immediately implemented. Further, competitive proximity (i.e. assortment & price format similarity), category growth and size accentuate competitive reaction, whereas private label share and category breadth (number of brands) mitigate it. Competitive reaction elasticities are also moderated by market-environment characteristics. Finally, the authors find that supermarket competitive reactions are generally justified from a sales maximization perspective; retaliation, the most prevalent strategy, significantly mitigates the competitive impact. In summary, this research provides generalizable insights to guide managerial decision making in the competitive supermarket industry.

■ TA03

Aula 03

Misguided, Mistaken, and Misanthropic: Causes and Consequences of Consumers' Maladaptive Reactions

Special Session

Chair: Gizem Ceylan, University of Southern California, Los Angeles, CA, 90089-0808, United States

1 - Victims, Perpetrators, or Both? The Vicious Cycle of Feeling Disrespected and Adopting Dark, Cynical Beliefs about Human Nature

Kathleen Vohs, University of Minnesota, St. Paul, MN, United States, Olga Stavrova, Daniel Ehlebracht

Cynicism is the tendency to expect that others will engage in deception and exploitation, based on notions that people are morally bankrupt and behave treacherously in order to maximize self-interest. We tested how cynicism emerges and what maintains it. Given that cynicism's defining features revolve around beliefs about others, we looked for its roots in the interpersonal domain. Drawing on social exchange literatures, we focused on disrespect and proposed that being the target of disrespect gives rise to hostile affect. Hostility strengthens beliefs about people's nefarious nature (thus inciting cynical views), which predisposes people to further disrespect by others. The end result is a vicious cycle: cynicism and disrespect fuel one another. Two large-scale longitudinal studies, spanning 4 and 9 years, showed that feeling disrespected and holding cynical views mutually give rise to each other in an escalating pattern (Studies 1 and 2). Both effects were mediated by hostile affect (Study 1). An experiment showed that to the extent that people endorsed cynical beliefs, others were inclined to treat them disrespectfully (Study 3). Study 4's weeklong daily-diary study showed that cynical individuals' experiences of disrespect resulted in an increased propensity to treat others disrespectfully, which in turn increased the likelihood of being treated disrespectfully by others. These results illustrate how experiencing disrespect gives rise to cynicism and how cynicism elicits disrespectful reactions in others, in turn reinforcing the cynicism that caused these negative reactions in the first place.

2 - Do Product Risks Matter when Perfection is Possible? Perfectionist Consumers, their Risk Perceptions and Choice

Gizem Ceylan, University of Southern California, Marshal School of Business, 3670 Trousdale Parkway, Los Angeles, CA, 90089-0808, United States, Ceren Kolsarici, Debbie MacInnis

Consumers are becoming more perfectionistic in their expectations from themselves and products they use. Practitioners market products and services as a means by which consumers can achieve perfect outcomes, such as having the perfect body or fastest cooker. However, achieving perfection can sometimes entail risk. We ask whether desires for perfectionism influence the extent to which consumers are willing to engage in purchase decisions that entail risk. We do so by introducing and examining a novel construct - perfectionism - in consumers' decision contexts. Specifically, we examine how the two different types of perfectionism - adaptive (those with high standards and high self-worth) and maladaptive (those with high standards and low self-worth) - influence how positively consumers respond to marketing offerings with high risk. In one field study (with women on cosmetic surgery) and one experimental design (with students on a memory pill), we tested and found that maladaptive perfectionists (compared to adaptive perfectionists and non-perfectionists) were more willing to engage in cosmetic surgery (study 1) and purchasing the pill (study 2) when risks were perceived to be high compared to compared to adaptive perfectionists and non-perfectionists. We also found that no difference in risk perception appeared among three groups. In line with this finding, the mechanism underlying this effect is that maladaptive perfectionists seem to perceive the level of risk level (i.e., high) associated with the outcomes as a signal of the level of the reward that one will get. Unlike other groups, these consumers pursue rather than be deterred by risky products.

3 - The Unexpected Effect of Outrage on Online Engagement

Janet Schwartz, Duke University, Dudrham, NC, United States, Caniel Mochon

People typically seek information that aligns with their political ideology and avoid information that does not. We show an important boundary condition to this effect where this pattern of engagement reverses. Across the first three field experiments ($n = 584,998$) we reliably found that Facebook users were approximately four times more likely to engage with Facebook posts advocating ideology-inconsistent political causes than ideology-consistent ones. For example, American users identified as politically liberal were significantly more likely to engage with a Facebook post that supported President Trump than one that opposed him. Likewise, American users identified as politically conservative were more likely to engage with a post that opposed President Trump than one that supported him. This interaction was significant ($p < .001$) across three field studies that also included politically charged topics like gun control and Obamacare. Moreover, this pattern of results cannot be explained by the novelty of seeing counter-ideological information (Study 4, $n = 49,363$) and is amplified by counter-ideological posts that specifically threaten in-group associations (Study 5, $n = 200,588$). As such, our results from both the field and follow-up lab studies combine to suggest that such stark increases in social media engagement is driven by the outrage generated by ideology-inconsistent content. We discuss the practical and policy implications of these findings for today's social media political marketing.

4 - Consuming Regardless of Quality: Consumers Overestimate the Impact of Quality Differences on the Amount Consumed

Tom Meyvis, New York University, New York, NY, 10012, United States, Heeyoung Moon

To what extent can consumers accurately predict how differences in the quality of a product affect their consumption amount? Across several studies of food and entertainment consumption, we find that, although people predict that they will consume more items when those are of a higher quality level, their actual consumption amount is generally insensitive to the quality level. We propose that consumers overestimate the mindfulness of their consumption decisions, resulting in an overestimation of the influence of consumption norms, and an underestimation of the influence of (non-discerning) visceral factors such as hunger and boredom.

5 - Putting the "Self" Back into Self-Control: Superordinate Goal Violation and Anticipated Regret Characterize Self-Control Failures

Joachim Vosgerau, Bocconi, Tepper School of Business, Milan, 15213-3890, Italy, Irene Scopelliti, Young Eun Huh

Self-control is a prominent topic in consumer research, where it is often conceptualized as the abstinence from hedonic consumption. We examine whether this conceptualization accurately captures consumers' experiences of self-control conflicts and self-control failures in light of seminal self-control theories in economics and psychology. In four scenario-based experiments and one experiment involving real choices, we show that consumers' experience of self-control failures is represented by choices in violation of long-term goals accompanied by anticipated regret, rather than by the choice of hedonic over utilitarian consumption. These results have important methodological, theoretical, and practical implications. Methodologically, they highlight the need of experimental paradigms with higher construct validity. Theoretically, they help elucidate how self-control is distinct from impatience and self-regulation. Practically, they provide a rich set of hypotheses that allow for deducing interventions on the individual and public policy level to help consumers exert self-control.

■ TA04

Aula 04

Natural, Field and Online Experiments

Special Session

Chair: Andres I. Musalem, Ing. Ind. Universita de Chile, Santiago, 8370456, Chile

1 - Online Advertising and Lead Generation: Recruiting for the Detroit Police Department

Michael Braun, Southern Methodist University, Dallas, TX, 75206, United States, Eric Schwartz, Hye Jin Yoon

We describe a collaborative project with the Detroit Police Department (DPD) that employs social media advertising to improve outcomes in the police recruiting process. The study involves an experiment that assesses lift generated by a purpose-built Facebook ad campaign, with various steps in the recruiting process as outcomes of interest. Our ability to limit all DPD Facebook advertising to this campaign provides us a clean baseline against which performance can be measured, thus giving this experiment sufficient statistical power. We also demonstrate how using different performance metrics like clicks and conversions (in this case, a successfully recruited police academy candidate) can lead to different assessments of the effectiveness of ad creatives.

2 - Push and Pull: Using Mobile Platforms for Consumer Research

Peter Zubcsek, Tel Aviv University, Alan D. Cooke, Cammy Crolic

One of the most basic differences among technological tools available for conducting behavioral research concerns the direction of the interaction: "Push" interactions allow the researcher to send stimuli, scale questions, and other materials to the research participant, whereas "pull" interactions enable the researcher to measure the participant's behavior in a wide variety of settings. In this paper, we argue that mobile technology, most notably smartphones, enables the development of tools that allow push and pull interactions to be integrated in a fashion that creates new research opportunities. On the one hand, as participants engage in mobile research in more naturalistic and less obtrusive settings than provided by physical labs, mobile behavioral research promises greater external validity than lab experiments. However, mobile research reduces the experimenter's control compared to physical lab settings, introducing additional complexities to the research design. To assess this trade-off, we recruited smartphone users from a large online panel, and, holding fixed the channel of response, we conducted a randomized experiment comparing the impact of providing mobile notifications to the more typical email notifications. We did this using a new tool that we have been developing, called mLab (http://mlabresearch.com/). Our results highlight some notable benefits and potential limitations of conducting behavioral research using mobile research platforms. In my talk, I will detail our methodology, review our results, and provide an overview of the implications for marketing researchers.

3 - Incentivized Reviews: Evidence from a Natural Experiment

Sungsik Park, University of South Carolina, Columbia, SC, United States, Woochoel Shin, Jinhong Xie

In online marketplaces, sellers often provide consumers with financial incentives to facilitate generation of user reviews. Despite its popularity, little is known about the consequence of such a practice. In this paper, we identify the impact of incentivized reviews using Amazon's policy change as a natural experiment. In particular, Amazon has announced ban on incentivized reviews in October 2016 and since then, has been removing extant incentivized reviews product by product. By exploiting the variation in the presence/absence of incentivized reviews, we measure the impact of incentivized reviews on the product sales as well as consumers' post-purchase evaluation. Our analysis shows that incentivized reviews lift product sales but significantly drop both the average ratings of organic reviews and the consumer sentiment measures, suggesting that incentivized reviews may hurt consumers by misleading them into suboptimal choices. Further analyses suggest that this is because incentivized reviews are not only more positive but also perceived to be more helpful by other consumers, compared to organic reviews. We discuss managerial and policy implications of these findings.

4 - Earthquakes and Brand Loyalty: Beyond the Short-term Effects of Stockouts

Andres I. Musalem, U. of Chile, Complex Engineering Systems Inst, Santiago, 8370456, Chile, Carlos Noton, Cristian Figueroa

We exploit a natural experiment that exogenously removed the top leading brands from the retail stores for several weeks to study whether prolonged stockouts can erode market shares persistently. Using a panel data of consumer purchases before and after the product shortage, we observe that the top brands only partially recovered their pre-stockout market shares. Controlling for prices, state dependence and product availability in a choice model with heterogeneous preferences, we find that the less popular brands increase their valuations among those consumers more exposed to stockouts. We interpret our estimates as evidence that changes in the consideration set forced consumers to become increasingly aware of competing products, changing their purchase behavior persistently.

■ TA05

Aula 05

Crowdfunding Platforms

Special Session

Chair: Jian Ni, Johns Hopkins University, Baltimore, MD, 21202, United States

Co-Chair: Yan Xu, Hong Kong

1 - Peer Effects in Adoption and Usage of Crowdfunding Platforms: Evidence from United States Public School Teachers

Baek Jung Kim, New York University, Tisch Hall, New York, NY, 10012, United States, Masakazu Ishihara, Vishal Singh

Public education system in the U.S. displays remarkable inequities in resources, a fact exacerbated by the budget cuts after the Great Recession in 2008. Consequently, schoolteachers have had to find alternative resources to fulfill student needs and have increasingly turned to online crowdfunding. This paper examines the adoption and repeated use of Donorschoose.org (the largest crowdsourcing platform in this domain) by U.S. public school teachers. Our focus is on understanding and quantifying the presence and nature of peer effects on short-term adoption and repeated use behavior. Database captures information on 400,000 teachers from 90,000 public schools from 2003 to 2014. We supplement this data with an extra information capturing attributes of schools as well as the government funding in the school districts. We find strong positive peer effects on adoption decisions indicating the information role played by an experienced colleague. However, peer effects on repeated use are found to be negative, highlighting the common-core nature of this context as teachers compete for limited local donors. We quantify "the overall effect of peer" in adoption and repeated use by estimating a dynamic structural model of the teachers' adoption and repeated use, where teachers' first-time adoption costs depend on past peer adoption and repeated use decisions are influenced by peer's usage and own and peer success/failure rates in previous solicitation attempts. Model allows us to quantify the economic significance of peer effects in terms of both adoption and repeated use and welfare (e.g., how much money raised due to peer effect).

2 - Do Similarity Patterns Among Past Crowdfunding Projects Help Design Winning Projects?

Yanhao Wei, University of Southern California, Los Angeles, CA, United States, Jihoon Hong, Gerry Tellis

Under the concept of combinatorial creativity, a new idea is a reconfiguration of existing knowledge, and creativity is a balance between novel and conventional combinations of previous ideas. Following this line of thoughts, our study analyzes how the previous similar projects of a new project in crowdfunding affect the funding outcome of new project. We scraped Kickstarter projects posted in the U.S from 2009 to 2016 and apply machine learning techniques (Word2Vec and Words Mover's Distance) to measure the similarity between posted projects. We construct a similarity network to indicate whether any two projects are similar. We then examine how a project's funding result is affected by its position in the similarity network. Key findings of the research are as follows. First, the number of previous similar projects has an inverted U-shaped effect on the success and the raised funds of the focal project, implying that being too novel or too familiar hurts a project's success. Second, the success rate of previous similar projects substantially helps predict the success of the focal project. Third, it benefits a project to keep a balance between atypical and conventional combinations of previous projects; being too atypical or too conventional hurts a project. Fourth, it is optimal to set the funding goal slightly over how much were raised for previous similar projects on average. We use these key findings to make recommendations to project creators to help increase their funding odds. Overall, our study demonstrates how to apply machine learning and network analysis together to uncover important insights on innovations.

3 - Dynamic Resource Allocation on Multi-Category Two-sided Platforms

Qiaowei Shen, Peking University, Guanghua School of Management, Beijing, 100871, China, Hui Li, Yakov Bart

Platform businesses are typically resource-intensive and must scale up their business quickly in the early stage to compete successfully against fast-emerging rivals. We study a critical question faced by such firms in the novel context of multi-category two-sided platforms: how to optimally make investment decisions across two sides, multiple categories, and different time periods to achieve fast and sustainable growth. We first develop a two-category two-period theoretical model and propose an optimal resource allocation strategy that accounts for heterogeneous within-category direct and indirect network effects and cross-category interdependence. The proposed strategy shares the spirit of the "reinforcing" rule for multi-product non-platforms firms and the "compensatory" rule for single-product platform firms, yet it does not amount to a simple combination of the two rules. In particular, platforms should allocate more resources toward the stronger growth driver when considering within-category allocation, and allocate fewer resources toward the stronger growth driver when considering across-category and intertemporal allocations. Such nuanced investment policy stems from the fundamental difference between cross-side and cross-category interdependences. We use data from the daily deals industry to empirically identify the network effects, propose alternative allocation strategies stemming from our theoretical findings, and use simulations to show how these strategies outperform the allocation heuristics commonly observed in current practice.

4 - Asymmetric Information and Entrepreneurial Disincentives in Crowdfunding Markets

Yan Xu, Hong Kong Polytechnic University, Hong Kong, Jian Ni

Technology has enabled consumers and firms interact in a way marketers had only dreamed of in pre-Internet age. Crowdfunding not only provides a unique channel for entrepreneurs to raise funds, but also enables consumers and firms interact even before new product launch. Product developers nowadays can gauge the potential demand before putting efforts into product launch through reward-based crowdfunding. However, the information asymmetry in this market may generate disincentives among the entrepreneurs and lead to frauds. Understanding the causes of these frauds and their impacts on fundraisers and platforms is important for effective management of idea generation and realization. Specifically, we investigate to what extent the fraud decisions are influenced by the pre-launch demand responses and how they vary across different types of entrepreneurs. We assembled a rich dataset of historical campaign information from 2009 to 2017 on Kickstarter.com with product launch information collected from the major final product markets. Our empirical strategy exploits detailed pre-launch sales data, information on fundraisers' managerial capitals in both game design and the crowdfunding market, as well as the fact that digital game category has a stable set of common product attributes. We quantify entrepreneurial moral hazard by estimating an integrated model of pre-selling demand and entrepreneur's product launch decision. We find divergent outcomes for fundraisers with different managerial capitals. Further, we show supporting evidence of entrepreneurial moral hazard induced by pre-launch demand signals. Finally, we provide recommendations on platform's regulation policies to guide entrepreneurs to bring more creative ideas to the market.

■ TA06

Aula 06

Analytics, Pricing, and Policy in the New Retail Landscape

Special Session

Chair: Tomomichi Amano, Columbia University, New York, NY, 10025, United States

Co-Chair: Kristina Brecko, Stanford University, Rochester, NY, 14627, United States

1 - The Added Value of Data Analytics for Online Retailers

Ron Berman, The Wharton School, University of Pennsylvania, Philadelphia, PA, 19104-6340, United States, Ayelet Israeli

Does the adoption of data analytics impact firm performance, and if so, how? We exploit the staggered adoption of a retail analytics and benchmarking platform by more than 1,500 e-commerce websites with over $100k in annual revenue to identify these effects. Initial analysis using late adopters as a control for early adopters finds an average weekly increase of 3-4% in revenues post adoption (approx. $300 per week on average). Further analysis shows that the number of transactions and overall revenues also increase, mostly attributed to repeat buyers. In contrast, we do not find a significant increase in basket size or discounting. This evidence suggests that the adoption of the data-analytics platform adds value to firms, either by enabling the acquisition of better customers or by allowing the firm to better manage its existing customers, exhibited by increased revenue among repeat buyers.

2 - How Does Neighborhood Development Affect Shopping Behavior?

Tomomichi Amano, Harvard Business School, Boston, MA, 10025, United States, Kristina Brecko

Policy-makers have become increasingly interested in improving neighborhood walkability and accessibility. In this project, we study how policy intervention influences the local competitive environment. First, we aim to evaluate the extent to which such initiatives influence changing consumer shopping behavior. In particular, does improved walkability and accessibility compel people to shop more locally? Since different neighborhoods have access to different amenities, does such a change in shopping patterns lead to a change in consumers' share of wallet for different product categories or store formats? Secondly, we seek to understand whether an increase in the accessibility of a neighborhood leads to a change in the competitive landscape in that neighborhood. In particular, do changes in walkability and accessibility change the set of stores against which a particular seller is competing and, thus, affect prices? Quantifying these two forces will allow us to determine the net welfare effect on consumers with respect to options available and prices paid.

3 - Estimating Price Elasticity when Product Assortment Changes

Qi Yu, The Wharton School, University of Pennsylvania, Ron Berman, Eric T. Bradlow

Many retailers increase the size of their product assortment to generate incremental demand as well as revenue. Recently, some marketing research begins to challenge this conventional belief and investigates how the level of demand is affected by assortment. We posit that assortment expansion has an additional effect on demand - it can lead to consumers' differential response to price changes. To investigate the conditions under which assortment expansion leads to more or less elastic demand, we build an analytical model where demand is endogenously determined by product assortments in a utility maximization framework. We show that when the consumer is budget constrained, the mere presence of complement products can lead to changes in price elasticity, even when those products are not purchased simultaneously. To validate the predictions, we then develop a flexible empirical demand model, which allows us to separately identify the effect due to product assortment from that due to confounders. We apply our empirical model to a novel dataset from an online apparel retailer where we can exploit variations in the size of product assortment over time. Empirical results find support for the theoretical predictions.

4 - Convenience, Information, and the Demand for E-commerce

Yufeng Huang, University of Rochester, 500 Joseph C. Wilson Blvd., Carol Simon Hall, Room 3-343, Rochester, NY, 14627, United States, Bart J. Bronnenberg

This paper estimates the impact of e-commerce on consumer demand across retail chains and evaluates consumer welfare gains from online-shopping technology, using 12 years of individual shopping records across chains in the Dutch apparel industry and granular measures of household and chain locations. Relevant in the context of evaluating the benefits of E-commerce, we find that consumers (1) dislike the inconvenience of travel to spatially dispersed stores, and (2) face information frictions which generate inertia in chain-choice. We estimate a discrete choice model to flexibly characterize substitution between chains and their online/offline channels and find e-commerce alleviates the inconvenience of travel and intensifies competition between chains. We find large and heterogeneous welfare gains from e-commerce.

■ TA07

Aula 07

Pricing Experiments

Special Session

Chair: Pranav Jindal, UNC Chapel Hill, Chapel Hill, NC, 27517-3490, United States

1 - How does Bargaining Impact the Willingness-To-Pay?

Preyas Desai, Duke University, Fuqua School of Business, Durham, NC, 27708, United States, Pranav Jindal

Price negotiations are typically viewed as a means to price discriminate among consumers based on their willingness-to-pay (WTP) and the effort expended in negotiating (bargaining ability/costs). The extant literature assumes that WTP is innate to the consumer and is thus, independent of the purchase process (negotiate versus pay fixed prices). In this paper, we explore whether negotiation impacts consumer's WTP for a product, and the possible underlying mechanism for any differences in WTP as compared to paying fixed prices. In the first lab experiment, we find preliminary evidence that bargaining is emotionally challenging for subjects and the perceived difficulty in bargaining increases with the number of rounds of negotiations. At the same time, subjects believe that the product is more expensive if the seller takes more time to make counter-offers and are willing to negotiate more for smaller savings. Together these provide preliminary evidence that the time taken by a seller to negotiate might signal product quality which could influence WTP. We explore this in more detail in subsequent experiments.

2 - Implications of Dynamic Pricing: Experimental Evidence

Przemyslaw Jeziorski, University of California-Berkeley, Berkeley, CA, 94720, United States

This paper studies the implications of dynamic pricing in a competitive industry of short-term rentals. The evidence is obtained using a two-step large-scale field experiment. In the first stage prices of short-term rentals are randomized. This variation is used to obtain unbiased estimates of demand elasticities. In the second stage, we use a structural model to obtain theoretically optimal dynamic pricing, and subsequently test its optimality in the field. We conduct experiment with three arms: business as usual, optimal static pricing, and finally optimal dynamic pricing.

3 - The Role of Advertised Reference Prices in Consumer Search

Pranav Jindal, UNC Chapel Hill, McColl 4517, CB 3490, Chapel Hill, NC, 27517-3490, United States, Anocha Aribarg

Consumers routinely search online and in-stores to get lower prices for the product they want to purchase. At the same time, retailers often post two prices on the price tag of a product - a regular price or an advertised reference price (ARP) and a sale price which the consumer pays if they choose to purchase. Previous research (see for example, Della Bitta and McGinnis 1981, Bearden and Teel 1984, Urbany and Weilbaker 1988) has shown that the presence of these ARPs increases a consumer's likelihood of purchase and lowers her likelihood of search primarily by giving her additional transaction utility (Huang 2018). In this paper, we study a different mechanism through which ARPs influence consumers decision to search and its potential implications for market structure. Specifically, we focus on the role of ARPs in influencing price beliefs and explore whether price beliefs mediate the direct effect (through transaction utility) of ARPs on a consumer's decision to search. We design an incentive aligned online study where consumers update their price beliefs based on random search outcomes, and additionally, expose consumers to ARPs in a randomly chosen subset of search tasks. Preliminary results show that consumers update price beliefs in response to ARPs. Importantly, we find that price beliefs mediate the role of ARPs on search decision such that ARPs influence search decision primarily due to their impact on price beliefs as opposed to providing transaction utility to the consumer, as has been posited in the literature. We explore the implications of ignoring this mechanism on search outcomes and market structure.

■ TA08

Aula 08

Digital Marketing 1

Contributed Session

Chair: Lakshmi Vana, London Business School, London, NW9 2QP, United Kingdom

1 - The Effect of Weather on Users' Online Behavior

Bernd Skiera, Goethe University Frankfurt, Theodor-Adorno-Platz 4, Frankfurt am Main, 60323, Germany, Klaus Miller, Steffen Foersch

We investigate how weather impacts two dimensions of user's behavior, namely user's activity (measured by the number of ad impressions delivered) and user's response (measured by the average click-through rate) across different devices (i.e. smartphone, tablet and desktop computer). We base our empirical study on several data sets, including high quality weather data, and a large advertising data set provided by a major European premium publisher network. The latter contains information about 8BN ad impressions (delivered on 160 premium websites by 270 advertisers) and 3.6M clicks. We argue that when the weather is good, users get more physically active and will consequently spend less time online. In line with this argument, we find that good weather substantially decreases users' overall online activity, namely by 32% on average. We furthermore argue that the weather impacts via which device users go online. More precisely, we argue the share of usage of smartphones and tablets increase if the weather is good because it encourages users to go outside. In line with this argument, we find a shift of desktop to smartphone usage during good weather. Yet, we do not observe an increase in the usage of tablets during good weather conditions. Also, we argue that the weather impacts users' response to ad impressions (i.e. click-through rate) because good weather positively impacts mood, which in return biases users' evaluations in the direction of their mood. In line with this argument, we find a substantial increase of click-through rates, on average 9%, in case of good weather. That effect is strongly positive for users on mobile devices, but negative for users on a desktop device. As good weather decreases users' activity and mostly increases their response, we do not find a significant effect of the weather on the total number of clicks.

2 - Utilizing Geographical Location Data to Better Understand Online Customer Journeys

Rene Laub, Goethe University Frankfurt, Frankfurt am Main, Germany, Evert de Haan

Throughout the customer journey customers go through a path from problem recognition, information search to purchase. During this journey, customers engage with companies and information providers via various off- and online touchpoints to gather information. Models on information search suggest two types of search behavior; pre-purchase search and ongoing search. While pre-purchase search relates to gathering information for a planned purchase in the near future, ongoing search is not related to a directly planned purchase and is e.g. motivated by creating long-term product knowledge or for recreation purposes. For advertisers it is crucial to identify users with a direct purchase intention, since targeting these users with advertising has a higher likelihood to stimulate actual purchases. In the online world, targeting is currently done based on a user's historic browsing behavior: based on the websites a user has visited, a user-profile is created containing the user's characteristics and interests. Relying only on this information suffers a major drawback: a broad range of online browsing behavior can occur in both types of search behavior. A reason for this is, that browsing through websites comes with relatively low search costs and is therefore also conducted by customers having on average lower expected benefits of search (users with ongoing search behavior). We address this problem by integrating information about behavior that comes with higher search costs, in particular, physical visits to focal locations like stores or shopping areas. We combine online browsing behavior of a user with individual GPS-data and investigate if this can help better understand the future browsing behavior and responsiveness to banner advertising. We analyze behavior of more than 60,000 users observed over two years. We show that adding a user's visited locations to the online journey enables predictions of future browsing behavior and responsiveness to banner advertising. This can improve profiling of users for targeting and can result in higher advertising effectiveness.

3 - How Allowable Advertising Counters the Detrimental Effects of Ad Blocking Behavior

Maik Eisenbeiss, University of Bremen, Bremen, Germany, Nico Wiegand

Internet users increasingly use ad blocking tools to prevent their browsing experience from being interrupted by online advertisements. From a marketing perspective, however, the use of ad blockers reduces available inventory and limits the reach of online advertising efforts. In response, publishers have implemented several strategies to cope with the detrimental effects of ad blocking behavior. A relatively recent approach is "allowable advertising", which builds on the assumption that users of ad blocking tools do not reject online advertisements *per se*, but are annoyed by the massive amount of ads on the internet. Allowable advertising lets these users actively decide whether a limited number of advertisements may be displayed while retaining the underlying protection by ad blocking software. In this project, the authors use a combination of field and lab experiments to investigate the effectiveness as well as the underlying mechanisms of allowable advertising among consumers who have adopted ad blocking software. Initial results of three field tests indicate that users of ad blocking tools respond positively to allowable ads with click-through rates significantly exceeding those of users in a non-ad blocking context. Advertisers should feel encouraged not to refrain from online advertising altogether when ad blocking is active. Rather, they can use allowable ads to cut through the increasing online clutter and raise advertising effectiveness.

4 - From Darknets to Light: Understanding the Consequences of Law Enforcement Busts on Illegal Darknet Marketplaces

Prasad Vana, Assistant Professor of Marketing, Tuck School of Business at Dartmouth, Hanover, NH, United States

A large majority of ecommerce currently happens on the "Surface Web", which consists of all the websites that can be accessed through search engines. However, there has recently been a rapid growth in the "Dark Web", consisting of websites which cannot be indexed by search engines. Marketplaces similar to the Surface Web marketplaces such as eBay have also evolved on the Dark Web and are commonly known as "Darknet" marketplaces. They offer a high degree of anonymity and security to its users and have attracted sellers and buyers of illegal products such as drugs, weapons, and identities. In this research, we focus on a bust operation by the FBI and Europol that shut down Silk Road 2.0, one of the biggest Darknet markets in 2014. Using the bust as an exogenous shock, we investigate the causal effect of the bust on Evolution, a large Darknet market not subjected to the bust. We find that the bust had positive economic consequences for the buyers, sellers, and the administrators of Evolution. Specifically, the prices reduced, variety of products increased, and the quantity sold per vendor increased following the bust. Our results demonstrate that there could be surprising and unintended consequences to such busts and recommend law enforcement agencies consider them into their enforcement strategies.

■ TA09

Aula 09

Digital Marketing 13

Contributed Session

Chair: Ruoxin Zhou, Peking University, No. 5, Yiheyuan Road, Haidian, Beijing, 100871, China

1 - Sharing Economy: Marketing and Economic Implications for Legacy Firms

Andreas Kraft, University of Texas-Austin, Austin, TX, United States, Raghunath S. Rao, Xing Gao

Sharing Economy platforms like Uber and Airbnb are disrupting the markets traditionally served by long-established legacy firms. This paper builds an analytical model that attempts to understand the marketing implications of competition between established legacy firms and P2P platforms. Our model studies the market outcomes in a setting wherein a P2P platform that brings together disaggregate asset owners and competes for consumers alongside a legacy firm. Additionally, we analyze the impact of potential regulations and show that policies like the ban of surge pricing can result in a "lose-lose" scenario in which the legacy firm's profits, as well as the P2P platforms profits, could decrease. We further show, quite counterintuitively, that when the periods of high demand become more frequent, a ban of surge pricing is not always in the interest of the consumer. Furthermore, we find that long-term price regulation of the legacy firm can weaken the price competition and thus serve as a "win-win" scenario for both the legacy firm and the P2P platform. Our results provide several important guidance for policymakers and legacy firms competing with P2P platforms.

2 - Internet Celebrities & Electronic Word-of-Mouth: How do Internet Celebrities Influence Purchase Intention?

Lancy Mac, Assistant Professor in Marketing, The University of Macau, Macao, Yixin Zhang

Social media sites have created opportunities for people to create, communicate and share information regarding products and services. As an extension of traditional marketing instruments, social media helps to achieve greater reach in a shorter time while creating engagement and intimacy. Internet celebrities, utilizing social media platforms and electronic word-of-mouth (eWOM) communication, have become effective mediums in influencing people's consumer behavior. In this study, we attempted to figure out the impact of internet celebrity eWOM regarding how it affects purchase intention. For this purpose, our model was built on information adoption model, theory of reasoned action, and related components in celebrity endorsement. Specifically, six factors, perceived trustworthiness, perceived expertise, needs of information, internet celebrity attachment, desire to emulate, and attitude towards internet celebrity eWOM, were tested against purchase intention. The results of this study found that perceived trustworthiness does not influence attitude towards internet celebrity eWOM but is a major factor that determines purchase intention directly and positively. Perceived expertise, needs of information, and internet celebrity attachment, have discovered positive effects on both attitudes towards internet celebrity eWOM and purchase intention. And we also found a positive relationship between attitude and purchase intention. However, in this study, no effect was found between desire to emulate and attitude, as well as to purchase intention. The results of this study aimed to further advance the understanding of eWOM and internet celebrities marketing. Practical implications and further research directions were discussed at the end of the study.

3 - Leaderboard Effect: Who, When, and How?

Ruoxin Zhou, Peking University, Beijing, China, Xing Li, Fei Ren

In the research field of online learning, it is critical to keep users motivated and retain users. As a fundamental advantage that distinguishes online learning from traditional learning, the role of mechanism design is underexplored. In this research, using foreign language words-memorizing data from a leading online learning website, we examine the effect of leaderboard. We use a structural model to determine how to display the leaderboard to maximize its motivational role. Besides, we use a hierarchical Bayesian model to estimate individual-specific parameters. Our results suggest that, overall, users will experience a sluggish period during the middle of their online learning progress (i.e., "stuck in the middle"), while the leaderboard effect maximizes when users lack internal motivation. With the empirical results, we have the following advice to optimize the leaderboard: (1) online learning websites can shut down the leaderboard for users who are negatively influenced by the leaderboard. (2) Online learning websites can emphasize or hide the leaderboard at some specific periods because leaderboard effects vary during the online learning progress. (3) Online learning websites can optimize the display of leaderboard because displaying the TOP10 to all users is not suitable. This paper shed light on the mechanism design of online learning websites, and it may also provide guidance for other websites that display leaderboard.

■ TA10

Aula 10

Machine Learning 1

Contributed Session

Chair: Jason Bell, University of Oxford, Oxford, United Kingdom

1 - Forecasting the Impact of Product-Harm Events on Firm Value by Leveraging Negative Word of Mouth

Hamid Shirdastian, PhD Candidate in Marketing, Concordia University, Montreal, QC, Canada, Bolin Li, Laroche Michel

Product-harm events are always a nightmare for all stakeholders. Analysts believe that defective items not only may provide risks to the general population but can likewise cause critical monetary and reputational harm to the firms. Since ignoring a problem does not lead to having it go away, more research is needed to shed new light on the way crisis and risk communication should take place once necessary. Prior study has suggested the complexities of consumer word of mouth effects and how to accurately forecast the impacts of product-harm events on firm value as important subjects. This study extracts the sentiment of consumer complaints in the context of product defection and examines if including consumer sentiment in time series models can improve forecasting performance. Authors make an empirical comparison between two multivariate time series forecasting methods: VAR (vector autoregressive model) and deep learning LSTM (long short-term memory model). A unique dataset, containing five-year data of all automobile nameplates in three major manufacturers along with official complaints filed on NHTSA and their associated product recall in the U.S. are analyzed. The results suggest LSTM outperforms VAR predictability of firm value and on average obtains 40% reduction in error rates when compared with error rates of VAR. It is also noticed that both LSTM and VAR perform better forecasting after adding consumer sentiment in time series modeling, while LSTM makes greater progress in predictive error reduction. Implications for communication theory and practice are discussed.

2 - What is a Good Explanation in the Context of Artificial Intelligence? A Human's Guide to Understanding and using Machine Learning Output

Tong (Joy) Lu, Assistant Professor of Marketing, Carnegie Mellon University, Pittsburgh, PA, United States, Dokyun Lee, Tae Wan Kim, David Danks

Machine learning algorithms provide predictions to expert users, such as an underwriter ('approve loan') or recommendations to everyday consumers ('You may like X') alike. These AI systems rarely provide rationale or explanation for predictions or recommendations made, which could lead to a significant loss of trust and use intentions by the end-users. The critical need for explanations and justifications by AI systems has led to calls for algorithmic transparency, including the EU General Data Protection Regulation (GDPR) that requires many companies to provide a meaningful explanation to involved parties (e.g., users, customers, or employees). However, these calls presuppose that we know what constitutes a meaningful or good explanation. On the contrary, there has been surprisingly little research on this question in the context of AI systems. Thus, in this study, we 1) develop a framework grounded in philosophy, psychology, and interpretable machine learning to investigate and define characteristics of good explanation (e.g., mode of explanation) in various settings (e.g., explainee motivation, magnitude and valence of harm/reward) and 2) measure the impact on perception of understanding, usage intention, and trust via a series of lab experiments. The results serve as concrete guide for managers on how to present algorithmic prediction rationales to end-users to foster trust and use. Insights also provide elements of explanation and transparency to be considered by AI researchers in developing transparent or explainable machine learning algorithms or AI engineers in implementing such systems.

3 - "Artificial" Intelligence with "Real" Stereotypic Bias: An Examination of Female Consumer Stereotypes Learned by Algorithm

Shelly Rathee, PhD Candidate, University of Utah, SLC, UT, United States, Arul Mishra, Himanshu Mishra

User generated reviews are considered the voice of customers and a valuable source of information to firms. Insights mined from textual reviews play an indispensable role in several business activities ranging from product recommendation, targeted advertising, promotions, segmentation, etc.For instance, algorithms mine information from reviews to create customized recommendations for customers, thereby shaping countless preferences from the choice of a product, vacation to a job. But no prior work has questioned whether reviews might hold stereotypic gender bias that algorithms learn and propagate in business activities. In this research, authors apply a recent word embedding algorithm, GloVe, on more than 11 million reviews from Amazon and Yelp that have been moderated for offensive content. They find that even moderated reviews contain gender bias. Along with demonstrating the presence of gender bias, they examine whether the bias is caused because of a negative bias against females or a positive bias for males. Authors then conduct a study to examine the influence of gender bias on a business activity - product recommendations - and examine the impact on consumer choice, especially choices made by female consumers. Last, they discuss the policy implications for female consumers especially when they are unaware of the bias, and the ethical implications for firms.

4 - Predicting Customer Behavior with LSTM Neural Networks

Mainak Sarkar, PhD Student, ESSEC Business School, Cergy, France, Arnaud De Bruyn

In predictive modeling, data analysts develop features (or indicators) to summarize past customer behavior, and use these features (e.g., recency, frequency, average amount) as predictors to forecast future behaviors. A shortfall of this approach is that two customers might have identical features, yet display widely different behavioral patterns. Additional and increasingly complex features (e.g., seasonality indicators, interpurchase delays, variances) can be developed to capture these patterns, but at the expense of model simplicity and stability. In complex business environments, feature engineering quickly becomes more an art than a science. In this paper, we investigate whether LSTM (long-term short-term memory) neural networks, commonly used in language processing and speech analysis, can be used to naturally capture past behavior with high granularity, yet without relying on complex features, to predict customer behavior. We develop an LSTM model in a fundraising context, and demonstrate the advantages (and potential shortfalls) of this approach compared to more traditional predictive models.

5 - Is Creativity Purely Random? Humans vs. Machines for Idea Screening in Crowdsourcing Contests

Jason Bell, University of Oxford, Oxford, United Kingdom, Christian Pescher, Gerard J. Tellis

Crowdsourcing contests generate a large number of ideas. To find the best ideas, the current state of the art is to let experts screen them. However, this process is inefficient, both in terms of hours paid and because of expert fatigue. It would save money to replace human evaluators by machines. Whether this is possible depends on if creativity is purely random or contains patterns. We substantially improve current state-of-the art measures and apply them to 9 crowdsourcing contests conducted for large corporations. While our approach cannot predict the contests' winners, it can screen out bad ideas without sacrificing many high-quality ideas. This limits the cognitive burden of the human evaluators. Thereby, we make the following contributions: a) we show efficacy in data from real contests rather than lab-experiments, b) our method works out-of-sample, whereas previous research considered in-sample c) we show that reference texts from Wikipedia and Google Patents contain more predictive information than reference text from Google Search, d) we show that reference text from other ideas submitted to the same contest contains the most predictive information, e) we show that contest-specific variables predict more accurately than domain-specific variables.

■ TA11

Aula 11

CRM1

Contributed Session

Chair: Banggang WU, Tsinghua University, Beijing, 100084, China

1 - Customer Acquisition via Daily Deal Promotions and a Comparison with Alternative Acquisition Methods

Jie Zhang, R.H. Smith School of Business, University of Maryland, College Park, MD, 20742-1815, United States, Jaime Romero, Ralf Van der Lans, Mark Hess

Daily deal promotions (such as Groupon coupons) are different from conventional price discounts and coupons in several fundamental ways. Due to the high (percentage) face values and costs to merchants, their effectiveness as a sales promotion tool has been cast with serious doubts. In recent years, some firms have instead opted to use daily deals as a customer acquisition tool and to aim at longer-term payoffs of running such promotions. In this study, we conduct an empirical investigation on the effectiveness of this strategy and compare the values of customers acquired via a daily deal campaign to those acquired via other means, such as online search, referrals, and drive-by. We also examine the impact of such strategy on the existing customers and quantify the net impact of running daily deal acquisition promotions on the entire firm. Our analyses are carried out by utilizing detailed customer transaction data provided by a firm that ran daily deal acquisition promotions. We find that, although daily deal promotions have attracted new customers for the firm and brought in an additional source of revenue, customers acquired via this channel tend to spend less and churn away from the firm at a higher rate. Overall, their customer values are substantially lower than those acquired via several alternative methods. Nonetheless, we did not find negative impact of daily deal acquisition promotions on existing customers who were not eligible for the promotions. We discuss the implications for customer relationship management and assessment of promotion effectiveness.

2 - Effectiveness of Customer Complaints Recovery: Optimizing Retention and Long-term Profitability

Stanislav Stakhovych, Monash Business School, Melbourne, Australia, Ali Tamaddoni

With service recovery as a 'life changing' touch point to turn a complaining customer to a loyal one, academics and practitioners are constantly searching for best recovery strategies. While there is strong evidence of the effectiveness of matching the type of recovery with the nature of the failure, no study has attempted to provide advice in situations where the matching of resources is not possible on both sides of the failure/recovery exchange. Additionally, the interactions of failure/recovery types and their effects on long-term profitability have not been studied sufficiently, mostly due to the lack of appropriate empirical data. In this study, utilizing resource exchange theory, we develop a joint probabilistic model of customer purchases, recovery actions after service failure and customer churn to investigate the effects of different recovery responses depending on the type of failure. Applying our model to data from a major online retailer, we found evidence to support that 'resource matching' is the most effective recovery response in terms of improving the retention and long-term profitability of customers. Also, monetary compensations proved to be the most effective strategy in cases where resource matching is not possible.

3 - The Impact of Product-Harm Crises on Customer Acquisition and Retention: The Role of Marketing Instruments

Kateryna Gavrysh, University of Mannheim, Mannheim, Germany, Thomas Schreiner, Florian Stahl

The last two decades have witnessed a dramatic increase in the number of product-harm crises. Consequently, the differential impact of such scandals on the market shares of brands and companies is of great interest to academics and particularly to practitioners. In this paper, we study how product recalls affect customer acquisition and customer retention - two key components of customer lifetime value (CLV) - in the U.S. automotive industry. We use NHTSA data on about 13,000 recalls of automobiles during 2000-2008 and actual purchase and brand switching data on more than 700 car models of 39 major brands. Further, this research addresses the role of marketing instruments (pricing, advertising expenditures, distribution intensity, and product quality) in shaping the effects of product-harm crises. We estimate a multinomial logit market-share-attraction model while correcting for potential endogeneity. We find that customer acquisition is hit far less hard by performance failures than customer retention. However, prospects appear to be more price sensitive in the context of a product-harm crisis than existing customers. Moreover, in line with the expectancy violation effect, prospects may react more negatively to recalls of products associated with a higher quality. Finally, the authors identify marketing instruments to mitigate the effects of product-harm crises, e.g., the results show that advertising is effective to attenuate the negative consequences of a product recall on customer acquisition/retention.

.

4 - Accommodating Non-Poisson Purchase Behavior in Customer-base Analysis

Makoto Abe, The University of Tokyo, Tokyo, Japan

One advantage of a Pareto/NBD model —- the benchmark for customer-base analysis —- is that it requires minimal purchasing data from customers, namely recency and frequency. The tradeoff is the model posits strong assumptions on consumer behavior. Of those, the most restricting assumption is the Poisson purchase, which imposes a memoryless purchase process, implying that purchase occurs independent of the previous interpurchase time. The assumption is appropriate when purchases involve a wide variety of categories, such as purchases at a department store or an online shopping mall, since transactions tend to occur randomly. However, when transactions occur cyclically, for example, by focusing on a narrower product category, this assumption may not be satisfied. While one can try fitting different interpurchase distributions, such as Weibull and gamma, their estimation is often unstable especially for shape related parameters. Furthermore, the results vary by the function form chosen. This research proposes a general purchase model that can accommodate either memoryless or cyclic pattern, which is then applied to customer-base analysis. The model (1) provides customer-specific measures for transaction intensity and cyclicity, (2) permits more accurate estimation of individual probabilities of being active, (3) results in a more reliable estimate for customer-base. The drawback is the data requirement in that one needs to collect complete purchase history that records individual transactions.

5 - Reward for Engagement: How Engagement-based Reward Program Promote Sales in the Mobile Internet Era

Banggang Wu, Wuhan University, Wuhan, China, Yubo Chen, Prasad Naik

With the development of mobile internet and information technology, customers are increasingly engaged with firms via mobile devices. More and more firms start to switch from traditional purchase-based reward program to engagement-based reward program to manage customer relationship. In this study, we investigate the sales impact of engaged-based reward program and explore its heterogeneous effects on different customers. Based on the data from JD.com, the largest online direct selling retailer in China, we find that rewards for customers' engagement can significantly increase customer purchase, while rewards for customers' purchase fail to achieve that. What's more, our empirical results show that rewards for customers' engagement have greater effects on mobile customers than PC customers. This paper enriches marketing theories about customers' engagement and reward program, and provides important managerial implications.etime value. In this study, we quantify the sales impact of reward policy based on customers' engagement and explore the heterogeneous impacts between customers. Based on the data from JD.com, the largest online direct selling retailer in China, we find that rewards for customers' engagement behavior can significant increase customers purchase behavior, while rewards for customers' purchase behavior could not impact customers' purchase behavior. What's more, the empirical results show that rewards for customers' engagement behavior have greater effect on mobile customers and customers in lower Internet development cities than non-customers or customers in higher Internet development cities. This paper enriches marketing theories about customers' engagement and reward program, and also provides important managerial implications.

■ TA12

Aula 12

Innovation 1

Contributed Session

Chair: Rowena Crabbe, Virginia Tech, Marketing Dept., Virginia Tech, Blacksburg, VA, 24060, United States

1 - Information, Creativity and Participation in Innovation Contests

Haosheng Fan, Hong Kong University of Science and Technology, Hong Kong, Song Lin

Innovation contest is an important tool for a firm to generate new ideas and products. In an innovation contest, a population of contestants compete for a fixed amount of prize and the contestant providing the best solution is awarded the prize. Participation and creativity are two important factors that determine the final outcome a firm can obtain out of a contest. In this paper, two types of information are examined: interim feedback and submissions from others. We collect data from a leading freelancing platforms where a firm seeks logo designs from independent designers. In a contest, a firm provides feedback in the form of star ratings to interim submissions from designers and all ratings are public to everyone. A designer also observes what others have submitted before to the firm and what approaches are used in their submissions. In order to determine the approaches in each design, we apply machine learning methods to extract features from each logo image and a designer's creativity is measured by the features in his submissions. Observing others' submissions opens the room for a designer to be a copycat and an intuitive prediction would be that designers are less creative and the approaches used in submissions tend to converge over time. However, we find the opposite prediction and designers try more unique approaches when competing submission is a public information. Observing competing submissions expands the choice set of design features which a designer may consider and encourages the designer to try new approaches. We also find public submission soften the competition and a designer is more likely to stay in a contest when competitors performance well. Feedback decreases creativity but increases participation. When a designer receives feedback from the firm, he is more likely to submit a new design and use the same approach as his previous submissions rather than exploring a new approach.

2 - Impact of R&D Investment on Firm Value: The Role of Customer Awareness

Kyowon Seo, Seoul National University, Seoul, Korea, Republic of, Junhee Seok, Kim Byungdo

In a rapidly changing world, companies that neglect R&D (Research and Development) become difficult to guarantee their sustainability. Generally, R&D investment is well known for a way to improve the core competitiveness of a firm. Especially from the customer's point of view, R&D investment would be one of the key factors that determine the overall image of the firm. From this perspective, this paper implemented longitudinal data analysis with Korea stock market data to figure out not only the relationship between R&D investment and firm value but also the role of customer awareness in the relationship between R&D investment and firm value. The longitudinal data analysis showed the following three results. First, R&D investment has a significant and positive impact on firm value, which has been proved by a number of other researches. Second, the effect of R&D investment on firm value depends on the level of consumer awareness. In other words, R&D investment and firm value are more positively related for firms with high customer awareness. Third, the impact of R&D investment on firm value depends on how R&D investment is categorized within the accounting system. If R&D investment is categorized as cost in the accounting system, it provides a bigger positive effect on firm value with high customer awareness, however, in the case of R&D investment treated as an intangible asset, there is no significant evidence that customer awareness helps R&D investment to amplify the firm value. These pieces of evidence provide practical implications for corporate decision makers by figuring out the relationship between R&D investment and firm value, and a way to amplify the effect of R&D investment.

3 - Do Switching Costs Deter Product Innovation? The Case of the French Mobile Telecommunications Market

Yutec Sun, KU Leuven, Leuven, Belgium

This paper explores empirical basis for the role of customer switching costs on product innovation in the mobile telecommunications market. The conventional view considers switching costs as deterring innovation by enabling the firm to protect its market power without investing in innovation. However, it has been neglected in the literature that switching costs may also spur innovation by increasing prospective profits through enhanced ability to appropriate rents from innovation. To analyze the two opposite intuitions, we build a dynamic model of network investment and product-market competition in order to characterize the equilibrium incentives for innovation under various switching costs and market structures. We find that an inverted U-shape relationship holds in general between switching costs and innovation incentives. Furthermore, we also find that the loss of captive customers leads to reduced incentive for innovation investment.

4 - Does Having a Marketing Founder Increase a Start-up's Likelihood of Obtaining Funding? An Analysis of the Preferences of 450 Entrepreneurs and Investors

Ofer Mintz, University of Technology Sydney, Sydney, Australia, Peter J. Lenk, Yitong Wang

In this work, we focus on the following: does the composition of founder functional backgrounds in start-up firms matter in terms of start-up firms' likelihood of obtaining funding or investments? In other words, are some backgrounds, such as marketing, valued and preferred over others, and is diversity valued and preferred in terms of combinations of backgrounds? In addition, to examine if there is a misalignment between those who found start-up firms and those who evaluate such firms, we investigate whether differences exist between investor and entrepreneur preferences for founder functional backgrounds. To answer these research questions, we propose a conceptual framework and conduct a conjoint analysis on 224 investors and 226 entrepreneurs who made a combined 8,100 investment choice decisions based on combinations of founder functional backgrounds and controls for the start-up firm's industry, stage of development, and focus on customers and competitors. Our analysis finds that marketing is the most preferred founder background overall. In addition, we find that having a founder with a marketing background is particularly important to experienced investors relative to less experienced entrepreneurs. Further, we find a founding team comprising of marketing and finance is the most preferred combination of backgrounds, but having multiple founders with a marketing or any other background is detrimental. Hence, diversity in founding team backgrounds is preferred.

5 - Navigating Technology Disruption: How Micro-level Factors Shape Organizational Impact

Rowena Crabbe, Virginia Tech, Blacksburg, VA, United States

The "pass" business model (e.g. ClassPass, MoviePass, MealPal - formerly MealPass), is a technology enabled platform that brings together consumers and service providers, serving as an intermediary between the two parties. The platform mediates transactions, offering consumers monthly access to a set number of goods, while promising service providers additional exposure and incremental revenue from excess inventory. We have little understanding how the introduction of a "pass" platform impacts existing businesses. In this study, we examine how the introduction and presence of one such platform, ClassPass, affects small businesses and consumer behavior. We conducted an interrupted time series regression analysis using a unique panel data set comprised of individual purchase and attendance data within two small fitness businesses over five years (n =15,496). We find that each businesses' revenue declined with the introduction of ClassPass, despite the increased volume. Additionally, changes to the platform's business model significantly impacted revenue. We find three individual level behaviors contributed to the organization's decline in revenue with the introduction of ClassPass: 1) the organization's most profitable consumers spent less, evidenced by a decline in unlimited membership purchases; 2) consumers sought variety and value, and, 3) the introduction of the platform disrupted the existing community within the organization, evidenced by class composition. While the value of the "pass" platform is evident for consumers, these findings question the value for small businesses, complicating conventional wisdom that small businesses must engage with technology platforms to remain relevant. These findings extend literature on technology platform disruptors by focusing on the micro level impact at the organizational and individual consumer level.

■ TA13

Aula 14

Branding 1

Contributed Session

Chair: Maria Ana Vitorino, University of Minnesota, 3-150 Carlson School of Managemenet, 321 19th Avenue South, Minneapolis, MN, 55455, United States

1 - Evaluation of Brand Association at Two Different Points in Time

Masao Ueda, Waseda University, Tokyo, Japan

Diffusion of social media makes it difficult for a consumer to keep a good brand image for a long time. Hence, a brand manager conducts a consumer survey every year to understand what brand association he/she has. When a brand manager compares the survey result of this year with last year, he/she should interpret it carefully. Consumer survey can not always be conducted on same condition. A respondent who answered on the questionnaire last year may not answer this year and every item in last year's questionnaire is not always available in this year. Therefore, some ingenuity is required for the analysis method, or some modification is required for the analysis result of the survey data. In order to propose such the analysis method, a survey on brand image was conducted during almost the same period in 2017 and 2018. These consumer surveys collected reaction and reaction time data on brand associations regarding a certain Japanese car manufacture. The obtained data was analyzed by a hierarchical Bayesian model referring to the idea of equating in the Item Response Theory. As a result, a brand association on a new product in 2018 could be evaluated by using the method proposed in this research.

2 - Brand Positioning in the Era of Brands with a Purpose

Tulin Erdem, Professor of Business and Professor of Marketing, New York University, New York, NY, United States, Cagdas Sirin, Vishal Singh, Qianyun (Poppy) Zhang

A large academic literature on corporate social responsibility (CSR) shows potential benefits for firms from commitment to socially conscious causes. Such pro-social endeavors have been shown to foster higher customer loyalty, and impact long-term profitability. At the same time, there is ample evidence that many good-faith CSR initiatives fail to generate positive consumer response. Despite its importance, there is limited academic work examining how CSR commitments by firms is impacted by congruence between its brand positioning and the value judgements of its customer base across various CSR domains. This is especially surprising given current consumer (especially the millennial consumer) preferences for brands that take a strong stance for social issues. The objective of this article is to fill this gap by providing a large scale empirical investigation that incorporates dimensions of brand equity, the nature of CSR initiatives, brand involvement with social causes, and demographic, ideological, and psychological characteristics of the customer base. Using a representative sample of customer attitudes for over 100 brands spanning ten product categories in the US and major European countries, we show that consumer response to CSR initiatives depends critically on the consumers' personal value judgement on the cause and the perceived congruence between the social cause and the brand's positioning in the marketplace. We also explored brands' performance in financial markets and evaluated how brands involvement in social causes impacted those metrics. We find some evidence that brands involved in social causes could close the awareness gap between older, mature brands and young brands. In an era of brand activism and increasingly polarized societies, our results provide important guidelines for brand managers in understanding the mechanisms underlying the synergies between causes to increase the welfare of different stakeholders and brand perceptions.

3 - A Model of Brand Health in the Age of Big Data and Fast-Paced Marketing Actions

Tolga M. Akcura, Professor of Marketing, Ozyegin University, Istanbul, Turkey

Consumer behavior is under the influence of increasingly fast-paced markets. Peer influence, fast developing trends, social media (Instagram pictures/ stories, facebook likes, tweeted moments, shared videos) are some of the emerging yet proven technologies that influence consumer behavior. Brand managers admit that the traditional approaches and brand health metrics are not suitable for the fast-paced, technology-driven market places. Conducting annual brand audits are increasingly seen as obsolete. Timely prescriptive actions carry utmost importance. Defining new brand metrics that can guide branding and marketing decisions is a priority for most marketers, but, still, there are limited options. This research proposes a new approach to capture and model a brand's health. A novel set of metrics are obtained from social media over multiple years. Brand health is filtered from sales using Kalman Filtering that allows for structural breaks, while separating the expansionary and contractionary periods using Gibbs sampling. The findings show how the brand health can be identified and tracked with meaningful managerial insights that can be used for day-to-day brand management and creative campaign decisions.

4 - Decomposing Firm Value

Maria Ana Vitorino, INSEAD, Fontainebleau, France, Frederico Belo, Vito Gala, Juliana Salomao

What are the economic determinants of the firm's market value? We answer this question through the lens of a generalized neoclassical model of investment with physical capital, quasi-fixed labor, and two types of intangible capital, knowledge capital and brand capital. We estimate the structural model using firm-level data on U.S. publicly traded firms and use the parameter values to infer the contribution of each input for explaining firm's market value in the last four decades. The model performs well in explaining both cross-sectional and time-series variation in firms' market values across all firms, with a time series R2 of 80% and a cross sectional R2 of 99%. We find that the relative importance of each input for firm value varies across industries. On average, physical capital accounts for 22.7% to 56.7% of firm's market value, installed labor force accounts for 18.2% to 40.1%, knowledge capital accounts for 0.9% to 33%, and brand capital accounts for 3.5% to 24%. These values also vary over time: the importance of physical capital for firm value has decreased in the last decades, while the importance of knowledge capital has increased, especially in high tech industries. Overall, our value decomposition provides direct empirical evidence supporting models with multiple capital inputs as main sources of firm value.

■ TA14

Aula 15

Advertising 1

Contributed Session

Chair: Manuel Berkmann, University of Cologne

1 - Effects of Taxation of Advertising in Platform Markets: Comparing Business Models and Ad Preferences

C. Matthew Shi, Assistant Professor, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

In this paper, we use a game-theoretic framework to analyze and compare the effects of taxation of advertising under alternative business models and distinct assumptions about consumers' ad preference. We offer a set of novel insights that speak to a wild range of real-world tax policies that have sparked heated debates around the globe. In particular, we show that taxation can increase platforms' subscription profit and even raise total profits under competition. Taxation can benefit advertisers under pure ad-finance or if consumers are ad-seeking. In contrast to mixed-finance, taxation always increases consumer welfare under pure ad-finance.

2 - Asymmetry Spillover Effect of Advertising on Competitor Brand: The Case of Functional Tea

Mitsuru Kaneko, Assistant Professor, Kyoto Women's University, Kyoto, Japan

Prior research has revealed that advertising positively increases sales or choice probability of an advertised brand. In addition, some studies have found a positive spillover effect of advertising on competitor brand. However, little is known about the spillover effect in the commoditized fast-moving consumer goods industry. To explore this effect, we investigate the impact of advertising on choice probability of a competitor brand in the functional tea category. Using single-source data combining purchase history with TV-view data, we analyze the spillover effects of advertising of functional tea. The results of binary logistic regression with control function show the asymmetry effects of spillover on a competitor brand. The advertising of the follower brand positively affects choice probability of the leader brand. However, the advertising of the leader brand does not affect choice probability of the follower brand. We infer the reason for the asymmetry effects as follows. The product package of the two brands is similar: the color of the bottles is brown. In addition, the nutritional benefit of the two products is almost the same as both of them inhibit the absorption of fat. Therefore, consumers cannot distinguish between the two brands. Thus, the advertising of the follower brand can prompt consumers to choose the advertised product, but they may unintentionally choose the more familiar (lead) brand on the shelf. The contribution of this research is that we found an asymmetry spillover effect of advertising. This finding extends the research on the spillover effect to that on the order of market entry.

3 - Can Informative Advertising be Persuasive as Well?

Filippo Dall'Olio, McGill University, Montreal, QC, Canada, Demetrios Vakratsas

The literature on the interaction between advertising and price has produced seemingly conflicting results: some studies find that advertising decreases price sensitivity (i.e. persuasive or "market-power" perspective) while other studies find the opposite effect (i.e. informative perspective). In this paper, the authors show that these conflicting results can be explained by differences in Advertising Creative Strategy (ACS). ACS refers to a framework for evaluating advertising content based on two components: the advertisement's form, i.e. what message the ad is conveying to consumers, and the advertisement's function, i.e. how the message is conveyed to consumers. The authors develop a Bayesian Dynamic Linear Model linking sales, advertising spending, ACS, and price for 18 brands across 9 CPG product categories and model the effect of advertising spending on price sensitivity as a function of ACS components. Results show that advertising does not need to be either informative or persuasive but can have both effects based on its ACS form and function. More specifically, with respect to an ad's function, cognitive cues are associated with an increase in price sensitivity, while affective and experiential cues do not show significant effects. Conversely, with respect to the ad's form, executional elements and the use of creative advertising templates are associated with lower price sensitivity. Ultimately, these results show that the ACS framework provides a direct measure of an ad's informative/persuasive effects as opposed to indirect measures based on price sensitivity.

4 - The Role of Storytelling Through Positioning in International Advertising Effectiveness

Burcu Sezen, Assistant Professor, Universidad de los Andes, Bogota, Colombia, Andres Alberto Barrios Fajardo

The role of content in advertising is more important than ever for advertising professionals, given the recent ability of consumers to dismiss much of television advertising (Keller, 2007). One of these strategies relates to brand positioning including Global Consumer Culture Positioning (GCCP) and Foreign Consumer Culture Positioning (FCCP) through the theoretical lens of consumer culture theory and semiotics. GCCP draws from a "mythic community" whereas FCCP connects the offering strongly to one culture or country. The second of these strategies relates to the advertising storytelling content or "narrative advertising" that brings consumer involvement and satisfaction with the message. However, an analysis including the integration of these two literature streams has not been realized. The present study integrates these two distinct literatures by examining the issue of advertising effectiveness of FCCP versus GCCP, given the level of narrative transformation that each affords. The analysis involves data from a particular company that has used both kinds of positioning appeals at vearious periods in its history. The company operates in the coffee industry in Colombia and has followed an internationalization strategy since the 1960's. Time series regression is carried out using data of advertising expenditure, brand awareness and sales of the company. The analysis is carried out including moderation of whether the advertising carries a FCCP or GCCP appeal. The findings indicate that FCCP is more effective than GCCP in increasing sales controlling for brand awareness.

5 - Zapping in TV Advertising

Manuel Berkmann, University of Cologne, Cologne, Germany, Maren Becker, S. Sriram, Werner J. Reinartz

Video advertising is one of the most important advertising formats. Advertisers especially value its strength as a multi-sensual medium that is ideal for storytelling. At the same time, advertisers and broadcasters alike are worried about ever increasing advertising avoidance behavior (i.e. zapping). It is therefore crucial for brand managers and broadcasters to understand which factors influence consumers' zapping behavior. Consequently, this study investigates the role of advertising design factors on consumers' zapping behavior and the suitability of those design factors for different brands and customer types. Towards this end, the authors draw on an extensive dataset of second-by-second TV viewing data of more than 5,000 households. The dataset covers 78 ad breaks including 571 unique ads and 308 brands. The authors further enrich the dataset with information on various ad design factors (e.g., creativity, information density, and complexity), brand and category characteristics as well as attitudinal and demographic data for the individuals/households (e.g. attitude towards advertising, general brand focus). The authors aim to generate specific insights into when does what kind of advertising work for which brand and customer type. Initial results show that - in addition to established context factors such as position within the ad break and spot length - ad content and individual/household characteristics indeed influence zapping behavior. This study thus generates actionable insights for both advertisers and broadcasters.

■ TA15

Aula 16

Channels 1

Contributed Session

Chair: Ludovica Principato, Roma Tre University - Dept. of Business Administration, Rome, Italy

1 - Is It the End of the World? The Effect of Offline Store Closing on Consumer Purchasing Behavior in Omni-Channel Environment

Yue Qian, Tsinghua University, Beijing, China, Yacheng Sun, Yilong Liang

The closing of offline stores is a worldwide phenomenon. Whether to close part of the business may be one of the toughest decisions for the manager. In this paper, the authors investigate how closing of brick-and-mortar store affects individual customers' purchasing behavior under the omni-channel setting. Offline stores have been shown to own specific capabilities and thus complement other non-store channels. However, the theory framework about such channel relationship has only been tested in the occasions where new offline stores open. The authors use individual level data from a grocery chain covering a period of two offline stores closing to examine the previous framework of channel relationship. The results show that closings of offline stores do not significantly affect individual customers' purchases with the retailer. The closings of offline stores instead shift the customers' purchases to other non-store channels. This finding supports the awareness argument about the main capabilities of offline channel and shows that such capability is quite persistent.

2 - Consumer Purchase and Return Behavior in an Omnichannel Setting

Gonca Soysal, University of Arkansas, Fayetteville, AR, United States, Jialie Chen, Alejandro Zentner

Product returns are costly for manufacturers and retailers and the general belief among practitioners is that return rates are increasing rapidly as result of the growth of online retailing. In this study, we examine consumer return and purchase decisions in an omni-channel retail environment. In the context of omni-channel retailing, there exists several open questions including understanding differences in return rates for purchases made through the online versus offline channels, and the impact of returns on subsequent purchase behavior. To address these open questions, we use detailed consumer transaction data from a major US omni-channel retailer and construct an empirical model of consumer's purchase, channel choice, and return decisions. On the consumer side we investigate how product returns impact channel choice and purchase behavior over time. On the retailer side we investigate, based on our demand estimates, the profit implications of potential changes in the retailer's return policy (e.g., allowing online returns in physical stores, changing the costs associated with online returns) and in the retailer's channel structure (e.g., opening or closing physical stores).

3 - Understanding Sustainability Efforts along the Luxury Value Chain

Ludovica Principato, Post-doc Researcher, Roma Tre University, Rome, Italy, Carlo Alberto Pratesi, Giovanni Mattia, Alessio Di Leo

A number of recent trends such as consumer attention on the social and environmental impacts of brands, changing of social norms, and investor expectations, have led to an increased focus on luxury sustainability. Current studies mainly focus on consumer perspective or case studies. However, a systematic comparison of sustainability effort along the value chain of luxury firms is still under-investigated by both scientific and management perspective. The main research objective of the present work is aimed at filling this gap. From a methodological point of view, all the 40's published sustainability reports derived from the top 100 luxury brands by turnover, released on 2018 by Deloitte were evaluated, according to a triple research approach: (i) following the literature review, set a suitable taxonomy of variables, in order to assess the impact of sustainability actions; (ii) design a pattern of firm clusters through the above variables, thus allowing a better comprehension of their sustainable initiatives; (iii) proceed to the content and mixed method analysis of sustainability reports, with the aim of discovering the pattern of recurring topics. The emerging findings provide a framework of the state of the art of sustainability actions in luxury industry, and allow to deepen the knowledge and understanding of luxury firm's commitment to sustainability as a part of their market value proposal.

■ TA16

Aula 17

Consumer Behavior 1

Behavioral Track

Chair: Huaxue Cui, Yangpu, Shanghai, 200433, China

1 - Brand Incongruences Predicting Word of Mouth: The Moderating Role of Holistic-Analytic Thinking Style

David Santos, IE University, Madrid, Spain, Eda Sayin, Blanca Requero, Alessandra Serpa

Consumers encounter products that contain incongruent characteristics every day. In this research, we explore how consumers' different thinking styles (holistic vs. analytic) might affect their perceptions and behaviours for such products. Specifically, we predict that consumers with analytic thinking style would recommend congruent products more when compared to incongruent products to others. However, this effect will be attenuated for consumers with holistic thinking style. In Study 1, participants after fulfilling the Analysis-Holism Scale, were randomly assigned to rate either congruent or incongruent products. As the dependent variable, participants' word of mouth for the products was collected. Study 2 experimentally manipulated styles of thinking (analytic vs. holistic) by using a global-local task. Then, participants were randomly assigned to report how likely they were to recommend these products to others. Our research shows that having an analytic (vs. holistic) thinking style affects the way people perceive incongruent products, which consequently influence their behaviours. We argue that these effects occurs because holistic thinkers are more able to tolerate incongruences when compared to analytic thinkers. This knowledge can serve marketers to know how to tailor products for different audiences and cultures.

2 - Picasso, Monet, and Louis Vuitton: Appreciation of Arts Dampens Desire for Luxury Goods

Yajin Wang, University of Maryland Robert H. Smith School of Business, College Park, MD, United States, Alison Xu, Ying Zhang

Although the high-end fashion market has witnessed increasing collaborations between arts and luxury brands, this research demonstrates a negative impact of viewing art on motivation to consume luxury goods. Six studies demonstrated this negative effect in the field, established causality in lab experiments, and also tested boundary conditions. Specifically, Study 1 (a field study) showed that viewing an art exhibition decreased consumers' likelihood of choosing to receive information about a luxury (vs. regular) shopping mall. Study 2 (a field study) showed that consumers were less likely to choose to receive promotional materials from luxury brands (vs. non-luxury) brands after (vs. before) being exposed to an artistic shopping environment. Study 3 and 4 tested causality by exposing participants to art (vs. non-art) visuals and using behavior measures to assess its impact on motivation to consume luxury goods. The last two studies tested two boundary conditions. We found that manipulating either a pragmatic goal of viewing art (i.e., assessing the market value of art works, Study 5) or an analytical goal of viewing art (i.e., examining details of art works, Study 6) interfered with the art appreciation process and attenuated the negative effect.

3 - The Millennial Luxury Mindset: Signalling Personal Values (not Status) by Consuming Luxury

Vanessa Patrick, Bauer Professor of Marketing, UH, Houston, TX, United State

Luxury brands, whether conspicuously (Han et al. 2010) or inconspicuously (Berger and Ward 2010) consumed, are "good" signals of status, social standing, and help consumer fit in their social group (Wilcox et al. 2009). However, research on Millennial consumers argues that "the Millennial mindset is self-directed" (Deloitte, 2017), implying that Millennial consumers are more likely to buy luxury as a way of self-expression rather that showing off status. Relative to older generations, Millennials appear to care more about values like environmental concerns, sustainable production, etc. This raises the question: Is what is desirable, and desired, by the new Millennial luxury consumer changing? And what do Millennial consumers care about? The current research seeks to explain why luxury consumers (Millennial versus not) are drawn to luxury brands. We expect that while other cohorts use luxury to signal status, luxury brands still serve a social-adjustive function for millenials, but not as a signal of wealth and status, but as a signals of the values that Millennials share with their cohort. Four experiments (lab and Mturk) using different stimuli, products/services, and manipulations, support out theorizing. We find that Millennial luxury consumers purchase luxury for social-adjustive reasons, but to signal personally meaningful values to their social group, more than just status. While they still want prestige and exclusivity from luxury, they also want the luxury brands they interact with to be concerned with environmental sustainability and social issues, more so then the older cohorts. We conclude by discussing the implications for luxury brand managers.

4 - Confused by the Data – Interaction Effects between Online Social Information Sources on Product Choice

Leonard Rackowitz, University of Hamburg, Hamburg, Germany, Michel Clement

To guide consumers in their decision making process, websites of different kinds integrate different sources of social information, like online customer reviews, rankings, trend information (e.g., trend curves), and personalized recommendations. Prior research in marketing has mainly focused on understanding how these sources of social information separately impact consumers' decision making process. However, often these sources of social information are presented to consumers simultaneously. Thus, this work explores interaction effects between these sources of social information on product choice. Only little previous research exists and prior results are mixed which may be due to the fact that, primarily, secondary market data is used. This is challenging since social information may be endogenous and sales data may be affected by unobserved marketing activities. Using a conjoint choice experiment and applying a hierarchical Bayes estimation on a German population representative sample of 2,123 participants, we are able to account for differences in individual preference. We find that all tested sources of social information directly affect choice. WoM valence positively interacts with WoM volume, trend information, and system recommendations but does not interact with the sales rank. This means that a poorly rated product gains less compared to a highly rated one when receiving more reviews, when its trend increases, or when it is recommended. When rated three stars, consumers prefer one additional star over more reviews. From a management point of view, this research is important since consumers regularly make trade-off decisions in choice sets of products presented with several sources of social information simultaneously.

5 - Terror Management Theory and Social Identity: A Moderating Role of Product Character

Huaxue Cui, Shanghai University of Finance and Economics, Shanghai, China, Li Wang, Xiaodong Jiang

Uncertain cataclysm is an unavoidable part on earth, causing great material damage and serious deaths. When people are exposed to news about these disasters, even though they haven't experienced it, people's mind and behavior will be affected. Correspondingly, the purpose of this study is to exam when and how consumers' choice for products and brands will be affected in the context of the unfortunate cataclysm. Under the effect of Wenchuan (a county of China) Earthquake, which happened in 2008, people who lived in the affected area by the disaster had significant behavior changes. We have found that those preferred vehicles of foreign brands and larger types (eg, SUVs), compared with people who lived in other areas. Also, affected people chose some special color of the vehicles to release their anxiety. The predictive power of TMT could be considerably improved by examining the consequences of Mortality Salience. Perhaps, when worldview defense and striving for self-esteem conflict, the outcome is less predictable. Consider a situation in which the home country product is inferior to a foreign product. It is not clear whether MS would make consumers prefer the home product (driven by defense of worldview) or the superior foreign product (driven by self-esteem). In this study, we find that people use different categories to classify themselves in valued identity-seeking behavior, which leads to different choices under MS. Those who want to seek social identity in utility-based product functions are motivated to enhance self-esteem. Defense motivation helps people to choose hedonic product characters under MS.

■ TA17

Aula 18

Emotion I

Behavioral Track

Chair: Songting Dong, University of New South Wales, School of Marketing, UNSW Business School, Sydney, NSW, 2052, Australia

1 - Moral Accounting: How Consumer Spend Money Tainted by Guilt

Hyun Young Park, Assistant Professor, CEIBS (China Europe International Business School), Shanghai, China, Tom Meyvist

Given the prevalence of bounded morality and possibly tainted financial gains, the current research sets out to examine how feeling guilty about money changes consumer spending. Extending the research on mental and emotional accounting to the moral domain, we propose that consumers also engage in "moral accounting": consumers spend money differently depending on the moral nature of the emotion (i.e., guilt) associated with the money. In thirteen experiments, we show that tainting money with moral guilt resulting from a moral violation increases pro-social spending, whereas tainting money with self-control guilt elicited from a personal self-control failure increases self-improvement spending. Moreover, this effect of moral guilt (but not of self-control guilt) is magnified by consumers' self-importance of moral identity—confirming the moral nature of guilt as the driving factor underlying the differential guilt effects. We further find that moral guilt can be bound to money, leading to a pre-occupation with the tainted money. As a result, consumers who own morally tainted money focus on cleansing the money by spending some of it pro-socially, rather than engaging in other pro-social activities that could more effectively reinforce their moral identity (i.e., volunteering time). In contrast, consumers who feel moral guilt for reasons unrelated to money engage in time volunteering more than monetary donations. These results suggest that associating moral guilt with money—and thus focusing on that money instead of its moral implications for the self—can act as a proactive self-protection (vs. reactive self-repair) strategy against a threat to one's moral self-view.

2 - A Non-recursive Model of Guilt and Ethical Consumption

Sadrac Cenophat, PhD Business Administration, Justus Liebig Universität Giessen, Giessen, Germany

Ethical consumption has attracted the attention of a number of scholars over the last decades. Prior research has shown that emotions, such as guilt activated by an episode of consumption, have the potential to regulate subsequent ethical consumptions through perceived consumer effectiveness (i.e., consumers' beliefs that their actions have an impact on important issues as large as the environment). Although prior studies have undoubtedly contributed to our understanding of this phenomenon, they seem to ignore the assumptions that ethical consumption is driven by consumers consideration of ethical behaviors as important self-standards, and that consumers with ethical consumption habits may be more likely to experience guilt after they fall short of their self-standards. Therefore, this paper reviews the major theoretical arguments linking guilt with ethical consumption. Using simultaneous equations model, this study demonstrates that previous empirical studies have produced incomplete findings that imply a unidirectional link between these two concepts. The current research develops and tests a non-recursive model showing that ethical consumption influences the likelihood of experiencing guilt which then influences ethical consumption through perceived consumer effectiveness. In introducing this feedback loop, the current work extends the wealth of research that provides an understanding of ethical consumers.

3 - Consequences of Food Waste: When Guilt Makes You Compensate for Wasting Food

Ada Maria Barone, Luiss University, Rome, Italy, Matteo De Angelis

Literature on food waste suggests that consumers feel guilty when witnessing food waste, but less is known about the circumstances in which this occurs and how this negative emotion may affect their subsequent behavior. In two studies, we show that guilt mediates the effect of internally versus externally attributed food waste behaviors on intention to reduce food waste. Specifically, individuals feeling directly responsible for the food waste feel guiltier and, in turn, compensate for the harm caused by their behavior by showing higher intentions to reduce food waste in the future (Study 1). We provide further evidence for the compensatory effect of guilt on subsequent behavior by showing that when consumers are given the opportunity to compensate in other ways guilt no longer has an effect on intention to reduce food waste (Study 2). This work contributes to research in food waste by investigating the circumstances that trigger guilt in consumers and by focusing on the positive consequences of such behaviors. Furthermore, it suggests the relevance of emotions in communications strategies aimed at reducing food waste and thus provides useful directions for both companies and policy makers aiming to nudge consumers toward more beneficial behaviors. For instance, the use of guilt appeals in awareness campaigns should be associated with messages underlying the direct contribution of consumers' behaviors in generating food waste. Finally, this work opens up avenues for further research about the role of positive and negative emotions in relation to food waste behaviors.

4 - Will They Go for My Jugular? The Psychological Safety Provided by Clothing the Neck

Maria Galli, ESADE, Barcelona, Spain, Amy N. Dalton

Clothing is studied in consumer psychology primarily for its symbolic importance for identity. Here, we study clothing as a form of psychological protection. Specifically, we examine the effects of clothing a particularly vulnerable body part - the neck. We propose that physically covering the neck provides psychological security in anxiety-provoking situations, thereby facilitating coping. Experiment 1 entailed an interview. Interviewees who wore a light scarf around their neck exhibited facial expressions, body movements, and language patterns indicative of reduced anxiety and improved cognitive functioning. Interviewees' self-reported anxiety and self-assessed performance, however, were unaffected. In experiment 2, laboratory participants subliminally viewed images of dangerous animals, then gambled for real financial rewards. Participants whose necks were covered (vs. exposed) took greater financial risk. In sum, covering the neck facilitates coping with diverse environmental stressors. This effect can occur automatically and can carryover from the immediate stressor to affect risk-taking in an unrelated situation.

5 - The Roles of Emotions Across Categories

Songting Dong, Senior Lecturer in Marketing, University of New South Wales, Sydney, NSW, Australia, John H. Roberts, Elaine Saunders

Emotions have been shown to be important influencers in consumer evaluation processes. While some evidence suggests that these effects may be more pronounced in hedonic relative to utilitarian categories, there is little systematic evidence to establish the characteristics of categories in which emotions play a greater role, and which emotions are more prevalent and influential in which categories. In this paper, we take advantage of a database crossing 16 categories to classify those categories across a number of dimensions and to see which of those dimensions are associated with high levels and relative impact of cognitions, positive and negative emotions. Results suggest that the level, weight and impact of emotions play different roles in different consumer evaluation decisions, and category features including hedonic feature, utilitarian feature, ease, and individual-focus (i.e., me vs. others) have various effects on these roles. For example, there is only a minor or moderate level of correlation between the levels of different emotions and the weight (or impact) of those emotions. The increase of the hedonic level of a category will increase the level of positive emotions, but not necessarily increase their importance weight. Across the categories we have, we calculated the relative impact of emotions compared to cognitions. A ratio of total emotion impact / total cognition impact varies greatly from 0.4 to 1.6, with an average of 0.94. We call for managers' attention to the importance of emotions in consumer evaluation processes, and to the various roles that emotions play, including how they may be different as a function of category features.

■ TA18

Aula 19

Prosocial Behavior

Behavioral Track

Chair: Dikla Perez, Bar Ilan University-Ramat Gan, Ramat Gan, Israel

1 - Differential Framing Effects from Valence and Time-Differentiated Message Request on Donation Behaviour

Nursafwah Tugiman, PhD Candidate, University of New South Wales, UNSW Sydney, Australia, Gary Gregory, Rahul Govind

The research investigates whether differential framing effects in an environmental charity's campaign influences varying consumer response. Past literature that has evaluated different types of message framing effects has found little to no conclusive findings on when or for whom, what type of messaging is most appropriate in achieving compliance. We investigate two framing domains: (i) message valence and (ii) time-differentiated message request which only have been studied in a stand-alone fashion in the past. Message valence in this research refers to supportive versus combative valence. Time-differentiated message request refers to high versus low immediacy donation request message in a charity's campaign. Furthermore, to depict real-world practice of environmental charity's campaign, our research utilizes sentiment analysis to understand the existing framing strategies utilized by a global charity. We then incorporate it into the development of our stimulus. A series of experiments are performed to understand the casual effects of framing domains in predicting the effectiveness of an environmental charity's campaign. Finally, acknowledging the unique challenge that a charity in affording sizeable promotional campaign budgets, the work in this study intends to assist charity organisations toward enhancing the effectiveness of their present and future campaigns by adapting their messaging strategy with the aim of increasing donations.

2 - In Praise of Pleasure: Free Hedonic Consumption Fosters Prosocial Behavior

Daniela Cristian, Assistant Professor, Cass Business School, London, United Kingdom, Bob Fennis, Luk Warlop

In Praise of Pleasure: Free Hedonic Consumption Fosters Prosocial Behavior Pleasure constantly inhabits our minds. In spite of its universal appeal, hedonic consumption has been often stigmatized as maladaptive. A common intuition has been that besides immediate enjoyment, hedonics elicit guilt or regret. Hence, pursuing pleasure has been considered generally suboptimal. We contend that this prevalent negative view does not convey a complete picture and that under particular conditions, deliberately engaging in hedonic consumption is highly beneficial. To this end, we investigate whether hedonic experiences foster prosocial behavior. Prior research has suggested competing antecedents of prosociality such as positive mood and guilt-induced helping. However, hedonic experiences do not unequivocally trigger positive affect of guilt, but concurrent positive and negative responses. Thus, we extend the existing work by documenting a qualitatively different relationship between hedonic experiences and prosociality. The results of four laboratory experiments show that freely experiencing hedonic consumption promotes spontaneous non-monetary helping (Study 1), hypothetical charitable donations (Studies 2 and 3), and real monetary donations (Study 4). The effect is mediated by disinhibition induced by hedonic consumption (Study 4). Besides providing actionable insights for marketers that offer hedonic products and experiences, the current work is informative for charity organizations as well.

3 - Ticket Purchasers to Donors: Understanding Co-evolution of Multiactivity Engagement with the Firm

Gwen Ahn, University of Michigan, Ann Arbor, MI, United States, Eric Schwartz, Fred M Feinberg

We study how ticket-purchasing behavior and contribution behavior interactively evolve in the context of non-profit performing arts organizations (e.g. Carnegie Hall, Lincoln Center, or smaller locally-affiliated musical societies). Since contributions often exceed 50% of total revenue, understanding how paid activities and donations are interrelated can help such organizations promote and nurture continued engagement (e.g., attendance, subscription, and contributions). While purchasing and contribution behaviors have been extensively studied individually, little is known about their interrelationship or mutual influence, either statically or dynamically. Leveraging extant longitudinal transaction databases can improve financial forecasts and guide both pricing and promotional strategies of arts organizations. Using data on user-level transactions and contributions, as well as textual information on all performances over seven years, we build a model of ticket purchase and contribution behavior that captures their correlated time courses for both incidence and amount. More generally, the setting allows us to study how multiple consumer activities interact with one another and co-evolve. While the current focus is on non-profit performing art organizations, the framework is appropriate for other settings with multiple contingent actions, such as reading and subscription on a freemium-based news source.

4 - "Please Rate Your Experience": The Effect of Calls to Action on Website User Conversion

Dikla Perez, Bar Ilan University, Ramat Gan, Israel, Gal Oestreicher-Singer, Lior Zalmanson

This study focuses on a possible strategy to address the conversion challenge, by exploring whether when a website interacts with its users and ask them to give feedback, will it have a carryover effect in its conversion rate, from free to fee? Experiment 1 examined the effect of an initiated call to action on consumers' willingness to donate money to a website. 162 participants were randomly assigned to treatment or control conditions and could view movies freely on an online website. Participants in the treatment condition were exposed to a prompt with a request to rate their experience with the website. Then, all participants were asked to make a donation to support the website. A t-test analysis of users actual donations showed that participant's donation in the control condition ($M = 10.69$, $SD = 19.63$) was higher compared with participant's donation in the treatment condition ($M = 18.09$, $SD = 29.40$, $t(160) = 1.752$; $p = .082$). Experiment 2 study the effect of exposure to a call to action on conversion in a field setting. 91,050 users who joined Webservice.com platform, were assigned to the experiment and were randomly assigned to a treatment or a control group. Members of the treatment group were each presented with a call to rate their experience with Webservice.com. Participants were tracked for 90 days after the recruitment period and their conversion rates were collected 30, 60, and 90 days following the end of this period. As expected, in each of the three time periods, the treatment group had a higher conversion rate than the control group did. Specifically, 30 days after the end of the recruitment period, the conversion rate for the control group was 11.07%, whereas the conversion rate for the treatment group was 11.54%. A binary probit regression in which the independent variable was the experiment conditions and the dependent was the conversion rate, showed that conversion rate was significantly and positively affected by treatment ($= 0.15$, wald = $p < 0.05$). Analyzing data 60 days and 90 days after the end of the recruitment period showed similar results.

■ TA19

Aula 20

Pricing I

Contributed Session

Chair: R. Venkatesh, University of Pittsburgh, Pittsburgh, PA, 15260, United States

1 - Pricing Add-on Services in the Presence of Consumers' Regret

Aruna D. Tatavarthy, Assistant Professor, Indian Institute of Management Ahmedabad, Gujarat, India, Sreelata Jonnalagedda, Deepika Jain

Consumers typically recover value from under used services either by reducing their payment for the service or by increasing usage. Firms use add-on products such as upgrades/complementary products to provide consumers the opportunity to recover value and arrest churn-rate. We hypothesize that a firm's ability to reduce churn using add-on services depends on how consumers' recover value, as well as the price structure of the base product/service. Specifically, we look at a firm's strategy for pricing upgrades and cross-sell services under a flat-fee or pay-per-use price structure of the base product under two value recovery mechanisms (payment reduction and usage increase).

2 - Discount Bundling via Dense Product Embeddings

Madhav Kumar, MIT, Cambridge, MA, United States, Dean Eckles, Sinan Aral

Bundling, the practice of jointly selling two or more products at a discount, is a widely used strategy in the industry and a well-examined concept in academia. Historically, the focus has been on theoretical studies in the context of monopolistic firms and pre-assumed product relationships, e.g., complementarity in usage. We provide a new machine-learning driven methodology for designing bundles in a large-scale cross-category retail setting. We leverage historical co-purchase and co-search patterns of products from clickstream data to generate dense continuous representations of products called embeddings. We put minimal structure on these embeddings and generate heuristics for complementarity and substitutability among products. We generate multiple bundles for each focal product and test their performance using a set of online field experiments with a retailer. Preliminary results show that consumers prefer bundles with complementary products as well as 'variety' bundles that consist of imperfect substitutes.

3 - Zero-pricing in Bundle Offers: Does it Reinforce or Weaken Anti-competitive Effects?

Youngwook Koo, KAIST Business School, Seoul, Korea, Republic of, Minki Kim, Minsoo Park

Economists and antitrust practitioners have long raised regulatory concerns regarding abuses of market power through the bundling of products in the telecommunications and broadcasting industry. Anti-competitive issues may further arise if market-dominant operators frame bundle discounts as the "free" offer of a product (i.e., zero-price marketing)—a topic that remains relatively underexplored in the literature. Given the consumer behavior literature regarding a free offer in the bundle context, however, it still remains ambiguous whether market dominant operators' zero-pricing in bundle offers can reinforce or weaken the anti-competitive effect. Hence, we build a theoretical model of product bundling with different levels of market competition and empirically test whether consumers prefer zero-priced bundles over similarly priced groupings of products (i.e., reinforce the market power of a dominant player) or not with a conjoint experiment. In consistent with strategic foreclosure theory, we found that a mobile network operator which has a dominant power in mobile telecom service sector can significantly raise its share in the pay-TV market by exploiting zero-price marketing. We also found that consumers who are vulnerable to a dominant firm's zero-price marketing appear to have relatively lower levels of education and income. On top of anti-competitive effects, bundles often have hidden costs incurred by multi-year contractual arrangements and thereby potential lock-in effects. Therefore, consumers' vulnerability to such "free" offers may call attention to regulatory measures against zero-pricing marketing for bundles.

4 - Demand Shaping through Bundling and Product Configuration: A Dynamic Multiproduct Inventory-Pricing Model

Jing-Sheng Jeannette Song, Professor, Duke University, Durham, NC, United States, Zhengliang Xue

We present a dynamic, multi-item model to analyze the optimal joint inventory, pricing, and bundling decisions for a firm over a finite horizon. We develop a novel demand model that transfers the discrete bundling decision and the corresponding pricing decision into a market share decision. We show that the optimal policy is dictated by a no-order set. For items in this set, we do not place replenishment orders, because these items are overstocked. The rest of the policy parameters — the order-up-to-levels for the items that we do order, the bundling and pricing decisions, and the bundle assembly quantity — all depend on the overstock levels. Exploring the optimal policy features, we devise a branching algorithm that significantly simplifies the computation of the optimal policy. We also characterize how the optimal bundling decision depends on item complementarity, cost structure, inventory status, demand uncertainty, and supply responsiveness.

5 - Product Bundling through the Use of Choice Boards: Profit and Welfare Implications

R. Venkatesh, Professor of Marketing, University of Pittsburgh, Pittsburgh, PA, United States, Ashutosh Prasad, Vijay Mahajan

Bundling is a strategy in which a seller enlarges its product line by pricing different combinations of products. However, the number of product combinations and pricing problem can become unmanageable for both the seller and consumers. The current study is motivated by situations in which the seller either restricts the number of bundles or empowers consumers by providing a choice board. As examples, the Los Angeles Philharmonic and Atlanta's CityPASS offer bundles in which the seller allows (or limits) the customer's picks to one option from each set of events or attractions. To study these strategies, we consider a seller with a 4-product portfolio, selling in two categories to consumers with heterogeneous product preferences. The study examines the optimal product mix, pricing and profits for the seller as well as welfare implications. Illustrative results: While customer-driven bundling mirrors the traditional role of the bundle as an effective price discrimination device, this alternative also yields higher welfare than seller-driven bundling under a broad range of product market conditions. Further, the optimal choice board options are often counter-intuitive; e.g., a bundle of substitutes can yield higher welfare than a pair of independently valued products. The study's implications, research limitations and future research directions are presented.

Thursday, 11:00am - 12:30pm

■ TB01

Aula 01

Healthcare 1

Contributed Session

Chair: Rakesh K. Niraj, Case Western Reserve University, Cleveland, OH

1 - Impact of GMO Information Disclosure on Consumers' Choice

Youngju Kim, Neoma business school, Reims, France, SunAh Kim, Jia Li

Given consumers' increasing interest in knowing the ingredients of the food they consume, designing effective information disclosure programs remain important. In the past decade, consumer groups in the United States have persistently advocated towards having the GMO (Genetically Modified Organism) labeling changed, from voluntary to mandatory disclosure. In 2016, President Obama signed the Denying Americans the Right to Know (DARK) Act to mandate the GMO labeling in the U.S. The United States Department of Agriculture (USDA) is currently discussing an implementation plan. The macro trend of consumers' increasing interest in knowing information about the food they consume, and the corresponding policy change to GMO information disclosure, could affect consumers' behavior (e.g. GMO attribute and price sensitivity) and finally affect the companies' profitability. We examine the labeling system change's impact on consumers' choice and whether the GMO message mode (e.g. positive, neutral or negative) and GMO message format (e.g. logo, text and QR code) could moderate the main effects. To quantify the impacts of GMO information disclosure in financial terms, we will use two metrics: (1) choice share shift and (2) share-equalizing price modification. To answer these research questions, we combine framing research from the field of psychology with standard economic theories. We collect data from multiple sources, conjoint experiments using online panels, and a lab experiment to examine the different GMO information disclosure policies on consumers' choice. Finally, we provide insights into the food producers and policymakers to see how macro environment's changes (e.g. GMO information disclosure policy) affect consumers' decision making. Based on our findings, we conduct a counterfactual analysis of how companies should change their marketing decisions, such as changing pricing strategies, to sustain their market shares in a new environment.

2 - Learning in Chronic Disease Medication Demand – the Case of Hypertension

Wenxi Li, University of Chicago, Chicago, IL, United States, Pradeep Chintagunta, Naiqing Gu, Minki Kim

Chronic diseases and conditions are becoming more prevalent health problems and currently account for a large proportion of medical spending. Once diagnosed, chronic patients typically need continuous long-term or lifetime treatment. At the same time, their health conditions continue to deteriorate. Thus, the "match value" between a drug and a patient may possibly change during the patient's medical history. In this study we address the previously undocumented change in match value by utilizing a panel dataset over 12 years in which we keep track of newly diagnosed hypertensive patients' health conditions and their relevant prescription records. Using the physician-patient pair as the unit of analysis, we find that the general trend in the data is consistent with the quick learning of a patient's initial match value; state-dependence in prescribing behavior (which could also reflect risk-aversion); and subsequent adjustments to the treatment regimen due to patient condition deterioration. We then estimate a discrete choice model with learning and state dependence to explore the evolution in the prescriptions received by a patient over time. Further, we explore possible mechanisms of this re-learning pattern and discuss managerial and public policy implications of our findings.

3 - Factors Affecting Long Term Brand Growth

Giang Tue Trinh, Senior Research Associate, Ehrenberg-Bass Institute, University of South Australia, Adelaide, Australia, Peter N. Golder

The purpose of this study is to examine what factors affect long term brand growth in consumer-packaged goods categories. We use actual brand purchasing data from a sample of approximately 12400 households in the UK over a five-year period from 2010 to 2014, with a total of 188 brands in 10 product categories. We model the effects of change in penetration and loyalty on change in market share in the five-year period. We find that both change in penetration and loyalty have significant effects on long term brand growth. However, the effect of change in penetration is twice the effect of change in loyalty. We also model the effects of marketing variables, including new products, brand promotion intensity, and brand price on changes in market share. We find that new products have a positive effect on long term brand growth, while brand promotion intensity has a negative effect and brand price has no effect on long term brand growth. Finally, we find that the results are similar across national brands and private labels.

4 - Using Large Scale Customer Feedback: Combining Quantitative and Verbatim in Surveys to Improve Healthcare Operations

Rakesh K Niraj, Case Western Reserve University, Cleveland, OH, United States, Andrew Gallan, Awanindra Singh

Healthcare organizations routinely administer Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys, mandated by the Centers for Medicare and Medicaid Services (CMS), to understand patients' perspectives of care in overnight hospital stays. Healthcare organizations also often add additional items and solicit open-ended responses to collect supplementary information that provides deeper insights and avenues for operational improvements. In this study, we look at two years' of HCAHPS surveys from a large healthcare organization (11 total hospitals). Out of around fifty thousand total respondents, about 29,300 patients provide close to 86,700 open-ended text responses about various aspects of their experience while at the hospital. This large volume of text data provides rich and potentially actionable information. However, processing this vast amount of text requires machine learning methodology to conduct both topic modeling and sentiment analysis. We apply newly emerging techniques in this field to identify topics not already covered by the questionnaire. While the questionnaire is organized by domains (admissions, physicians, nurses, room, food, tests and procedures, discharge, etc.), we find patients often go beyond these domains and provide comments on topics such as competence, compassion, and efficiency. Next, we conduct sentiment analysis using an ensemble of various machine learning classification algorithms like support vector machines, Random Forest, Boosting and Bagging for these new topics and run models predicting satisfaction or likelihood to recommend based on a combination of quantitative and textual information. Insights for health care providers are found, suggesting that such analyses may be useful for other organizations dealing with large scale, ongoing consumer surveys.

■ TB02

Aula 02

Meet the Editors I

Special Panel Session

Chair: Harald Van Heerde, University of New South Wales, UNSW Business School, School of Marketing, Sydney, 2052, Australia

1 - Marketing Science Journal

K. Sudhir, Yale University, School of Management, New Haven, CT, 06520-8200, United States

2 - Journal of Marketing

Harald Van Heerde, University of New South Wales, UNSW Business School, School of Marketing, Sydney, 2052, Australia

3 - Journal of Marketing Research

Rajdeep Grewal, University of North Carolina, Kenan-Flagler Business School, 300 Kenan Center Drive, Chapel Hill, NC, 27599, United States

4 - Management Science

Dmitri Kuksov, University of Texas, Dallas, TX, United States

5 - Quantitative Marketing and Economics

Wesley Hartmann, Stanford University, Stanford, CA, United States

■ TB03

Aula 03

Customer Experience in Digital Environments

Special Session

Chair: Daniela Schmitt, University of Mannheim, Mannheim, 68161, Germany

1 - Investigating Cross-site Relationship Dynamics on the Path to Purchase

P.K. Kannan, Smith School of Business, University of Maryland at College Park, College Park, MD, United States, Hyungsoo Lim, Chul Kim

Consumers' online decision journey involves many touches as they as they search for, consider, and evaluate competitive offers before they make a purchase. In this journey, they may visit many websites which be viewed as competitor websites which may reduce the chances of the consumers visiting and/or converting at a focal firm's website or increase those probabilities if those websites are complementary. In this study, we propose a general framework to model online customers' website visits and conversions considering the cross-site relationship dynamics. The proposed model integrates the point process model for website visits and the multinomial choice model for conversions given website visits. We develop a dynamically- and mutually- exciting marked point process model which extends the extant research in this area. Empirically, we apply the proposed model to individual-level online clickstream data for hotel booking. We investigate the relationship between hotel chains and online travel agencies (OTAs) and how the relationship changes over time along the path to purchase. Overlooking the dynamic relationship between hotel chains and OTAs may bias managerial metrics and lead to suboptimal managerial decisions such as mispricing the commission fee. We find strong evidence of the cross-relationship among the hotel chains and OTAs, and our model predicts website visits and conversion better than existing models. We find that ignoring the dynamic mutually-exciting effect leads to biased estimates of carryover and spillover effects between the websites. We highlight the implications for firm actions along the path to purchase to maximize impact for a focal firm.

2 - Customer Transferal: Lifetime Value and Satiation in Markets for Frequently Moving Hedonic Experiences

Barak Libai, Interdisciplinary Center (IDC), Arison School of Business, IDC, Herzliya, 46150, Israel, Michael Haenlein, Eitan Muller

Frequently Moving Hedonic Experiences (FMHE) are a large market that includes products such as video and mobile games, TV shows and online experiences. FMHE markets suffer from a widespread problem of satiation, where users enjoy the experience less with time. This results in temporal declining usage and reduced customer profitability. Behavioral research has suggested ways to affect an individual's perception in order to mitigate the effect of satiation. Here we highlight an alternative solution which is becoming notable in digital markets such as mobile games: Instead of changing the customers, exchanging them. Using what is labeled in the industry as "cross-promotion" activities, customers are de-facto encouraged to churn the current brand towards an alternative destination. For internal cross-promotion, the destination will be to another product in the brand portfolio, where the customer is not satiated yet. In the case of external cross-promotion, firms are being helped by a platform that mediates among different brands. A focal customer will be cross-promoted to move to a product of another firm, in exchange for a "fresh" customer that will be sent instead by the platform. These emerging cross promotion practices raise fundamental questions about the management of customer as assets and the utility of retaining customers in contemporary fast-moving markets. Using customer lifetime value analysis, we examine the rationale for these approaches and explore when, for whom, and how, it is profitable to transfer the brand's customers elsewhere.

3 - The Role of Social Media in the Monetization of News Content

Michaela Draganska, Lebow College of Business, 3141 Chestnut Street, Philadelphia, PA, 19104-6340, United States, Daniela Schmitt

Customers' interactions with digital content offerings across different media platforms pose a new set of challenges for marketers aiming to convert users into paying customers. Especially the rise of social media over the last decade has tremendously influenced the way people consume news and entertainment. In a way, social media has taken over the function of a news provider for many. Additionally, advertising revenues have been continuously declining, so publishers face the issue of finding alternative ways to generate revenues, mainly through direct payments in the form of subscriptions. Our research aims to shed light on how social media facilitates - and interacts with - this monetization of news content. We have a very detailed data set combining social media posts with click-stream data on user behavior on the news website, including paid transactions. The rich data enable us to explore the influence of social media on subscriptions and to point to the type of posts that are effective in driving traffic and conversion. In addition, we investigate the usage behavior of subscribers acquired through the social media channel to determine their value to the company in the longer term.

4 - Optimizing the Composition of Paid Content in a Freemium Model

Daniela Schmitt, University of Mannheim, L5, 2, Mannheim, 68161, Germany, Raghuram Iyengar, Florian Stahl

Many companies try to sell subscriptions for their digital products using a freemium revenue model. Such a business model typically implies offering a low-end version of the product for free and a high-end version for a fee. For instance, a news publisher may offer some content for free to all customers while placing other content behind a paywall. Little is known about how the characteristics of the content determine whether it would be free or paid. Using data from an online news publisher that employs a freemium model, we quantify the impact of the quality and quantity of paid content on the demand for subscriptions. Using the findings from our empirical analysis, we develop a framework for setting a freemium strategy (i.e., the ratio of free versus paid content) optimal for revenue maximization.

■ TB04

Aula 04

Game Theory in Marketing

Special Session

Chair: Jeffrey Shulman, University of Washington, Seattle, WA, 98195-3226, United States

1 - Information Asymmetry and Relevance of Sponsored Listings in Online Marketplaces

Kinshuk Jerath, Columbia University, New York, NY, 10027, United States, Vibhanshu Abhishek, Siddharth Sharma

We study advertising on e-commerce marketplaces like Amazon and Alibaba by third-party sellers who have some private information about their product. Using a simple game theory model, we determine that, when this information asymmetry is high, sponsored ads may be of higher relevance than organic listings. We test sharp hypotheses obtained from the model using data from Flipkart, the dominant e-commerce marketplace in India, and find strong support for the theory.

2 - Spot Pricing in Cloud Computing: Diversification of Spot Resources under Supply Uncertainty

Jeffrey Shulman, University of Washington, Foster School of Business, Seattle, WA, 98195-3226, United States, Amir Fazli

Cloud computing providers often sell their excess resources on a spot market with a discount. These spot resources could be interrupted and become unavailable at any point in time. Furthermore, spot prices are not fixed and could fluctuate as supply and demand for computing resources shift. In order to alleviate the effects of interruptions for spot users, cloud providers offer the option to diversify cloud resources when using spot pricing. This option allows spot users to use resources from a variety of different server types, instead of only using from one pool of servers. Diversifying cloud resources across multiple pools can thus reduce the number of a user's terminated resources, in case of an interruption in one pool. Therefore, it is commonly believed that implementing a diversified cloud strategy is justified primarily when interruptions are highly likely. However, by modeling the dynamic spot pricing decisions of the cloud provider, we show that the opposite may be true. Specifically, we find the effect of interruption likelihood on diversification depends on the value difference between users in the spot market. When the value difference between the two users is low, diversification occurs for high interruption likelihood. However, when the value difference is moderately high, the reverse occurs and low interruption likelihood results in diversification. The counterintuitive latter result exists because an interruption can increase the price of the remaining pools when diversification is chosen, thus incentivizing users to diversify only when interruptions are less likely. Our findings provide clear implications for spot users in their choice of diversification under supply uncertainty.

3 - Market Competition and Quality Erosion

Jiwoong Shin, Yale School of Mangement, 165 Whitney Avenue, Room 5520, New Haven, CT, 06520, United States

We investigate the relationship between market competition and the average level of product quality. Greater competition will generally increase the average quality of the market. However, when consumers have limited capabilities to process information, as the number of alternative products in the market increases, the correlation between the number of competitors in the market and the quality may decrease. Thus, increased competition can, paradoxically, have an adverse effect on quality. Moreover, we show that the reduced correlation between the number of alternative products and quality can decrease the firm's incentives to invest in quality, which further weakens consumers' incentive to search for the highest quality alternative. At the limit, we revert to Diamond's paradox where the average quality in the market asymptotically approaches the lowest possible quality level to survive in the market and therefore, consumers have no incentive to search.

4 - Bargaining Between Collaborators of a Stochastic Project

Z. Eddie Ning, Cheung Kong Graduate School of Business, Beijing, China

Firms increasingly rely on collaboration for development and marketing of products. The expected surplus from collaborating can change stochastically over time due to evolving market conditions or the arrival of new information. For collaboration to happen, both firms have to agree to collaborate as well as agree on how the profit is to be split. In such cases, at what point do firms form the alliance and how do they agree on the profit split? To answer these questions, I study a model of bilateral bargaining with a surplus that follows a Brownian motion. One firm can make repeated-offers to the other, and they switch roles after some time to allow for counteroffers. The frequency of counteroffers determines relative bargaining power, and the model captures different bargaining procedures by varying this frequency. The paper finds that, when there is no outside option, firms collaborate after efficient delay. If there is a relevant outside option, the outcome is inefficient due to a hold-up problem faced by the weaker party. Firms form the alliance too early, taking the outside options too early, and the ex-ante probability of alliance becomes sub-optimal. Increasing the frequency of counteroffers improves social efficiency by balancing bargaining power and reducing the severity of hold-up. Furthermore, bargaining with more frequent counteroffers can lead to Pareto improvements; the proposer benefits, too, because the increased efficiency outweighs losses in bargaining power. The paper makes a step in understanding the effect of bargaining procedures on collaborative outcome, and shows how collaborators should (not) bargain.

■ TB06

Aula 06

Digitization 1: Networks and Peer Influence

Special Session

Chair: Pinar Yildirim, University of Pennsylvania, Philadelphia, PA, 19104, United States

Co-Chair: Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States

1 - Visibility in Peer Influence

Bryan K. Bollinger, Duke Fuqua School of Business, Durham, NC, 27708, United States, Kenneth Gillingham, Justin Kirkpatrick, Steven Sexton

Despite the fact that the mechanism behind peer effects in durable good adoption affects the efficacy of interventions that might leverage these social interactions, there is little empirical evidence in support of the possible mechanisms through which peer effects can occur. In this paper, we show the importance of the visibility of solar panel adoption in driving peer effects, exploiting the exogenous visibility of solar panels which are orientated to maximize their generation capacity. We use neural networks to identify the exact solar panel locations, LiDAR data in order to create a surface map of the house and nearby structures that might impede the visibility of the panels, and we assess how many unimpeded views of the solar array are possible from points along all nearby roads. We find that highly visible solar arrays within 500 meters of a potential adopter lead to up to twice the peer effect as non-visible panels. Using Google Sunroof irradiance data, we further show that peers who adopt who derive less value from their installations are more influential in leading the focal household to adopt, if the focal household is Democratic; presumably, these peers adopted solar for non-economic reasons and the Democratic focal household is more receptive to this type of information. A large scale survey of solar adopters as part of the Solarize CT campaign confirms that visibility plays a role in adoption decisions; we find that visible adoptions within 500 meters lead more solar adopters to report that the visibility of peer adoption was important in their decision.

2 - Evaluating Stochastic Seeding Strategies in Networks

Dean Eckles, MIT, Cambridge, MA, 02139, United States, Alex Chin, Johan Ugander

When trying to maximize the adoption of a behavior in a population connected by a social network, it is common to strategize about where in the network to seed the behavior, often with an element of randomness. Selecting seeds uniformly at random is a basic but compelling strategy in that it distributes seeds broadly throughout the network. A more sophisticated stochastic strategy, one-hop targeting, is to select random network neighbors of random individuals; this exploits a version of the friendship paradox, whereby the friend of a random individual is expected to have more friends than a random individual, with the hope that seeding a behavior at more connected individuals leads to more adoption. Many seeding strategies have been proposed, but empirical evaluations have demanded large field experiments designed specifically for this purpose and have yielded relatively imprecise comparisons of strategies. Here we show how stochastic seeding strategies can be evaluated more efficiently in such experiments, how they can be evaluated "off-policy" using existing data arising from experiments designed for other purposes, and how to design more efficient experiments. In particular, we consider contrasts between stochastic seeding strategies and analyze nonparametric estimators adapted from policy evaluation and importance sampling. We use simulations on real networks to show that the proposed estimators and designs can dramatically increase precision while yielding valid inference. We then apply our proposed estimators to two field experiments, one that assigned households to an intensive marketing intervention and one that assigned students to an anti-bullying intervention.

3 - Advertising and Search Engine Usage: Do Consumers Prefer Less Advertising?

Navdeep S. Sahni, Stanford University, Stanford, CA, 94305, United States, Charles Zhang

We conduct a direct test of whether consumers are averse to, or prefer search advertising, using a large-scale field experiment spanning 3.3 million US users. The experiment randomizes users into seeing more, or less advertising, and shows that users are not averse to search advertising. Overall, higher level of advertising causes between 4% to 17% increase in search engine revenue, in our estimate. The number of pages browsed on the search engine are higher, by 2.4%, among users who see higher level of advertising, relative to the control group. This increase is higher among marginal users - those who, in the past, typed a competing search engine's name in the search query and navigated away from the focal search engine. The increase in usage caused by advertising is higher when (1) the search query has historically low organic click-rates, and (2) the organic search results from the query are concentrated on one website. Our findings suggest that the search engine does not face a trade-off between advertising revenue and search engine usage. Further patterns in our data are consistent with an equilibrium in which advertising conveys relevant "local" information, which is unknown to the search engine.

■ TB07

Aula 07

Hybrid and Dynamic Choice Models

Special Session

Chair: Pranav Jindal, UNC Chapel Hill, Chapel Hill, NC, 27517-3490, United States

Co-Chair: Masakazu Ishihara, New York University, New York, NY, 10012, United States

1 - Product Launches with New Attributes: A Hybrid Conjoint-Consumer Panel Technique for Estimating Demand

Mitchell Lovett, PhD, University of Rochester, Rochester, NY, United States, Paul Ellickson, Bhoomija Ranjan

We propose and empirically evaluate a new hybrid estimation approach that integrates choice-based conjoint with repeated purchase data for a dense consumer panel, and show that it increases the accuracy of conjoint predictions for actual purchases observed months later. Our key innovation lies in combining conjoint data with a long and detailed panel of actual choices for a random sample of the target population. By linking the actual purchase and conjoint data, we can estimate preferences for attributes not yet present in the marketplace, while also addressing many of the key limitations of conjoint analysis, including sample selection and contextual differences. Counterfactual product and pricing exercises then illustrate its managerial relevance.

2 - Deep Learning Demand: Integrating Economic Theory with Artificial Intelligence

Kanishka Misra, PhD, UC San Diego Rady School of Management, San Diego, CA, United States

Deep learning algorithms provide flexible statistical tools that can uncover complex patterns for a variety of raw data generating process. A critique of such algorithms in Marketing is the lack of underlying theory. In this paper, we propose a novel combination of economic theory with machine learning. We consider the context of static discrete choice models with panel data. Firms have access to a large dataset of individual consumer purchases decisions (e.g. which UPC was purchased), detailed consumer specific characteristics (e.g., demographics), and environment specific characteristics (e.g., price). Our new approach adds choice theory assumptions to deep learning algorithms. In particular, we impose the weak axiom of revealed preference. Our simulations show that imposing economic theory can improve predictions from state of the art machine learning algorithms. We find the magnitude of the improvement depends on the size of the dataset and the complexity of the underlying data generating process. We apply our model to a field panel dataset and show that our model does improve on predictions from computer science models.

3 - Social Consumption, Learning, and Product Completeness in TV Drama Live and Time-Shifted Viewing: Implications for Drama Producers and Advertisers

Masakazu Ishihara, New York University, New York, NY, 10012, United States, Baek Jung Kim, Hiroshi Kumakura

Despite its important implications for TV program producers and advertisers, little has been investigated regarding consumers' choice on live versus time-shifted viewing (i.e., viewing with DVR). In this paper, using unique individual-level data on TV serial drama viewing behavior in Japan, we investigate the roles of potential behavioral factors such as social consumption, own/social learning, and product completeness in influencing consumers' decisions on live versus time-shifted viewing over the course of drama episodes. We develop a dynamic structural model of serial TV drama viewing behavior that incorporates the behavioral factors, and apply it to 52 serial dramas broadcast in Japan between 2017 and 2018. We find that social consumption, own learning, and product completeness play a crucial role in influencing viewing decisions. As a validity check, we also apply the proposed model to 9 language educational programs and find different roles of the behavioral factors. Using the structural parameter estimates, we examine how the availability of time-shifted viewing influences overall live viewing of a drama. Live viewing is important for TV program producers and advertisers because it is closely related to TV advertising impressions. Disabling the time-shifted viewing option has a positive temporal effect on live viewing. However, the overall effect on live viewing can be positive or negative because no time-shifted viewing means that those who missed an episode cannot catch up and might choose not to watch the future episodes at all. Our results provide managerial implications for TV drama producers and advertisers.

■ TB08

Aula 08

Digital Marketing 2

Contributed Session

Chair: Fabio Caldieraro, FGV - EBABE, Rio de Janeiro, R. Jornalista Orlando Dantas, 30, Rio de Janeiro, 22231-010, Brazil

1 - Join the Conversation: Understanding and Leveraging the Effect of Internet-meme

Xueni LI, Assistant Professor, Hong Kong Baptist University, Hong Kong, China, Lu Wang, Lei Su

Internet meme (pronounced as "meem") refers to a piece of information that quickly spreads through the internet and brings a craze of sharing and imitation among a large scale of netizens. The word meme, named analogous to gene, was first introduced by Richard Dawkins (1989). Dawkins posits that while genes are one kind of replicator that spreads from body to body, memes are another type of replicator that propagates from mind to mind. Examples of a meme could be an idea, a phrase, a picture, or a short video. A meme must catch extent attention to replicate itself and spread wide to stay "alive", and internet is a place that visualizes this spreading process in which people (and also a company) can take a participative role (in diffusing a meme). Thus internet memes are ideal content vehicles for marketers to disseminate their advertisements, products, and brands. Numerous companies are conducting internet-meme marketing in practice. For instance, Haier is very famous for diffusing and discussing internet memes with online consumers in various of social network platforms such as Sina Weibo, Twitter, and Facebook (businessfornight.com, 2016), and Gucci posted a series of pictures combining its new products with internet memes in its official Instagram account (Thompsonmar, 2017). We notice that internet-meme marketing campaigns are prevalent and have attracted considerable companies' and media's interest, but surprisingly, there is no empirical marketing research investigating this phenomenon. This research aims at understanding consumer's perceptions and reactions toward internet-meme marketing campaigns and investigating the corresponding ways that marketers could leverage these effects. Specifically, we propose that leveraging internet memes would enhance consumer-brand closeness (compared to no-meme is leveraged). When a brand is joining the conversations of consumers, they would feel having more connections with the brand, and thus feel closer with it. We further propose four moderators to enrich our understanding of internet-meme marketing.

2 - Where and Why Do You Search Online? Empirical Analysis on Online Search Intent

Hikaru Yamamoto, Keio University Graduate School of Business Administration, Yokohama, Japan, Masao Kakihara

In the early days of the internet, the main media for online search behavior was search engine. However, as number of social media and e-commerce sites increases, the sites intended for transaction or social interactions has become information sources. The choice of information source and search device depends on the contents and the context of search behavior, such as the product category, the stage of consumer purchase decision making, and the search intent. In this paper, we focus on the search intent of consumer and aim to understand the key drivers for the online search frequency. The past literature in information retrieval indicates three types of search intent, i.e.; informational, navigational, and transactional intent. While this framework captures goal-oriented search behavior, it fails to capture hedonic or consummatory search behavior on the internet. To understand the context of online search behavior, we collected the data on search intent and the search behavior of 1600 samples in 20 product categories on four means for search behavior; i.e. search engine on PC, search engine on mobile phone, search using social media, and search using e-commerce sites. To capture the heterogeneity of product category, we conducted multilevel analysis, more specifically random intercept/random coefficient model. The results of the empirical analysis illustrate the importance of the consummatory intent in the online search behavior. The result also suggests product category heterogeneity in the consumer online search behavior.

3 - How Conversions in Freemium Businesses Impact User Activity

Simon Stolz, Doctoral Student, WHU - Otto Beisheim School of Management, Vallendar, Germany, Christian Schlereth, Christina Hofmann-Stölting

In online freemium businesses often user activity is more important than profit. Many freemium businesses, like Dropbox, Spotify, and LinkedIn, strongly emphasize the "Daily Active Users" (DAU) metric in their respective earnings reports. In our study we investigate whether a conversion has an impact on user activity of freemium products and what the temporal dynamics on usage intensity across different usage attributes are in freemium models with fixed duration plans. To control for self-selection effects we apply a novel variation of propensity score matching and difference-in-difference analysis. To obtain an estimate for the causal effect of conversion, we use data of a large-scale pricing experiment in combination with longitudinal panel data. Considering a time span of 3 months (minimum subscription duration) of post-conversion behaviour, we find that the effect on login frequency is strong and immediate (diminishing from 146% to 18%). On the other hand, the increase in contacts is less pronounced and sustained (diminishing from 36% to 19%). Our findings replicate prior findings of a positive effect of conversion on user activity, suggesting that paying freemium users are worth more than the money they pay. Moreover, our findings suggest that offers on short-term plans can be used to stimulate login activity (and the associated DAU), while conversions generally support sustained platform growth (such as user networking).

4 - Online Game Design, User Engagement, and Purchase Behaviors

Eunho Park, California State University Long Beach, Long Beach, CA, United States

By leveraging a unique online game dataset, the author examines effects of goal-related game design on users' engagement and purchasing behavior in a gaming community. The author models user behaviors as a function of distance to a goal and control variables. The author finds that users have significant differences in their behaviors before and after achieving a goal.

5 - Exploring Willingness to Share in Peer-to-peer Access-based Markets: The Effect of Roles Performed and Sharing Intensities

Fabio Caldieraro, Associate Professor of Marketing, FGV - EBABE, Rio de Janeiro, Brazil, Otávio F. Teixeira

Despite the long-standing practice of sharing things, the Internet and the recent emergence of peer-to-peer sharing platforms, not only changed access-based market dynamics, but also amplified its adoption. This research argues that people carry on feelings of gains and losses when they are sharing possessions, as is commonly observed in buying or selling situations. Additionally, this study identifies that the roles people assume as providers or consumers, and the intensity of sharing greatly influence individual's propensity to share a property. We demonstrate that participants different perspectives can diminish the likelihood people will reach sharing agreements, thus reducing the potential size of the market in a sharing economy. We further demonstrate that this difficulty cannot be solved simply by shifting value from one side of the transaction to the other side. Instead, solutions to this problem require channeled strategies, such as improving the perception of control over the objects being shared. The results provide insights for sharing-economy managers interested in improving the volume of transactions in their platforms.

■ TB09

Aula 09

Digital Marketing 14

Contributed Session

Chair: C.M. Sashi, Florida Atlantic University, Boca Raton, FL, 33431, United States

1 - Cancellation Policy as a Signal of Trust and Quality in the Sharing Economy: The Case of Airbnb

Irit Nitzan, Tel Aviv University, Tel Aviv, Israel, Lior Zalmanson, Davide Proserpio

We study the effect of cancellation policy settings on listing demand in the context of Airbnb, a popular home-sharing platform. We employ a difference in differences strategy to show that, contrary to previous findings in the traditional accommodation industry, listings with a strict cancellation policy have, on average, four percentage points higher demand than listings with a more lenient policy. We complement these findings with a survey of real Airbnb users aimed at understanding the mechanisms behind our results. We find that Airbnb guests perceive listings with a strict cancellation policy to be of higher quality and their host to be more trustworthy. These results suggest that the cancellation policy of a listing can act as a signal of quality and, in turn, can increase the listing demand. Overall, our findings suggest that sharing economy platforms like Airbnb do not only offer a new business model and value proposition, but they also have the potential to affect consumer behavior and their decision-making process in ways that are different from more traditional settings.

2 - The Power of “We”: The Impact of Language Style on User Involvement on an Online Knowledge Sharing Platform

Tingting Fan, Assistant Professor, The Chinese University of Hong Kong, Hong Kong, Leilei Gao

Online knowledge sharing (e.g., Quora) has become a trending way for people to seek knowledge from each other on internet. Compared with traditional knowledge sharing organizations (e.g., schools, institutions), online knowledge sharing provides an open platform which allows knowledge to be shared and diffused in a bigger scale with a lower cost. Millions of people have contributed a huge amount of knowledge to those platforms in merely a few years and many online knowledge sharing platforms have been valued billions of US dollars. Despite the dramatic growth of online knowledge platforms, they are all facing an urging challenge: how to increase the users’ involvement on online knowledge platforms? Our research taps into this challenge by studying shared knowledge on Zhihu.com, one of the largest online knowledge sharing platforms in China. By collecting a panel of 132,000 users’ shared knowledge (approximately 2 million answers on 1 million questions) since the first day of their registration, we investigate (1) what kind of shared knowledge users are most involved with? Specifically, what kind of shared knowledge attracted more “likes” and comments? (2) how does the language styles differ between most “liked” and least “liked” shared knowledge? and (3) how can the online sharing knowledge platform increase user involvement by matching users based on their language styles? Using a panel data model with individual user fixed effects, we found that compared with the least “liked” shared knowledge, the most “liked” shared knowledge used a significant higher percentage of the “we” word. Similarly, those shared knowledge with more “we” word attracted more comments from other users. More interestingly, we found that other users’ comments on those most “liked” shared knowledge used a great amount of the “I” word but very few the “we” word. The different language styles we found can help online sharing knowledge platform increase user involvement by matching users based on their language styles.

3 - Scalable Creative Content Evaluation

Pavel Kireyev, INSEAD, Fontainebleau, France, Artem Timoshenko

Marketers increasingly rely on multiple channels to connect with consumers. An increasing number of channels and target segments results in a growing demand for content. We use data from a crowdsourcing platform that organizes contests to generate creative content. The platform curates a large set of textual ideas and delivers the most promising ones to the advertiser. This curation requires significant effort from human reviewers who read and rate each idea. We develop an approach to reduce the number of reviewers necessary to maintain or improve the quality of the final set of curated ideas. Our model approximates reviewer behavior and combines the actual and predicted scores to rank the ideas. We then investigate the optimal assignment of the reviewers to ideas to achieve the best final selection.

4 - Online Marketplace and Viral Marketing Competition

Zou Gan, Shanghai University of Finance and Economics, Shanghai, China, Zou Jian, Liu Lin, Jiang Xiaodong

Recently, firms attempt to attract potential consumers by encouraging consumers to show their consumption behavior on social media. Is this approach effective and beneficial to firms when faced with competition? In this paper, we will explore sellers’ competition in choosing products’ prices and consumers’ reward of sharing product information, as well as the optimal fee charged by a strategic marketplace that hosts these sellers. Our results show that, when competition becomes less intensified, firms will invest more in rewarding consumers to share product information. Under some situation, a firm might choose very large reward that might yield negative net revenue per product in order to gain additional profit after the product information is shared. Our results also show how market parameters affect the optimal fee charged by a profit-maximizing marketplace.

5 - The Influence of Franchise Network Size on Advocacy in Social Media Networks

C.M. Sashi, Professor, Florida Atlantic University, Boca Raton, FL, United States, Gina Brynildsen

This study investigates how the size of a franchise network influences positive word of mouth communication (WOM) in social media networks. Franchisor efforts to communicate with customers using social media platforms can benefit members of the franchise network by stimulating customer-to-customer interaction, WOM communication, and co-creation in social networks. We empirically investigate hypotheses linking franchise network size to advocacy via customer behaviors reflecting attitude to the company (loyalty) and attitude to the message (liking). Structural equation models are estimated with data from the Twitter social media network for franchise companies in the top 200 quick service restaurants in the United States.

■ TB10

Aula 10

Machine learning 2

Contributed Session

Chair: Jong Yeob Kim, NYU Stern School of Business, New York, NY, 10003, United States

1 - Nonlinear Hierarchical Bayesian Models Using Gaussian Processes

Alan Montgomery, Carnegie Mellon University, Pittsburgh, PA, United States, Xiaoting Sun

An advantage of many Machine Learning (ML) techniques is the adaptivity of the models employed. One of the most successful modeling approaches to the analysis of marketing data has been the linear hierarchical Bayesian (LHB) model (Rossi and Allenby 2003). However, a limitation of the LHB model is linearity of the hierarchy. The practical reason for the linearity assumption is the conjugacy of the multivariate model coupled with simplicity of parametric models. There have been attempts to think both about non-conjugacy in the hierarchy (Ansari and Mela 2003) as well as non-parametric approaches (Dew and Ansari 2018). In this research we show how nonlinearity can be introduced in both levels of the hierarchy using Gaussian Process (GP) models (Rasmussen and Williams 2006), which have proven to be very popular in ML. Our contention is that it is important to understand nonlinearity in the first-stage as well as the second-stage of the model. For example, the first-stage of LHB typically capture response models to marketing covariates (e.g., consumer response to price and promotional sensitivity), but there is no reason to expect that these responses are linear. Additionally, the second-stage of LHB attempts to explain the variability in these responses using available demographics (e.g., what consumer characteristics are present that might help us understand the measured price and promotional sensitivities). Again there is no reason to expect that these relationships are linear (e.g., will age always result in reduced price sensitivity?). In our work we show implementations that support nonlinearity in both the first and second stages, while preserving the desirable properties of hierarchical models.

2 - Deep Learning Attribute Sentiment from Text and Accounting for Attribute Self-Selection

Ishita S. Chakraborty, PhD Student, Yale School of Management, New Haven, CT, United States, Minkyung Kim, K Sudhir

This paper addresses two novel and significant challenges in using online text reviews to understand which attributes drive customer satisfaction. First, we introduce the problem of inferring attribute level sentiment from online review text to the marketing literature and develop a deep learning model to address it. While extant bag of words based topic models are fairly good at attribute discovery, associating attributes to specific sentiments requires exploiting the spatial and sequential structure of language. We test spatial (CNN) and sequential (RNN, LSTM) deep learning models and find that the hybrid CNN-LSTM that exploits both sequential and spatial structure of language provides the best performance in accuracy, training speed and training data size requirements. To evaluate the source of model’s superior performance, we assess performance on “easy” and different types of “hard” classification problems (contrastive conjunctions (but, yet), subtle negations, sarcasm and scattered sentiments (long sentences) identified in the NLP literature. We find that CNN-LSTM does best on both “simple” and all “hard” tasks except for “scattered sentiment” where the pure sequential, LSTM model does best. Second, in estimating the relationship between attribute sentiment scores (from the deep learning model) and overall ratings, we address the problem of attribute self-selection (i.e., a reviewer’s conscious choice of attributes to write about). We illustrate our method empirically using online restaurant reviews on Yelp.com. We find that accounting for attribute self-selection helps to uncover the true distribution of attribute-level sentiment and the extent to which they affect overall customer satisfaction.

3 - Dory: A Temporal Neural Word Embedding for the Study of Brand Association Evolution from User-Generated-Content

Oliver Borchers, University of Mannheim, Mannheim, Germany, Daniel M Ringel, Sabine Kuester

Consumers' brand associations are essential to the development of effective marketing strategies. Understanding consumers' brand associations enables firms to determine their brand's positioning and informs new product development and marketing mix design. A rich and abundant source for consumers' brand associations is user-generated-content (UGC). To process these big and unstructured data, researchers turned to neural word embeddings such as the popular word2vec model. While word2vec was shown to create new insights for marketing, it suffers from a major shortcoming: Its inability to consider temporal information. Word2vec does not model changes in language over time. Yet, UGC commonly spans several years during which changing market conditions and evolving product lifecycles lead to changes in consumers' brand associations. These changes are captured in the UGC consumers generate. Ignoring changes in brand associations can mislead decision makers about their marketing mix design. We overcome this shortcoming of extant neural word embeddings with a new model named Dory that mimics human memory-systems. In contrast to word2vec, Dory is not only able to learn brand associations, but can also forget them when they lose their prevalence, and remember them when they re-emerge. We show by simulation and in an empirical application to over 52 million Amazon.com product reviews that Dory outperforms extant models. Dory reveals patterns in the evolution of consumers' brand associations. For instance, while Pepsi's association "pepsistuff" rapidly emerged and disappeared, the association of "greediness" to the brand "Electronic Arts" flared-up and receded again multiple times over the course of several years.

4 - STEM and Teens: An Algorithm Bias on a Social Media

Clara Jean, PhD Student, Universite Paris Sud, Paris, France, Epitech, Paris, France, Grazia Cecere, Fabrice Le Guel, Matthieu Manant

Artificial intelligence can improve ad effectiveness distribution, however, if they are trained with biased data they can reduce platform competitiveness. In the context of a STEM ad, we set up a randomized online ad campaign on behalf of a French computer science school targeted students in high schools in France. The implementation of a counter-factual analysis helps us to analyze the effect of prompting the algorithm aiming to target more female students with a female-oriented message. Our result shows that the female-oriented message reduces the gap of ad display between female and male students but that on average, females were less likely than males to see the ad. The treatment ad aimed at being displayed more to females had a crowding-out effect, and was shown less overall to both males and females. Finally, high schools with more low-income households in the treatment group received fewer impressions. This article contributes to shedding light on the possible biases generated by algorithms.

5 - A Dynamic Matching Algorithm Using Reinforcement Mechanism Design

Jong Yeob Kim, NYU Stern School of Business, New York, NY, United States, Xiao Liu

This study proposes a new methodology for video game firms to dynamically match online gamers by leveraging reinforcement mechanism design. Reinforcement learning, an area of machine learning, studies how agents can learn to take the best actions so as to get the maximum reward over time in a certain environment. We combine reinforcement learning and mechanism design to solve the matching problem, taking the strategic behaviors of the gamers into account. The proposed method proceeds in two steps. First, we train a model that learns online gamers' behaviors using the multiplayer game data. Second, we compute an optimal solution to match online gamers to the most appropriate game rounds using a reinforcement learning algorithm that maximizes the video game firms' revenue or players' retention. We demonstrate the performance of our algorithm by comparing it against alternative assignment rules widely used in the industry.

■ TB11

Aula 11

CRM 2

Contributed Session

Chair: Hai Long Duong, NUS, Singapore, 117592, Singapore

1 - Augmented Reality Strengthens Consumer's Self Brand Connection

Jaeyeon Chung, Assistant Professor, Rice Business School, Houston, TX, United States, Youjung Jun

Augmented Reality (AR) overlays digital data or images onto physical objects and have the two interact in real time. For example, consumers can shop online to see how a pair of sunglasses suit their face by virtually trying them. This technology, visually rich and interactive, helps consumers pre-experience a product. Three experiments reveal that AR is useful especially for less involved consumers, because it facilitates their consumption experience through temporal focus—attention to mentally travel along one's past, present and future. The facilitation of temporal focus, then, translates into enhancing their brand loyalty and self-brand connection.

2 - Sign Up or Sign Off? A Meta-analysis on the Effectiveness of Loyalty Programs

Alex Belli, Lecturer, Australian Catholic University, North Sydney, Australia, Ekaterina Napolova, Ljubomir Pupovac, Anne-Maree O'Rourke, François A. Carrillat

Should firms continue to 'sign up' to the loyalty program (LP) dream and invest heavily in the pursuit of consumer loyalty, or should they in fact finally 'sign off' the concept? Decades-long research on LPs effectiveness has been unable to provide an unambiguous answer to this crucial question for firms and marketing practitioners. Indeed, while some scholars claim LPs offer incentives to customers, hence increasing their loyalty, others claim that true LP effectiveness is masked by the issue of reverse causality (loyal consumers are more likely to sign up to a LP) and is only effective in the short-term. In an attempt to solve this debate, we conducted a series of multivariate multi-level meta-analyses on 126 effect sizes retrieved from studies done in 18 different countries, between 1970 and 2018. The results reveal that the introduction of LPs has a positive effect not only on consumer attitudes (e.g. commitment, satisfaction) or purchase behaviour (e.g. volume or frequency of purchase), but even more so on overall company performance (e.g. sales, ROI), even when reverse causality is accounted for. Somewhat surprisingly, LPs are equally effective for both direct and indirect reward types (i.e. directly related to the brand versus not directly related to the brand), type of reward (monetary, non-monetary versus mixed rewards) and industry (retail versus non-retail). Overall, this research moves towards a clearer understanding of whether LPs truly work and therefore provide valuable insights for companies interested in adopting them.

3 - When Do Loyalty Programs Work? The Moderating Role of Design, Retailer-strategy, and Country Characteristics

Nick J. Bombay, Tilburg University, Tilburg, Netherlands, Marnik G. Dekimpe

Many grocery retailers implement a loyalty program (LP). However, retailers not only differ in whether or not they implement a LP, but also in how they implement it. It is furthermore unclear whether all retailers benefit equally from LPs, even when implementing programs with the same design. The environment in which the retailer operates could also influence the effectiveness of having a LP. In sum, little is known under what conditions these programs are more or less effective. We provide a contingency framework that considers various design, retailer, and country characteristics that can moderate LP effectiveness. We test the framework across a large sample of 358 grocery banners from a broad cross-section of 27 western and eastern European countries. We find a positive effect on retailer sales productivity of the more basic LP variant that offers direct and immediate rewards. This positive effect, however, disappears when retailers operate a more complex progressive reward system, and when they are part of a multivendor program. A LP's effectiveness also differs between retailers and countries: it is lower when operated by discounters, and higher in countries that are more individualistic and long-term oriented, and where fewer competitors also carry a loyalty program. Our findings can help current LP operators to assess whether their existing design align with the optimal design, and can support managers of international retail chains in selecting only the right countries to operate a LP.

4 - Booking Failure and Customer Retention in Taxi Market

Hai Long Duong, NUS, Singapore, Singapore, Junhong Chu

This paper studies the effects of booking failures on customer retention in taxi industry. I employ a novel data-set that contains over 24 million taxi bookings, including both completed bookings and failed bookings, from 1.2 million passengers over a period of 14 months in Singapore. The results show that customers are on average 5 to 10 percentage points less likely to make a booking if the previous day they encounter a booking failure. By looking at the time path of the effects, I further investigate whether the effects are due to learning or due to reduced trust on the service providers.

■ TB12

Aula 12

Innovation 2

Contributed Session

Chair: Keith Smith, Northeastern University, Boston, MA, 02115, United States

1 - Market Turbulence Following a Major New Product Introduction: Is it Really so Bad?

Barbara Deleersnyder, Associate Professor of Marketing, Tilburg University, Tilburg, Netherlands, Gokhan Yildirim, Britney Wang

Apart from its beneficial effects on sales performance, the introduction of a major new product in the market can be an important source of concern to managers if it results in higher uncertainty and a significant rise in sales volatility over time. From an operational perspective, more volatile sales is undesirable for manufacturers who face difficulties in planning production, while also retailers will experience increasing inventory complexity and costly stock outs with large sales swings. However, from a demand perspective, we provide arguments that large sales peaks followed by steep drops in brand sales after innovation launch could have both positive and negative effects on (cumulative) sales levels and the brand's growth prospects. Using a multivariate Generalized Autoregressive Conditional Heteroscedasticity model (GARCH), this study empirically establishes that the launch of Coca Cola Zero in Germany in 2008 was indeed associated with a significant and persistent rise in sales volatility at four main German retailers that adopted the Coca Cola Zero innovation upon market launch. Not only the innovating brand faced larger sales swings, but also its main competitors Pepsi and the retailer's private label were affected. The model further incorporates the volatility estimates into a reduced-form VAR model to assess if higher brand and/or store sales volatility around launch was rewarded and thus associated with larger sales levels over time, or whether it instead inhibited growth and reduced brand and category performance in the long run. Our findings reveal that sales volatility is not always bad, but can improve brand and category performance levels at the retailer. Hence, the common reaction by managers to (try to) smooth out large sales fluctuation may not always be warranted.

2 - Social Innovation and Market Expansion across Cultures

Tianjiao Qiu, California State University-Long Beach, Long Beach, CA, United States

Market expansion is critical for entrepreneurs in the early stage of entrepreneurship to grow business. The growth in social innovation brings positive change and benefit to society. Institutional theory suggests that institutional environment poses uniform authoritative guidelines for social behavior. The study uses institutional theory to explore cross-national differences in the diffusion of social innovation into new markets. Specifically, the study examines how social innovativeness impacts the level of market expansion in the early stage of entrepreneurship, and how cultural practices identified in the GLOBE project moderate the relationship. The multi-level model was empirically tested with survey data of 2358 entrepreneurs in social services from sixty-nine countries. The findings from the hierarchical linear modeling technique demonstrate that innovativeness is positively related to the market expansion of entrepreneurs' social services. Cultural practices of institutional collectivism, which encourages collective action and resource distribution in society, strengthen the positive relationship. The paper contributes to understanding the role of institutional collectivism for the growth of social innovation.

3 - The Digital Privacy Paradox: Small Money, Small Costs, Small Talk

Catherine Tucker, MIT, E40-167, Cambridge, MA, 02142, United States, Susan Athey, Christian Catalini

"Notice and Choice" has been a mainstay of marketing policies designed to safeguard consumer privacy. This paper investigates distortions in consumer behavior when faced with notice and choice which may limit the ability of consumers to safeguard their privacy using data that is derived from a field experiment at MIT which distributed a new product, Bitcoin, to all undergraduates. There are three findings. First, the effect small incentives have on disclosure may explain the privacy paradox: People say they care about privacy, but they are willing to relinquish private data quite easily when incentivized to do so. Second, small online navigation costs have a tangible effect on how privacy-protective consumers' choices are, often in sharp contrast with individual stated preferences about privacy. Third, the introduction of irrelevant, but reassuring information about privacy protection makes consumers less likely to avoid surveillance, regardless of their stated preferences towards privacy.

4 - The Company We Keep: Online Customer Collaboration, Innovation, and Consumption in Post-Purchase Product Co-creation

Keith Marion Smith, Assistant Professor, Northeastern University, Boston, MA, United States, John Hulland, Andrew Stephen

Product co-creation (or collaborative product development) has become increasingly popular among firms in pre-release contexts (e.g. idea contests, open source software). Yet firms have recently increased support for post-purchase product co-creation (the modification of existing products following purchase), and the marketing literature has investigated the phenomenon only in the context of lead users outside the influence of the firm. Customer engagement in post-purchase co-creation raises interesting questions regarding the impact of traditional marketing actions and customer-to-customer interactions on customer consumption and innovation patterns. Data from over 4,000 customers was collected from the leading online video game co-creation platform over an eight-month period, including over 1,100 innovations, 14,000 comments, and 470,000 hours of product consumption. Utilizing a persistence-modeling framework, we found community activity influenced consumption and innovation over time, but were largely restricted to customers engaging in similar activities, and were impactful on a smaller scale than has traditionally been identified. Marketing media and product actions influenced customers differently depending on the consumption and innovation patterns of each customer. These results illustrate firms may benefit from recognizing post-purchase product co-creation involves different categories of customers, and acknowledging different factors influence different categories, supporting the implementation of differential firm strategies.

■ TB13

Aula 14

Branding 2

Contributed Session

Chair: Robert Kreuzbauer, University of Surrey, Guildford, GU2 7XH, United Kingdom

1 - Consumer-based Brand Equity: A Meta-Analysis

Mohammad Farrokhi, PhD Candidate, University of Calgary, Calgary, AB, Canada

Consumer-based brand equity (CBBE) has been widely studied in the branding literature. Yet, to date there is no accepted framework of brand equity that is based on prior empirical findings. Drawing from past quantitative studies of brand equity, this article suggests and tests a framework for CBBE. A meta-analytic approach is used to integrate the most important factors related to CBBE and to build a conceptual framework for CBBE's antecedents and consequences. Based on 414 correlations from 71 studies, we conducted a meta-analysis of 3 groups of antecedents and 2 groups of consequences. By integrating and analyzing existing studies, our study suggests a new framework for assessing CBBE. Then, the proposed framework is tested through structural equation modeling (SEM). Although CBBE has received extensive attention in the marketing literature (i.e. Aaker, 1996b; Christodoulides & de Chernatony, 2010; Farquhar, 1989), a comprehensive review on the antecedents and consequences of CBBE does not currently exist. We proposed an integrated model and used a meta-analysis procedure to assess the effects of different factors in the model on consumer-based brand equity and tested those effects using structural equation modelling. Meta-analysis provided an opportunity to consolidate all of the empirical studies related to consumer-based brand equity and converge the effect sizes into one average effect size for each factor. Drawing from 1959 published articles and dissertations, 71 were coded, which yielded 92 samples and 414 effect sizes with the total sample size of 29710. The strength of the relationships between different factors and CBBE in the current meta-analysis can be helpful in guiding the managers on how and where to invest, in order to reach the results, they are looking for in their business. For those managers that are not aware of the benefits of increasing their CBBE, large positive correlations between brand equity and (re)purchase intention, perceived value, brand performance, and brand preference can be persuasive.

2 - Fit or Signal: Brand Endorsement by Celebrity

Vinay Kanetkar, University of Guelph, Guelph, ON, Canada, Tapas Ranjan Moharana, Debasis Pradhan

Celebrity endorsement of brand improves attractiveness of brand and celebrity. There are two related streams of research. First, idea is about congruence between brand and its celebrity personalities. Research in this domain have demonstrated that closer the fit between celebrity and brand personality, higher attitude toward brand and / or intention to purchase brand. Another possibility might be that celebrities might act as a signal. If combination of celebrity and brand is presented to respondents, consumers need only to express their willing to accept or purchase particular combination. Signalling with celebrities is particularly relevant for newer or weaker brand where presence of celebrity might receive credibility. Research goal for this project is to demonstrate whether research could use fit or signal or both approaches in predicting customer selection of brands. This study was conducted in one of premier business school in India. Respondents were recruited as volunteers from the mailing list of behavioral research lab of the business school. An email invitation was sent to about 1,500 respondents, mainly comprising the current post graduate students and staff of the business school. There were 113 participants who completed computer based survey. Using Best-Worst approach as well as choice based experiment, statistical test is conducted to determine whether fit or signal is better predictor customer choices of running shoes. There were 16 choice situations with eight celebrity (four sports and four movie based) and eight brands of running shoes. Rating for each celebrity and brand was used to determine fit between brand and celebrity. Best - Worst scaling and choice modelling provided framework to test whether brand selection is influenced by celebrity signal or fit. Results indicated that on an average signal measures were better predictor of brand choice than fit measure.

3 - Consumers' Emotional Responses to Brand Extensions: An Examination of the Cognition-Emotion-Action Process using the Cognitive Appraisal Theory

Tsunwai Wesley Yuen, PhD/Doctoral Researcher, Alliance Manchester Business School, The University of Manchester, Manchester, United Kingdom, Hongwei He, Marzena Nieroda

Brand extension (BE) strategy involves an established brand introducing products in a similar (high fit) or dissimilar (low fit) product category. For instance, Colgate's mouthwash and Colgate's ready meal represent similar and dissimilar BE to Colgate's core products, i.e. toothpaste. While launching BE helps brands to increase revenue streams, such strategies are not always successful. One of the reasons behind failures might be a negative emotional response to such products from consumers, which is likely to hinder adoption. Applying the Cognitive Appraisal Theory (CAT) to this context could help us understand how: (1) emotional responses are formed, (2) emotions affect behaviors, and (3) to manage emotions for successful BE launch. CAT proposes that emotions are important predictors of consumer behavior and result from cognitive evaluation (appraisal dimensions) of an event or object. While the CAT framework could be used to explain antecedents and outcomes of emotional responses in the context of BE, it remains unknown what are the main BE evaluation criteria (appraisal dimensions) and how perceived (dis)similarity of a BE to a parent brand (fit) affect those evaluations. Furthermore, we do not know what emotions may be evoked and how those emotions can affect behavioral outcomes for BE, such as purchase intention. The current research addresses this gap by investigating how low/high fit brand extensions activate the cognitive appraisal process. In initial research stage (n = 1424), we develop a scale measuring emotional responses to BE and identify cognitive appraisal dimensions (goal congruence and goal relevance) resulting from exposure to BE in high/low fit conditions. In a series of experiments, we show how cognitive appraisal can further influence emotions and behavioral responses to BE. The results shed lights on affecting consumers' emotional responses to BE through managing cognitive responses to those products.

4 - Social Brand Personality: Communicating the Must-have Meanings

Abas Mirzaei, Assistant Professor, Macquarie University, Sydney, Australia, Helen Siuki

In the social sector with 1.57 million organizations in the US (National Center for Charitable Statistics, 2016), non-profit organizations (NPOs) compete for limited resources. While the number and diversity of NPOs has grown exponentially over the past four decades, from 300,000 in 1967 to 1.57 million in 2016 (NCCS, 2016), resource availability has not increased as quickly, making resource acquisition a crucial task for NPOs. NPOs need to differentiate themselves by developing effective marketing strategies to capture community attention and engagement in order to increase the volume and value of donations, volunteering, and advocacy (McKinley-Floyd and Shrestha, 2008). Branding is one of the key strategies which has gained momentum recently to engage the community in pro-social behaviors (Shehu et al. 2016). Brand personality is an effective way to communicate an NPO's identity (Hou et al. 2009) and positively influences pro-social behaviors and community involvement (Shehu et al. 2016). Research also shows brand personality influences charitable giving (Venable et al., 2005; Sargeant et al., 2008), fundraising efforts (Hou et al. 2009; Sargeant et al. 2008) volunteer recruitment, and retention rates (Faircloth 2005). Few studies specifically look at NPO brand personality. Bennett and Gabriel (2003) for instance propose five dimensions for an NPO's brand personality: compassion, dynamism, idealism, focus on beneficiaries and non-political. Research indicates that while commercial brands can choose any personality and develop their meaning around it, NPOs are expected to incorporate certain characteristics into their brand personality, such as compassion, dynamism and trust. We call these characteristics "must have" NPO brand personality traits. In this study we further investigate NPO brand personalities, breaking down the sector and exploring the cultivated distinctions among these "must have" traits across the environment, community-children, and poverty sectors.

5 - Towards a Status Signaling Theory of Luxury and Conspicuous Consumption

Robert Kreuzbauer, University of Surrey, Guildford, United Kingdom, Sadat Reza, Erwin Auer, Xueli Zhang

In this paper we propose and provide empirical evidence (sales data, patent data, experimental studies) for a signaling-based theory of luxury goods consumption. We argue that luxury goods are honest (i.e., non-fakeable) signals of high socio-economic status (SES) through hedonic consumer objects for which demand exceeds supply. This requires that members of both low and high SES groups can identify a particular luxury good as a signal of high SES status. Furthermore, to ensure the 'non-fakeability' of the signal (i.e., that low SES people cannot pretend to be of high SES), firms need to be able to constrain the supply of luxury products (for example through the production procedures such as handcrafting) and there must be criteria, which allow consumers to objectively evaluate a product's quality. Our theoretical framework explains how luxury goods emerge and what distinguishes them from related constructs. Results from a series of empirical studies (data on cars sales; data from patents; experimental studies) will be presented to support our theory.

■ TB14

Aula 15

Advertising 8

Contributed Session

Chair: Ushio Dazai, Fukuoka University, 8-19-1 Nanakuma, Jonan Ward, Fukuoka, 814-0180, Japan

1 - Which Website Visitors Should We Target? The Role of Consumer Brand Attitudes

Kate Gunby, Doctoral Student, University of Sydney, Sydney, Australia, Rahul Govind, Vincent Mitchell

Websites offer a retail environment for consumers where they can browse, research and buy goods. With e-buying now worth over $2.8 trillion globally, companies want to maximise the chance that they are selected over the competition. The prevalence of behavioural data available through the online environment has resulted in a shift away from traditional brand tracking for performance measurement in preference for digital metrics such as clicks, click through rate and cost per acquisition. While digital measurement relies heavily on behavioural data, those that hold strong attitudes towards a brand are up to 7 times more likely to search for a brand by name (Dotson, 2017). This suggests that while many brands are shifting media investment to digital media (Binet & Field, 2017), they may be better placed continuing to invest in media channels that have been proven to shift brand metrics such as brand awareness or brand preference. Utilising passive metering technology, combined with surveys to understand how brand attitudes predict online interactions, e.g. search, website visit or sales at the consumer level, this research will provide a better understanding of how brand attitudes influence interactions with brands online. This enables us to measure the increase in the purchase propensity from shifts in brand attitudes. The first stage will use a simulation to understand how changes in brand attitudes could impact online search and purchase. Following the simulation, primary data will be collected to quantify how well brand attitudes help predict online behaviour. Data collected will combine survey data and passively captured online behavioural data at a respondent level. As brand attitudes are considered better for strategic decisions and online behavioural metrics tactical (Pauwels & Ewijk, 2013), therefore using both adds value to marketing allocation decision making. This research will present and test a framework for balancing strategic and tactical decision making for managers, the results of which can be applied at the customer level.

2 - Differential Diminishing Returns of Advertising

Ashwin Aravindakshan, University of California-Davis, Davis, CA, United States, Kay Peters, Prasad Naik

The diminishing returns relationship of advertising to sales follows a strong tradition in the empirical marketing literature. To capture this relationship, researchers often assume homogenously log or square root function for all media analyzed. While this might be convenient, the assumption that all media would follow the same diminishing returns function might be too strong and lead to biased budget allocations. The same holds for carryovers, which are often lumped into a single sales carryover. Given the existence of so many advertising media today, and their differing characteristics, it would be necessary to investigate the differential effects of advertising media on sales via a more flexible functional form. To address this issue, this study investigates the following questions: (1) how can managers empirically quantify the differential diminishing returns across media?; (2) Do differential diminishing returns and carryovers exist?; and, (3) how should they plan their media budgets differently as the shape of the diminishing return function and carryovers vary? We accomplish these goals by developing a dynamic model that captures the differential carryovers, differential ad effectiveness, and incorporates differential diminishing returns across multimedia communications. We present a method to estimate the model's parameters using market data from the German soft-drink market. Our empirical results furnish the evidence that diminishing returns do differ across different media classes such as Broadcast (i.e., TV and Radio), Print (i.e., Newspapers and Magazines), and Below-the-Line (e.g., Cinema, Billboards). Finally, we investigate the normative implications for managerial decision-making, thus deepening our understanding of how managers should change the media budgets as the degree of diminishing returns increases (or decreases).

3 - Duration of Advertising Effects on Brand Choice: Which Factors Affect Recency Effects?

Hiroshi Kumakura, Professor, Chuo University, Tokyo, Japan

The principle of recency, closeness in time between advertising exposure and category purchase, has been proposed to discuss short-term and behavioral ad effects on brand choice in advertising literature. This principle asserts that a single ad exposure before purchase occasion exerts a powerful influence on sales. Moreover, the principle is useful for especially digital and mobile marketing focusing on the consumer who is close to making a purchase decision. In recency advertising planning, although the timing of ad exposure is the most important and attributed to the duration of ad effects, the duration of recency effects has rarely been discussed. Moreover, according to the author's best knowledge, the influence of ad exposure by competitors have not been accounted, when the duration of recency effects is discussed. Hence, we discuss 1) how long recency

effects on brand choice by a single ad exposure continue, 2) how they are strong, and 3) how they decline. Namely, we measure recency effects and show how they change over time by estimating the probability densities of time from consumer's ad exposure to his/her category purchase, and by focusing the gap of shapes among these probability densities. Here, recency effects of an individual consumer on an individual brand per outlets are to be discussed with the hierarchical Bayes model. One of the managerial implications of this research is that stronger recency effects are observed in a consumer having no loyal brand and in outlets of convenience stores and vending machines, in which a consumer may use the product at or near a store soon after his/her purchase, and in which the price is high without price promotion.

4 - Advertising versus Recommendation System on E-Commerce Platforms

Xinyu Cao, NYU Stern, New York, NY, United States, Keyan Li, Dennis Zhang

The goal of monetization motivates e-commerce platforms to invest aggressively on improving their recommendation and advertising systems. However, these two systems potentially compete with each other for consumer attention, and thus it remains ambiguous whether the improvement on either system can always lead to higher profit and what the optimal allocation is between the two systems. We argue that it may not be profitable for a platform to further improve the accuracy of the recommendation system beyond a threshold, due to the business stealing effect and competition effect. Moreover, due to the information asymmetry and preference bias between the platform and sellers, the platform may find it profitable to reduce the amount of advertisements.

5 - The Pareto Rule in Media Access Behavior

Ushio Dazai, Fukuoka University, Fukuoka, Japan, Hiroyuki Tsurumi

TV audience ratings or pageviews are important factors for marketers' decision-making about where advertisements should be placed. However, there is little knowledge about the structure and basic distribution of audience ratings or website pageview numbers. In this exploratory study, the authors analyzed single-source panel data of Japanese consumers in the metropolitan area and calculated the number of times TV programs and websites were accessed from PCs and mobile devices. The results show that a small number of consumers account for a large proportion of the accesses, confirming the data follow the Pareto principle. This pattern is observed in a wide variety of categories and aggregate levels, and is important because a large Pareto ratio indicates the media's audience is more likely to be stable in the future. Marketers should consider the behavior represented by this structure when choosing where to place an effective advertisement. Moreover, the variables related to the Pareto ratio, such as the demographic, psychographic, device, and other behavioral characteristics of consumers who frequently access media are explored with reference to previous researches. The analysis of the data collected for this study contributes to existing research by providing a better understanding of the structure and distribution of such data. Finally, the authors discuss future research on media access behavior, including generalization of repeat behavior.

■ TB15

Aula 16

Channels 2

Contributed Session

Chair: Axel G. Stock, University of Central Florida, Dept of Marketing CBA, Orlando, FL, 32816-1400, United States

1 - Luxury Brands and Online Marketplace: Friend or Foe?

Wei-Shi Lim, National University of Singapore, Singapore, Singapore, Yini Sarah Gao, Ziqiu Ye

The expansion of the online marketplace (e.g. Tabao.com, eBay) has led to many firms leveraging on this new market channel to increase their access to consumers. However, the online marketplace is also one of the main propagators of counterfeits of luxury goods. Thus, the benefits of the online marketplace is ambiguous for these luxury brands. Motivated by the proliferation of counterfeits of luxury brands on online platforms and the dilemma faced by luxury brands, we develop a two-period game-theoretic framework to examine the strategic interactions between an authentic luxury brand, a counterfeit seller and an online marketplace. Firstly, we find that the online marketplace never deters the counterfeit seller. Secondly, we show that whether the luxury brand sells on the online platform depends critically on the characteristics of the counterfeits. In particular, we show that the impact of the quality of the counterfeits on the entry of the luxury brand is non-monotonic. When the quality of the counterfeit is low, increasing the quality of the counterfeit increases the likelihood that the authentic firm sells on the online platform. However, when the quality of the counterfeit is sufficiently high, increasing it further leads to the luxury brand shunning the online platform. Our findings also show that the counterfeit firm can discourage the authentic brand from the online marketplace when the quality of the counterfeit product is high, which offers an alternative explanation for the increasing quality of counterfeits. Finally, our findings suggest that entry of the luxury brand to the online platform at the equilibrium can improve consumer surplus.

2 - How Streaming Changes the Competition Between Artists in the Music Business

Christian Hotz-Behofsits, Vienna University of Economics and Business, Vienna, Austria, Nils Wloemert, Eitan Muller

Music streaming services provide consumers with on-demand access to a exhaustive library of millions of songs. While every new artist that is added to the catalog represents an immediate advantage for listeners by increasing the assortment, the impact on the success of other artists is unknown. On the one hand, sampling on streaming services is free such that artists essentially compete for the users' limited time. Therefore, every new artist substitutes the listening time from other artists increasing the competition on streaming services. On the other hand, music discovery tools (i.e. playlists or recommendation systems) tend to drive consumption to similar music. This suggests that the addition of a new artist could create positive spillover effects for similar artists. To investigate which of these effects dominates, this paper exploits quasi-experiments that happen when artists join or leave a streaming service or experience an extraordinary uplift (e.g., album release). A cooperation with a major label allows us to analyze streaming consumption on a large scale. Our data set comprises data for more than 80,000 artists across multiple streaming services, 70 countries and 8 years. Preliminary results suggest an increase in the number of total streams for similar artists after the market entry of a related artist. This effect is mainly driven by an increase in the number of unique users that discover similar artists through discovery tools. In addition, within-category spillover-effects through new album releases from one artist to similar artists increase over the observation period, while the spillover effects for other products from the same artist decrease. These findings suggest an increased level of competition among artists on streaming services.

3 - Contracting and Channel Coordination on Durable Goods Secondary Market with Retailer-Level Competition

Taewan Kim, Sungkyunkwan University, Seoul, Korea, Republic of, Ryan Choi

We study a market where both new and used goods are available. A manufacturer (i.e., car manufacturer) sells durable products to consumers through two levels of retailers, a direct retailer (i.e. car dealership) and an indirect local retailer (i.e., CarMax). We research each players' strategic decisions on their optimal pricing. How does the direct retailer setup a buyback price (i.e., trade-in value) for potential buyers of its new product? How does this price vary when an indirect retailer appears in the market? How do retailers control used goods availability? We develop a game-theoretical model to address these issues. We start our study with a completely integrated market as a benchmark and then move to an integrated market with an independent local retailer. Then, we extend our analysis to a market with perfectly differentiated retailers. We show how the retailer-level competition affects the retailers' buyback prices and used goods availability. Given these retailers' market responses, the manufacturer decides the optimal wholesale price and new product strategy.

4 - Shifting the Balance of Power: A Structural Empirical Analysis of how the Used Car Market Impacts Automobile Manufacturers and Dealers

Sivaramakrishnan Siddarth, University of Southern California, Los Angeles, CA, United States, Dinakar Jayarajan, Jorge Mario Silva-Risso

Most new car dealers also sell relatively high-quality used cars at the same physical location. While manufacturers control new car prices, dealers have much more flexibility in setting used car prices. Previous empirical research on the automobile market has mostly ignored used vehicles and their impact on new car demand. We employ a transaction level dataset that contains both new and used car sales to perform a detailed empirical analysis of how the ability to sell used cars impacts the margins and profits of new car dealers and manufacturers. We propose and estimate a full equilibrium structural model of the demand for new and used cars with profit maximizing manufacturers and dealers. Comparing the substitutability, margins and total channel profits from the proposed model to those from a more conventional demand model in which the used car market is ignored, reveals that the pricing control over used cars gives dealers a greater share of channel profits and shifts channel power away from manufacturers.

5 - Channel Choice when Consumers Seek Exclusivity

Axel Stock, University of Central Florida, Orlando, FL, United States, Sona Klucarova-Travani

In markets where consumers seek exclusivity, such as fashion and cars, brands have chosen a variety of channel formats. We extend the existing literature in Marketing by analyzing optimal channel selection in this scenario. We develop a game theoretic model to study competition between two horizontally differentiated brands which sell their products to a market of snobs, either directly or through an independent retailer. Furthermore, we assume that at the store level firms invest in store experience which increases consumers' utility from purchase, and that retailers have a lower marginal cost of providing this experience. We model desire for exclusivity by assuming that after purchase each consumer meets another consumer and incurs a utility loss if that consumer owns the same brand. We find that when desire for exclusivity is low, one of the brands will opt to sell directly while the other firm will choose the retail channel. This equilibrium emerges because at low levels of competition consumers in the retail channel are compensated for the greater price through a better store experience, while consumers in the manufacturer-owned outlet enjoy a lower price. However, when the desire for exclusivity is above a threshold, then both brands will introduce a retailer to shield themselves from increased price competition at the retail level. In extensions we explore how these results change under firm asymmetry and when some consumers seek conformity.

■ TB16

Aula 17

Consumer Behavior 2

Contributed Session

Chair: Si Kei Lai, University of Macau, Macau, China

1 - Understanding Consumer Resistance towards E-waste Management from an Innovation Resistance Theory Perspective: Evidence from Japan

Mototaka Sakashita, Professor, Keio University, Yokohama, Kanagawa, Japan, Amandeep Dhir, Puneet Kaur

The amount of electronic waste (e-waste) generated all over the world has increased rapidly in the past few years. E-waste, if not disposed properly, can negatively affect human health and pollute environment. The understanding of consumer awareness and intentions to participate in e-waste recycling is important for achieving a society that is free from any openly disposed e-waste. This study aims to understand the different consumer resistances towards the e-waste management and their association with intentions to engage in e-waste recycling. Using innovation resistance theory (IRT) by Ram and Sheth (1989) as a theoretical framework, it developed the overall research model by reviewing a total of 35 relevant quantitative empirical studies examining the e-waste recycling and management related issues from consumer behavior perspective. The model demonstrates a negative relationship between functional barriers (usage barrier, value barrier, and risk barrier) and consumers' intention to e-waste recycling, and a negative relationship between psychological barriers (traditional barrier and image barrier) and their e-waste recycling intention. It also highlights the moderating effect of environmental concern, consumers' current recycling behavior, and demographic attributes such as age and gender. It then conducted an online survey (N=824) in Japan, which is the third largest e-waste producing country (by volume) in the world, in order to test the proposed model. The results mainly support the overall model, and provides practical implications as well as theoretical implications by providing support to existing theoretical frameworks for predicting reasons behind consumers' resistance specific to e-waste recycling.

2 - Holiday Effect on Smartphone Replacement in China

Youngsik Kwak, Gyeongnam National University of Science and Technology, Jinju, Korea, Republic of, Yoon-Jung Nam, Jaeweon Hong, Yongsik Nam

The holiday effect refers to the phenomenon that consumers' purchase amount or purchase probability is increased in a holiday. This study aims to analyze empirically whether probability of smartphone replacement is increased during holidays such as Chinese New Year holidays, Labor Day, and National Day of China in China. In order to explore difference in sales volume or purchase probability, we observed 5,132 sales data including individual customers' replacement cycle and dates of purchase. The data were collected from the sales records of a sales agent that deals with all multinational smartphones in TMall, one of the largest B2C online sites in China. ANOVA was conducted to verify whether there is an average difference in smartphone replacement cycles between customers who purchased a new smartphone in holidays and customers who purchased in normal days. Results of the study report that there is a significant difference in average of replacement cycle between the two groups of the customers. The replacement cycle of the customers who purchased their new smartphone in holidays is shorter than the other group's replacement cycle. No statistically significant difference of the replacement cycle among the 3 kinds of holidays, the purchase points. Throughout the results of the study, smartphone vendors could have an insight that holidays shorten customers' smartphone replacement cycle in China. Therefore, smartphone sellers need to invest heavy marketing resource during holidays in China regardless of season.

3 - Switch or Repeat? The Hidden Effect of Social Influence on Purchase Behavior.

Radu Tanase, Postdoctoral Researcher, University of Zurich, Zurich, Switzerland, Rene Algesheimer

Understanding how people influence or are influenced by their peers can help us understand the flow of market trends, product adoption and diffusion processes. Most existing work on social influence considers change in purchase behavior as a dependent variable and thus an individual is influenced if she was determined to change her behavior. However, nowadays people are faced with countless buying options, thus repeatedly purchasing the same product can be considered the exception rather than the norm. In this paper, the authors propose a theoretical framework in which the decision to repurchase or switch to a new product is related to two types of stimuli: intrapersonal (related to variety seeking and loyalty behavior) and interpersonal (related to exposure to the social group). They distinguish between two influence processes: to switch to a new product (visible influence) and to repurchase (hidden influence). By analyzing data on consumption decisions, the authors show that hidden influence has a positive effect on the probability to repurchase. The authors explore the effect further and show that for variety seeking consumers the hidden influence has a stronger effect on the purchase decision compared to visible influence. The results challenge classical findings by showing that the effect of social influence on switching behavior is only one facet of social influence and a potentially equally important aspect is its effect on repeated behavior. Focusing only on the visible side and ignoring the intrapersonal motivation to switch and repurchase has lead to framework in which the total social influence effect can often be over or underestimated.

4 - The Effect of Communicators' Ongoing Sentiment on Followership in Online Review Platforms

Meyrav Shoham, Tel Aviv University, Tel Aviv, Israel, Edith Shalev, Ellie J. Kyung, Coby Morvinski

A wealth of research has examined why people generate online WOM (Berger, 2014) and how WOM affects sales (Babi Rosario et al., 2016). Less is known, however, about how WOM affects perceptions of- and behavior towards communicators. For example, communicators often generate positive content in order to attain status and followers (Angelis et al. 2012; Barasch and Berger, 2014), yet it is unclear whether positivity actually increases followership. The current research, based on large-scale dataset from an online review website and five experiments, examines how a communicator's ongoing sentiment affects followership in online review websites. We find that ongoing negativity is detrimental to followership. However, the role of positivity (vs. neutrality) in growing followership depends on the interplay between two perceived communicator characteristics: likability and credibility. While likability monotonically increases with ongoing positivity, credibility depends on sentiment in a non-monotonic manner, with neutral communicators rated highest. Thus, positive communicators score higher than neutral ones on likability and lower on credibility. Accordingly, we find that ongoing positivity results in greater followership than neutrality when credibility is less consequential to the receiver, which occurs (a) in nondurable product categories, e.g. entertainment and dining and (b) when the receiver is approach/action oriented. Likewise, when holding credibility constant, thereby undermining its importance, positivity enhances followership. These findings can help review platform managers enhance system credibility, aid communicators in crafting more effective content, and enable brand managers to optimize the selection of influencers.

5 - The Influence of Interpersonal Recommendation Attributes on Consumer Behaviors of Dietary Supplements

Si Kei Lai, University of Macau, Macau, China, Ying Ho

Consumers today rely heavily on product and service recommendations from other consumers in making their purchase decisions. The importance of interpersonal recommendation in shaping consumer behaviors is well established in existing word-of-mouth literature. Although extant literature consistently shows the impact of interpersonal recommendation on consumer behaviors, it is less clear on the relative influence of different attributes of interpersonal recommendation (i.e., tie strength between recommendation sender and receiver, degree of homophily between recommendation sender and receiver, as well as prior product knowledge of the recommendation sender) on consumers. This study explores (1) the relative effect strength of various interpersonal recommendation attributes on consumer behaviors (i.e., product interests, purchase intention, and word-of-mouth intention); (2) how these effects may be different for different customer segments (i.e., experienced consumers versus inexperienced consumers). Survey data was collected from 142 Macau consumers regarding their experiences of receiving interpersonal recommendations (from family members, friends, relatives and colleagues) of dietary supplement products. Results reveal that among the three interpersonal recommendation attributes, degree of homophily between recommendation sender and receiver appears to be a stronger predictor of consumer behaviors of dietary supplement products. More interestingly, the three interpersonal recommendation attributes have more pronounced impacts on consumer behaviors for inexperienced consumers (i.e., those who have no prior experience of the recommended product category). This study contributes to literature by highlighting the relative importance of different attributes of interpersonal recommendation. Managerial implications on how marketers may design word-of-mouth or referral programs to encourage customer purchases will be discussed.

■ TB17

Aula 18

Ethics and Consumer Behavior

Behavioral Track

Chair: Subimal Chatterjee, Binghamton University, School of Management, Binghamton, NY, 13902-6000, United States

1 - How Direct Competition of Cause-Related Marketing Campaigns Alters Consumer Preferences and Cause Importance

Christina P. Schamp, Dr., University of Hamburg, Hamburg, Germany, Mark Heitmann

Cause-related marketing campaigns (CM) that link product sales to charitable causes are attracting continuously growing interest of both marketing research and practice. Due to its positive impact on demand, successful CM implementations can result in competitive response and simultaneous execution of CM campaigns of competing brands within the same market. This type of competition differs conceptually from price- or quality-based competition because consumers must trade-off ethical values rather than self-centered benefits. To date, there is little knowledge about consumer response to competitive ethical campaigns. To investigate this empirically, we study FMCG field data on the relative performance of simultaneous CM campaigns and run five laboratory experiments. We obtain consistent evidence that consumer preferences between competing CM campaigns can differ in strong and systematic ways from those for non-competitive campaigns. Specifically, our results show that cause characteristics (i.e., cause domain, subjective cause importance and brand-cause fit) gain relevance under CM competition and that individual level moral identity moderates this effect. These results have implications for the design of effective CM campaigns for for-profit brands and the improvement of public cause perceptions for NGOs. More broadly, we demonstrate how market mechanisms might steer ethical efforts of for-profits to be in accordance with interests of society as a whole. Rather than championing “cozy causes” that are easy to advertise, the neediness and importance of a cause as well as potential arbitrariness in its selection becomes more salient and influential for consumer preferences in the light of competition.

2 - Better Marketing through Anti-corporatism: Construct Development and Validation

Brandon Reich, Portland State University, Portland, OR, United States, Sara Hanson

Consumer anti-corporatism continues to grow, yet little is known about the construct. This research (1) defines anti-corporatism, (2) develops a scale to measure it, and (3) provides segmentation/targeting implications. Based on guidance of an expert panel, we developed an initial item pool of 35 anti-corporate statements. Using PCA, Study 1 (N = 192 MTurk participants) purified this pool into a subset of 10 items across two dimensions (five items each to represent Logical and Intuitive anti-corporatism). Consistent with dual-path models of information processing, the Logical and Intuitive dimensions represent deliberative beliefs (e.g., “Corporate power should be limited”) and affect-based associations (e.g., “Corporations are robotic;” 1 = Strongly disagree, 7 = Strongly agree), respectively. Study 2 confirmed this two-dimensional structure among a nationally representative sample of 606 US consumers via CFA (2(34) = 91.72, p < .001,RMSEA = .05, SRMR = .03). Study 3 (N = 151 MTurk participants) used a longitudinal design to test the scale’s nomological and predictive validity. At Time 1, participants completed the anti-corporatism scale and four related measures (e.g., Attitude toward Business scale). At Time 2 (10 days later), participants were endowed with $1 and an opportunity to donate any portion of it to an anti-corporate non-profit. Supporting nomological validity, anti-corporatism was moderately correlated with the other measures (|Rangers| = .22 - .58, ps < .01). Supporting predictive validity, a regression model with all Time 1 measures as predictors showed Intuitive anti-corporatism positively predicted anti-corporate donations (= .33, p < .01) whereas Logical anti-corporatism negatively predicted them (= -.25, p < .05). No other measures were significant (ps > .10). Our findings suggest a segmented approach to anti-corporate consumers as facets of anti-corporatism play out differently in the non-profit marketplace. A planned field study aims to test actionable corporate changes that may assuage anti-corporate sentiment.

3 - Taking a Stand: Consumer Responses When Companies Get (Or Don’t Get) Political

Daniel Korschun, Associate Professor, Drexel University, Philadelphia, PA, United States, Hoori Rafieian, Anubhav Aggarwal, Scott Swain

Companies have traditionally abstained from publicly taking positions on political issues. However, over recent years some executives have eschewed this traditional wisdom by taking stands on issues such as the death penalty, abortion, and immigration. There has been vigorous debate over whether consumers are accepting of such behavior. The present research seeks to reconcile these differing views by identifying when and how consumers respond to companies that take political stands. Results from a field experiment and two controlled experiments indicate that reactions to abstention (versus taking a stand) depend on the intended image of the company. For a company that claims to be guided primarily by concern for performance (market-driven intended image), consumer purchase responses to taking a political stances are negative, which is consistent with the traditional wisdom. However, the opposite effect holds for companies that are perceived to be guided primarily by values (values-driven intended image). Mediation analyses provide evidence that the mechanism for these effects is perceived corporate hypocrisy. The research also identifies an important boundary condition by showing that consumers’ perceptions of hypocrisy are attenuated to the degree that the company is perceived to have low-agency with respect to a political issue.

4 - The Effects of Authentic Corporate Social Responsibility on Consumer Willingness to Forgive or Seek Revenge Following a Service Failure

Subimal Chatterjee, Binghamton University, School of Management, Binghamton, NY, 13902-6000, United States, Gizem Atav, Basak Kuru

Product and service failures are common, and consumers who are the victims of these failures or transgressions react to them in one of two ways: get angry and try to get back at the transgressor (seek revenge), or develop sympathy and forgive the transgressor. A 2017 Survey shows that about 25% of over 60 million households that experienced a product/service failure sought revenge on the transgressor. Our research investigates how CSR (Corporate Social Responsibility) activities of the transgressor can affect these two reactions. We argue that if consumers perceive the CSR activities to be authentic (e.g., they fit with the company’s product/mission/culture and aim to benefit society) they are likely to forgive the transgressor. However, if they perceive the CSR activities to be inauthentic (e.g., the activities are deceptive and aim to maximize profits), they are likely to seek revenge on the transgressor. We propose that authentic CSR messages generate sympathy towards the transgressor and make the transgression appear as an exception, thereby eliciting forgiveness. Inauthentic CSR messages, however, aggravate anger by making the transgression appear as a pattern, and thereby exacerbate the desire to seek revenge. We test our predictions on a student sample and show that, while most research looks at CSR as a protection against product/service failures (making a bad situation better), CSR can make a bad situation even worse if consumers suspect the motivation behind the CSR. Our research, therefore, highlights both the positive and negative role of CSR activities in a firm’s service/product recovery strategies.

■ TB18

Aula 19

Reviews and Referrals

Behavioral Track

Chair: Rahil Hosseini, Universitat Pompeu Fabra, Barcelona, Spain

1 - Solicited Online Product Reviews

Nevena T. Koukova, Lehigh University, Bethlehem, PA, United States, Rebecca Jen-Hui Wang, Keith Botner

Product reviews are becoming increasingly important in consumer purchase decisions. Businesses including retailers, hotels, and restaurants actively solicit reviews, prompting customers to rate and write about the products or services purchased. However, it is unclear whether soliciting reviews from customers is an effective strategy. How do solicited customers feel about the email prompts? What kind of reviews do solicited customers write, and are they influenced by product quality, perceived experience, and solicitor type? We aim to clarify these questions.Analyzing a secondary dataset of 50K reviews from an e-retailer, we found that customers who posted reviews by clicking on the solicitation emails gave higher product ratings than those who posted directly on the website. However, the solicited reviews were shorter. Interestingly, products with more solicited reviews have lower prices, and their relationship to purchase conversion is an inverted U-shape. Further, in a laboratory setting, we investigated the effects of product quality (damaged versus undamaged), perceived product condition and solicitor type (a retailer, a community organization of local business, or a public forum, Yelp) on consumers’ ratings, and review tone and sentiments. When product was undamaged, customers perceived solicitations from the local company less negatively than those from the community organization or Yelp. However, the solicitations from the local company were perceived more negatively in the damaged versus the undamaged condition. Regarding overall ratings, within the damaged condition, consumers gave higher ratings when they perceived the product to be in a poor condition when they posted to the local company’s website than when they posted to Yelp. Our research provides important new insights on review solicitation, helping to inform marketers as to when this may or may not be the optimal strategy.

2 - How Customer Referrals Convert into Actual Customers: Variation across Demographic Similarity, Product Types, and Referral Channels

Andreas Musiol, Doctoral Student, Friedrich-Alexander-University Erlangen-Nuremberg, Nuremberg, Germany, Christian Pescher, Martina Steul-Fischer, Christophe Van den Bulte

Customer referral programs are a popular, effective and cost-efficient too to acquire new customers. In addition, some studies have documented that customers acquired through such programs exhibit lower churn and/or higher profitability. But not every referral actually turns into a newly acquired customer. Using data on more than 100,000 referrals for various types of insurance products, we provide empirically based insights on how successful referral (i.e., the acceptance of a referral by both the receiver and the company) depends on the demographic similarity of referral sender and receiver, the product type, and the referral channel. We analyze similarity between sender and receiver in terms of age (i.e., the difference is not larger than five years), household size (i.e., both have the same household size), and social status (i.e., both purchasing power indices are equal). We find that the association between referral success and demographic similarity depends on the risk profile of the product. This contingency suggests that the association between referral success and demographic similarity is unlikely to reflect mere homophily or passive matching. We also find that referrals made through personal channels (e.g., telephone) exhibit more conversions than those made through impersonal channels (e.g. the firm's website). Ongoing data analysis attempts to attribute this difference to selectivity versus greater vividness and persuasiveness of various channels.

3 - The Persuasive Power of Online Social Presence

Rahil Hosseini, Pompeu Fabra University, Department d`Economia i Empresa, Universitat Pompeu Fabra, Barcelona, 08005, Spain, Maria Galli, Ana Valenzuela

When looking for a travel destination on TripAdvisor or a book on Goodreads, consumers learn about reviewer's experiences of the destination or the book. While the primary goal of reading reviews is to gather information, consumers engage in an imaginary social interaction with the reviewers (i.e., social presence). Social presence has enjoyed a good reputation in research on distant learning, human-computer interaction, e-commerce, and virtual reality. Increasing social presence, for instance, by means of a responsive web design or using human pictures improves engagement, trust, brand attitude, and satisfaction (Gefen et al., 2003; Lowenthal, 2010). However, despite the fact that today's consumers learn about products from online sources, social presence has not attracted research to study it in the context of online reviews. This is important because, product review websites and online retailers are all enriched with consumer-generated social cues that would trigger social presence (Kaplan et al., 2010; Liu et al., 2015). This research not only provides evidence for the role of social presence in online reviews, but it also explains the mechanism underlying its effect as the current literature is still desolate in that respect. To address the research question, four experiments were conducted. The results consistently showed greater enthusiasm for trying the reviewed items (i.e. coffee, travel destination, book) with characteristics that were not originally favoured, if the reviews could generate a higher level of social presence. Also, the effect was mediated by promoting a positive attitude towards the reviewers. In addition, the studies offered evidence for the imagery nature of social presence; the effect was diminished when visuospatial memory was not at disposal. In conclusion, this research suggests an interesting persuasive power for social presence: it increases liking of the reviewed item even when a non-favored item is reviewed. This is because it generates an imaginary social interaction that elevates attitudes towards reviewers.

■ TB19

Aula 20

Pricing 2

Contributed Session

Chair: Ram C. Rao, University of Texas-Dallas, Richardson, TX, United States.

1 - Cookie-Cutter Competition? Non-Price Strategies of Multiproduct Firms under Uniform Pricing

Gianluca Antonecchia, Erasmus School of Economics, Rotterdam, Netherlands, Ajay Bhaskarabhatla

In this paper, we study how multiproduct firms compete using non-price strategies in an industry where all firms charge the same price. Using Nielsen data on biscuit manufacturers in India, we find that products with one standard deviation higher productivity offer, on average, 1.5% more quantity for the same price. Firms also compete by offering volume promotions and price discounts for more productive products. Using non-price strategies more productive products appear to gain market share, indicating competition thrives under the veil of uniform pricing. We find greater levels of product availability and productivity-induced competition in urban areas compared to rural areas, implying uneven welfare effects. We show that deviating from uniform pricing can improve welfare of rural consumers. In the paper we propose a quantity-based measure of product-level productivity that controls for the biases related to input measurement, simultaneity and product scope of the firm. Our results are robust to alternative methods of estimating product-level productivity.

2 - Managing Corkage Fee: Shall Customers Be Charged for using Competitors' Service?

Chang Dong, Hong Kong University of Science and Technology-HKUST, Hong Kong, Qian Liu

Restaurants usually charge a corkage fee when customers bring their own beverages to the restaurant. Similar practice also appears in other service industries, where a core product provider allows customers to consume ancillary service offered by a third party; such as third-party food service to a theme park, third-party maintenance service to durable goods. This paper examines the core product provider's corkage policy in a stylized model where customers may use the ancillary service from the third party after purchasing the core product. In equilibrium, the ancillary service competition influences customers' purchase incentive for the core product, and the core product provider faces the trade-off between different profit sources. We investigate how different market structures and service quality affect the optimal pricing and corkage decisions.

3 - The Impact of New Product Promotions on the Secondary Market: A Study of the U.S. Automobile Market

Srabana Dasgupta, Associate Professor, Simon Fraser University, Burnaby, BC, Canada, Siddarth Sivaramakrishnan, Barcelona, 08005, SpainJorge Mario Silva-Risso

Like many durable goods industries (electronics, appliances etc.), the automobile industry has typically relied heavily on frequent promotions to sell its products. However, the auto industry is unique in the sense that it has an extremely active secondary market that has strong links to new car sales activities. Thus, one unexplored aspect of promotions in this market, is the long-term effect they might have on the used car market, which in turn can have unexpected financial consequences for consumers. We therefore ask the question: what is the impact, if any, of current promotional incentives on the secondary market and, consequently on new car buyers' financial position? If promotions offered today depress future prices of the used car, the value of the asset held by the consumer will go down further than what is expected based on the "inherent quality" of the car. Consumers therefore, may end up being "upside down" on their purchases, affecting their purchasing power in the future and which, in turn, will have negative implications for future new car sales. Using automobile transaction data on both new and used cars, we develop a model that captures the effect of today's promotions on a car's future expected value. The model accounts for the possibility that the effect varies by the make, model, and competitiveness of the car, allowing us to draw implications for how manufacturers should structure their promotions in order to account for these potential future effects.

4 - Prominence and Price Search under Limited Consideration

Ruitong Wang, Doctoral Student, University of Minnesota, Minneapolis, MN, United States, Yi Zhu, George John

Many markets feature a prominent firm from which most consumers start their price searches. This study examines the implication of prominence on price search when consumers have a limited consideration set. We model a firm's prominence by its percentage of being searched first by the consumers. A prominent firm is considered by all consumers and has the highest prominence level. There are two types of consumers: some consumers (shoppers) have a zero search cost, while others (non-shoppers) have a positive search cost. The prominent firm faces a tradeoff between a low price to compete for the shopper and a high price to exploit surplus from non-shopper. Our results show that: first, comparing with less prominent firms, a prominent firm charges a higher/lower price on average when its prominence level is high/low. Second, a prominent firm's profit may decrease when more consumers search it first. This occurs when its prominence is low. Finally, we find that the consideration set expansion can increase the price competition. A less prominent firm might have a lower profit when more consumers consider it. This implies that firms may be better off not joining another consideration set.

5 - Merchant and Platform: Pricing Strategy and Product Entry

Ram C. Rao, University of Texas- Dallas, Richardson, TX, Barcelona, 08005, SpainUnited States, Ye Qiu

For a selling platform managing merchants poses challenges. We analyze competitive pricing strategies depending on the platform's choice to include in its assortment a product the merchant sells. The platform wants the merchant to remain, and if the platform chooses to carry the product, the merchant prefers a non-zero commission rate based on sales to a flat fee, reducing price competition. We then ask whether through its assortment the platform can signal the quality of a product if consumers' information is incomplete. Signaling is possible because of the potential goodwill loss to the platform from disappointed consumers. We characterize the separating equilibrium with the platform carrying a product only if quality is high. More interestingly, conditions exist such that signaling benefits not only the platform and consumers but also the merchant, making it a win-win proposition. Casual empirical evidence shows substantial sales increase after Amazon decides to offer a product, while such increases don't occur for products Amazon doesn't carry. Moreover, even after Amazon's entry, third party merchants continue to sell on Amazon whose prices are higher than the merchants'. We conclude that a platform could strategically use its assortment decision to realize higher sales and thereby also help merchants.

Thursday, 2:00pm - 3:30pm

■ TC01

Aula 01

International Marketing 1

Contributed Session

Chair: Sajeesh Sajeesh, UNL, Lincoln, NE, 68526, United States

1 - Understanding the Bottom of the Pyramid Market from the Interdisciplinary Lens of Geddesian Town Planning Theory and Stimulus Organism Response Model

Ayush Chaudhary, Department of Management Studies, Indian Institute of Technology Madras, Chennai, India, Varisha Rehman

Until recently, Bottom of the Pyramid (BoP) market was largely ignored by the multinationals, due to huge challenges it possess to overcome, but now more and more multinationals are trying to tap this huge and lucrative market. Most of these attempts are resulting into partial success or no success at all; this is due to the lack of theoretical framework in the literature to understand this market. Thus, this study was undertaken to develop a framework for better understanding of BoP market by integrating Stimulus Organism Response (SOR) Model of marketing with Geddesian Triad theory of Town Planning. The objective of the study is to relate the tenets of Folk, Work and Place of Geddesian Town planning theory to the SOR Model for BoP Market. This has been done by doing an extensive literature review of 163 papers from 2000-2018 related to SOR model and then integrating the relevant stimulus to formulate a conceptual model to approach this new market. Moreover, the model was tested through conducting Partial Least Square Structure Equation Modelling (PLS-SEM) over data collected through 150 samples in two context of urban and rural area. The results showed a significant effect of Folk, Work and Place on Purchase intention of BoP consumers. The study marked one of the first attempt for developing and validating a new theory for BoP market. Moreover, it is also one of the few papers to do quantitative study on BoP market with model formulation and validation. This study will help practitioner as well as academicians to understand this lucrative yet complex market. It will also open up new opportunities for multinationals and at the same time help in providing products to the BoP consumers.

2 - Acquisition Pattern Analysis for Studying Sequential Adoption of Mobile Phone Services and Applications by Sub-Saharan African Entrepreneurs

Leo Paas, The University of Auckland, Auckland, New Zealand, Emiel Eijdenberg, Enno Masurel

Rapid economic developments have led to increased interest in Africa in the marketing literature. This particularly applies for the mobile phone sector. Over the last five years mobile phone penetration levels in Africa have grown 65% annually resulting in 759 million unique subscriptions in 2017. Mobile phone owners in Sub-Saharan Africa (SSA) can use globally available services and applications, such as Facebook and LinkedIn, next to locally developed innovations. A particularly important local innovation is mobile money, which allows users to store credit on the device and to transfer such electronic money to other phones on which the application is activated. The process underlying the adoption of services and applications on mobile phones is however understudied. We analysed acquisition patterns for locally developed and globally available services and applications on mobile phones using survey-data collected from 169 entrepreneurs in Zambia. We argue that entrepreneurs are early adopters of such technology in Africa and find that the 12 analysed services and applications are adopted in a hierarchical order. A consecutive regression analysis shows that entrepreneurs with more employees, tertiary education and who are younger tend to be further developed in the acquisition pattern, supporting the assumption that an individual's mobile technology-savviness drives adoption. The findings provide relevant insights for cross sell and relationship marketing strategies. We also provide support for applicability of acquisition pattern analysis in Sub-Saharan Africa, which is of key relevance in this rapidly growing market.

3 - Impact of Corporate Social Responsibility News Reports on Brand Sales: The Moderating Effect of Brand Nationality

Junhee Seok, Seoul National Univ., Seoul, Korea, Republic of, Youseok Lee, Byung-do Kim

The main purpose of this paper is to examine the effect of corporate social responsibility (CSR) news reports on brand sales. Furthermore, this study verifies the difference between the CSR activities described in news reports of the local brands and those of the imported brands. For empirical verification, we collected several data such as sales volume, the number of news reports on CSR, and the characteristics of each brand. For the period from January 2014 to December 2017, the data set covers 48 months of 19 automobile brands. We merged CSR news reports data with sales data for the following month to make sure that the news reports data precede the performance data. As such, we are more certain that causality goes from news reports to sales, and not vice versa. To consider the heterogeneity and autocorrelation among error terms of each brand, the feasible generalized least square (FGLS) estimation method was used. Because the number of time points are larger than the number of brands in the data, we determined that the FGLS method would be suitable for the study. The analysis provides following results. First, the announced CSR positively affects brand sales. Unlike other studies indirectly examined this relationship, this study directly verifies the relationship between them. Second, the marginal effect of CSR news reports is bigger in the imported brands than local brands. This result shows that imported brands could establish legitimacy and avoid a sense of dissimilarity in local markets by actively conducting CSR activities and informing them. Finally, this study confirms long-term effect of announced CSR by using the Koyck model. These pieces of evidence provide several important implications. First, customer awareness is an important factor in the relationship between CSR and brand sales. In this study, we try to verify that CSR activities in news reports, which help consumers to recognize the good deeds of a brand, have a positive effect on sales. Second, when a company is planning to enter the foreign market, it can be a great help to carry out CSR activities and inform them to the target market.

4 - Differences in Sport Sponsorship Effectiveness: Does Culture Matter?

Feray Adiguzel, LUISS Guido Carli University, Rome, Italy, Christopher Kennett

Major sports events have increasingly broadcasted all over the world. These events attract very loyal customers "sports fans" around the globe. That is why companies allocate more of their marketing spending to sponsor major sports events. However, the return on investment of a sponsor company is not guaranteed. Despite the growing company spending on sponsorships to reach sports fans worldwide, relatively few studies have examined how sponsorship effectiveness might vary across countries with a different culture. We fill this void by examining differences in sponsorship effectiveness with a survey of 4202 fans of Euroleague Basketball across six European countries. The multilevel modeling was performed using individual and national level variables in order to explain differences. The findings indicate significant country differences in brand affect and purchase intention. The effect of brand fit on brand affect is negative in individualistic and indulgent cultures, which is the opposite of what we found in uncertainty avoidant and long-term oriented cultures. On the other hand, brand familiarity has a positive effect on brand affect when individualism and long-term orientation increases, opposite of the one when indulgence and uncertainty avoidance increases. Attitude towards sponsorship increases brand affect for countries high on masculinity and long-term orientation but decreases for countries high on individualism, indulgence and power distance. We further explain other differences in sponsorship effectiveness and provide several implications for marketers.

5 - Protection for Sale with Foreign Buyers

Sajeesh Sajeesh, University of Nebraska - Lincoln, Lincoln, NE, United States, Rajeev Sawant

While extensive political economy research shows that political considerations drive economic policy, research regarding the effects of foreign lobbying is underdeveloped. Using a Hotelling-Downs vote-buying model of foreign direct investment (FDI), we analyze policy outcomes when foreign multinational corporations (or MNCs) are forbidden and when they are permitted to lobby. We find that lobbying contribution transparency, liability of foreign lobbying and ratio of domestic firms' change in profits to MNC profits from FDI are important determinants of endogenous policymaking. We discuss implications for MNCs and their domestic rivals' lobbying activities and propose lobbying conditions that prevent welfare reducing protectionist policies.

■ TC02

Aula 02

Retailing 2

Contributed Session

Chair: Kathleen Li, University of Texas, Philadelphia, PA, 19139, United States

1 - The Impact of Consumer Return Strategies on Omnichannel Retailing

Prasenjit Mandal, Indian Institute of Management Calcutta, Kolkata, India

In this paper, we consider a retailer adopting the “omnichannel” sales policy that offers customers a more convenient option for shopping and buying. The retailer operates both a physical and a web-based online store. The web-based channel provides customers better shopping conveniences and detailed product information through websites and mobile apps; whereas physical store allows customers to physically inspect or even experience the product in the store the product before making a purchase decision. Due to the uncertainty in product valuation, customers may end up returning the product purchased for a full or partial refund. Hence, we develop a stylized game theoretic model to study the impact of consumer return strategies on retail sales and profitability. We show that product value and refund policy determine the online customer’s choice of returning products through “online”, or at “store”. Our analysis identifies the ideal conditions under which each return policy is beneficial to the retailer. Further, we find that under full refund policy, the price of the product increases.

2 - Window Shopping or Flashy Products: Investigating the Discrepancy in Search Share and Purchase Share

Olivia R. Natan, University of Chicago, Chicago, IL, United States, Ali Goli

In this paper, we document persistent differences between a product’s searched share and purchase share in an online marketplace. Understanding the source of this mismatch is important for businesses and has implications for optimizing promotions and interpreting user behavior. We study two phenomena that can generate this mismatch, namely, search streaks by users without intent to purchase (window shoppers), and items that are frequently browsed by users with purchase intention but not purchased as frequently. Such a difference is not rationalized by typically implemented models of consumer search, though more flexible theory models could rationalize this as a function of oddly behaved priors or other information structures assumed away in common parameterizations. We pose an alternative explanation of hedonic window shopping, and decompose the difference in search and purchase shares into both a consumer- and product-specific phenomenon. Additionally, we provide suggestive evidence for how to incorporate latent window shopping behavior into a search model. We discuss methods for recovering purchase shares given search paths generated by both window shoppers and users with purchase intent.

3 - The Winner Takes it All? - An Empirical Analysis of Amazon’s Buy Box

Jochen Reiner, Assistant Professor, Goethe University Frankfurt, Frankfurt, Germany, Bernd Skiera

Amazon’s Marketplace has proven to be an important sales channel for many (often small or mid-sized) sellers. As there is no limit to the number of sellers of a particular product, the same product is often sold by many sellers competing for sales. A unique feature of Amazon Marketplace is the presentation of sellers’ offers. Amazon ranks all sellers and selects one seller for the so-called Buy Box. The seller in the Buy Box is the default seller, i.e., the seller that is selected if the customer just clicks “buy”. Customers might even think that this click initiates a purchase from Amazon, although it is a purchase from Amazon Marketplace. Not surprisingly, the Buy Box seller makes far more sales than any other seller. Anecdotal evidence from practitioners suggests that the Buy Box generates up to 80% of all sales and that being in the Buy Box is key to success. Consequently, many sellers engage in price competition to be placed in the Buy Box. However, it remains unclear whether the uplift in sales due to the Buy Box placement makes up for the sacrifice of sellers’ profit margins. Understanding the economics (e.g., size of uplift) of the Buy Box is, therefore, vital for each seller on Amazon Marketplace. Using a longitudinal dataset covering the full assortment of a cooperating seller and data from an Amazon price tracking API, this study empirically investigates the Buy Box and its importance for sales and its consequences for determining optimal prices and sellers’ profits.

4 - Statistical Inference for Average Treatment Effects Estimated by Synthetic Control Methods

Kathleen T. Li, Assistant Professor of Marketing, University of Texas McCombs School of Business, Austin, TX, United States

The synthetic control method, a powerful tool for estimating average treatment effects (ATE), is increasingly popular in fields such as statistics, economics, political science and marketing. The synthetic control method is particularly suitable for estimating ATE with a single or a few treated units, a fixed number of control units, and large pre and post-treatment periods, i.e. long panels. To date, there has been no formal inference theory for synthetic control ATE estimator with long panels under general conditions. Existing work mostly use placebo tests for inference or some permutation methods when the post-treatment period is small. In this paper, we derive the asymptotic distribution of the synthetic control and modified synthetic control ATE estimators using projection theory. We show that a properly designed subsampling method can be used to obtain confidence intervals and conduct inference whereas the standard bootstrap cannot. Simulations and an empirical application examine the effect of opening a physical showroom by an e-tailer demonstrate the usefulness of the modified synthetic control method in applications.

■ TC03

Aula 03

ISMS Doctoral Prize Winners

Speical Emerging Topic Session

Chair: Catherine Tucker, MIT, Cambridge, MA, 02142, United States

1 - Display Advertising Pricing in Exchange Markets

Hana Choi, Duke University, Durham, NC, United States, Carl F. Mela

This paper considers how a publisher (e.g., Wall Street Journal) should set reserve prices for real-time bidding (RTB) auctions when selling display advertising impressions through ad exchanges, a $40 billion market and growing. Through a series of field experiments, we find that setting the reserve price increases publisher’s revenues by 32%, thereby affirming the importance of reserve price in maximizing publisher’s revenues from auctions. Further, we find that advertisers increase their bids in response to an experimental increase in reserve price, and show this behavior is consistent with the use of a minimum impression constraint to ensure advertising reach.Based on this insight, we construct an advertiser bidding model and use it to infer the overall demand curve for advertising as a function of reserve prices. Using this demand model, we solve the publisher pricing problem. Incorporating the minimum impression constraint into the reserve price setting process yields a 50% increase over a solution that does not incorporate the constraint, and an additional increase in profits of nine percentage points.

2 - A Structural Model of a Multi-Tasking Salesforce: Job Task Allocation and Incentive Plan

Minkyung Kim, Yale School of Management, New Haven, CT, United States, K. Sudhi, Kosuke Uetake

The paper empirically explores questions of (i) how to allocate job task (specialization versus multitasking) in the presence of task complementarities and (ii) how to combine outcomes across tasks (e.g., additive versus multiplicative) in compensation plan design. To answer these questions, we develop the first structural model of a multi-tasking salesforce. The model incorporates three novel features, relative to the extant structural models of salesforce compensation: (i) multi-tasking effort choice given a multi-dimensional incentive plan; (ii) salesperson’s private information about customers and (iii) dynamic intertemporal tradeoffs in effort choice across the two tasks. While the model is motivated by our empirical application that uses data from a microfinance bank where loan officers are jointly responsible and incentivized for both loan acquisition and repayment, it is more generally adaptable to salesforce management in CRM settings focused on customer acquisition and retention. Our estimation strategy extends two-step estimation methods used for uni-dimensional compensation plans for the multi-tasking model with private information and intertemporal incentives. We combine flexible machine learning (random forest) for the identification of private information and the first stage multi-tasking policy function estimation. Estimates reveal two latent segments of salespeople-a “hunter” segment that is more efficient on loan acquisition and a “farmer” segment that is more efficient on loan collection. Counterfactual analyses show (i) that joint responsibility for acquisition and collection leads to better outcomes for the firm than specialized responsibilities even when salespeople are matched with their more efficient tasks and (ii) that aggregating performance on multiple tasks using an additive function leads to substantial adverse specialization of “hunters”, where they specialize on acquisition at the expense of the firm, compared to the multiplicative form used by the firm. Key words : salesforce compensation, multitasking, multidimensional incentives, private information, adverse selection, moral hazard.

3 - Predicting Restaurant Survival: What matters the Most, Somewhat, and Not at All?

Mengxia Zhang, USC, Los Angeles, CA, 90007, United States, Lan Luo

In 2017, the restaurant industry generated $799 billion in sales and accounted for one in 10 jobs in the U.S. This industry is also particularly well-known for its high turn-over rate. Nevertheless, research on restaurant survival has been sparse. Our research aims to understand, above and beyond known factors such as firm characteristics, competitive landscape, and external macro factors, to what extent user generated content (including both photos and reviews) is associated with restaurant survival. In particular, we tracked the survival of 21,785 restaurants from 2004 to 2015. We further use deep learning methods to extract features from the entire 810,182 photos and 1,178,056 reviews posted on Yelp on these restaurants during this twelve-year window. We then develop a predictive model to examine how the above discussed various factors are related to the survival of these restaurants. We further explore causal effects of user generated content (particularly photos) by using propensity tress to match up restaurants on observable characteristics. Our research is probably the most comprehensive empirical research on restaurant survival to date. It also belongs to an emerging stream of research in marketing that utilizes deep learning techniques to analyze large volume of unstructured data including photos and text.

■ TC04

Aula 04

Mobile, Algorithm, and Artificial Intelligence (AI) Session 5: Field Experiments in Mobile Age

Special Session

Chair: Xueming Luo, Temple University, Philadelphia, PA, 19122, United States

Co-Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - Demand Effects of Recommendation Strategies in a Mobile Application: Evidence from Econometric Models and Machine-Learning Techniques

Panagiotis Adamopoulos, New York University, IOMS Dept., New York, NY, 10012, United States, Anindya Ghose, Alexander Tuzhilin

In this paper, we examine the effectiveness of various recommendation strategies in the mobile channel and their impact on consumers' utility and demand levels for individual products. We find that a 10% increase in the frequency of recommendations raises demand by about 7.2% for the corresponding alternative. We also find significant differences in effectiveness among various recommendation strategies. In addition, we examine the heterogeneity of the demand effect across items and contextual factors. Interestingly, we find that contextual factors, such as holidays and weather conditions, significantly moderate the effectiveness of mobile recommendations.

2 - From Free to Paid: Testing Monetization Strategies for a Free Mobile App

Jingcun Cao, Indiana University Bloomington, Bloomington, IN, 47405, United States, Pradeep K. Chintagunta, Shibo Li

Mobile app firms have a hard time when trying to monetize their free services due to (i) high churn rates and (ii) low purchase conversion rates. Since users incur a monetary cost for paid services they may choose to abandon the app. Further, for apps providing some free basic features, very few customers would actually pay to become premium users (under 1% on average). It is costly for the firm's marketing and tech support teams to serve users of free services. As monetization strategies, some firms maintain limited free services for current users (referred to as "soft landing"). Other firms take the "hard landing" approach by completely shutting down all free services, and exclusively serving their paid users. Current business practices do not offer a clear answer on which strategy results in a higher conversion rate. The existing theoretical literature also makes conflicting predictions. In this study, we employ a 2×2 field experiment to test the causal effect of providing limited free services on the purchase conversion rate when a firm tries to monetize its free services on mobile apps. We also try to understand the mechanism underling user behavior. Moreover, we also examine whether providing some secondary benefits to the paid users will help increase the conversion rate, and how this may moderate the effect of offering limited free services.

3 - The Effect of Digital Platform Free Promotion on Redeemers vs. Non-Redeemers

Lin Boldt, University of Central Florida, Orlando, FL, 01610, United States, Xueming Luo, Xiaoyi Wang

The success of a promotion offer may go beyond the profit made on purchases associated with coupon redemption. We run a field experiment on a digital retail platform to study the effect of digital promotion not only on redeemers, but also on non-redeemers. Simultaneously measuring the causal effect of promotion on redeemers and on non-redeemers is complicated by the self-selected coupon redemption decision. The instrumental variables method is typically used to estimate the effect of promotion on redeemers, but its exclusion restriction assumption presumes that the promotion has no effect on non-redeemers. Our model relaxes the exclusion restriction and simultaneously examines the average treatment effects for redeemers and non-redeemers. Our results reveal drastically different patterns and mechanisms that platform free promotion affects redeemers vs. non-redeemers. The alternative methods, i.e., propensity score matching and IV, underestimate the promotion effect on non-redeemers.

4 - Effects of Green Marketing: Evidences from Quasi Field Experiments

Yuqiang Chang, Temple University, Fox School of Business, Philadelphia, PA, 19122, United States, Xueming Luo, Cheng Zhang

Companies have extensively invested in green marketing in order to stimulate pro-environment behaviors and make a profit. However, such investments may often turn out to be greenwashing and backfire. We conducted a large-scale quasi field experiment and found that pro-environment marketing message is ineffective when consumers do not experience pollution, but 250% more effective when they have a recent experience of air pollution. A second quasi field experiment replicated the finding with different pro-environment behaviors, mobile communication nudge channels, and platform settings. An investigation of the underlying mechanism suggested that a recent pollution experience overwhelms the weak signal of environment protection and actively engages consumers in pro-environment behaviors. These findings provide insights into how managers can avoid negative externalities of greening marketing and the conditions in which green marketing contributes to a better world.

■ TC05

Aula 05

Game Theory in Marketing

Special Session

Chair: Aniko Oery, Yale School of Management, 165 Whitney Avenue, New Haven, CT, 06520, United States

1 - Learning by Choosing

T. Tony Ke, MIT, Cambridge, MA, 02142, United States, Christopher Li, Mikhail Safronov

We consider a dynamic employment relationship between a firm and a worker, whose ability influences the productivity of the relationship and is initially uncertain to both parties. The jobs performed by the worker are publicly observable noisy signals of the worker's ability, where some more productive jobs are less informative. Under short-term noncontingent wage contracts, we show that when the firm assigns the jobs to the worker, information is under-provided compared with the social optimum; while when the worker chooses the jobs, information may be over-provided. We find a jump in the worker's wage at the switch between jobs, which we interpret as promotion of the worker—promotion occurs when the belief of the worker's ability is sufficiently high and he takes a more productive but less informative job.

2 - Buy it Before it's Gone

Zihao (Harry) Zhou, University of California, Berkeley, CA, United States

We construct a two-period model with a monopolistic seller and a unit mass of buyers with high and low valuations of a durable good. In our model, if the seller can commit to a quantity, then under some mild regularity conditions, the seller has an incentive to create a shortage in the last period through the pre-committed quantity in order to extract more revenue from buyers with a higher valuation. It can be shown that the seller's incentive to create a shortage persists even when the seller does not need to create shortage through the pre-committed quantity. In addition, we extend the model to the case with multiple periods and valuation types and then analyse the seller's optimal strategy in this extension.

3 - Price Manipulation in Peer-to-Peer Markets

Vladimir Pavlov, The Wharton School, Philadelphia, PA, United States, Ron Berman

Should a peer-to-peer platform set prices for the products on the platform, or should it let sellers set their own prices while providing price recommendations? Centralized prices allow the platform to use demand information it observes, while price recommendations allows for competition in which sellers set prices based on their private information. We investigate the implications of each pricing regime for the profits of platform, buyers and sellers. When the platform recommends prices, it effectively plays the role of a sender in a multi-receiver cheap talk game. We find that if the range of possible quality levels of sellers is small, the platform should centralize pricing. Price recommendations can be sustained in equilibrium only when the variance of aggregate demand is large. Otherwise, a price recommendation is not credible and the platform should let the sellers set their own prices. High (low) quality sellers have a stronger (weaker) preference for centralized pricing than the platform. Buyers, however, prefer centralized pricing only if the range of quality levels is large and the variance of aggregate demand is small. Otherwise, buyers prefer competing sellers who do not receive a price recommendation.

4 - Managing Word-of-mouth Content

Aniko Oery, Yale School of Management, New Haven, CT, 06520, United States, Ishita Chakraborty, Joyee Deb

We develop a model of positive and negative word of mouth (WOM) about a new product and analyze how a firm can manage the content of WOM through the price it sets. Trial purchasers who have tried the product experience utility if they had a good (bad) experience with the product and new adopters buy (not buy) it. WOM is costly, and trial purchasers talk if they believe they can shift behavior of potential adopters. The price set by the firm can induce an equilibrium in which only trial purchasers with positive experience talk (positive WOM equilibrium), one in which only those with negative experience talk (negative WOM equilibrium), or one in which everyone/no one talks. Whether the profit maximizing price induces positive and/or negative WOM depends on the distribution of beliefs about product quality in the adopter population and product characteristics, modeled as the type of signal structure. If trial purchasers have a precise estimate of the prior, then the firm always induces negative WOM. For example, when a new branch of a restaurant-chain opens, consumers are likely to have similar beliefs about the quality of the new branch. If the prior distribution is heterogeneous, positive WOM arises if the relevant dimension of product quality is an attribute that requires special skills such as culinary creativity. In contrast, negative WOM arises if quality is more about consistency such as hygiene standards. We use a dataset taken from Yelp Dataset Challenge 2018 to establish some facts that support the theoretical predictions.

■ TC06

Aula 06

Digitization 2: Platforms

Special Session

Co-Chair: Pinar Yildirim, University of Pennsylvania, Philadelphia, PA, 19104, United States

Chair: Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States

1 - Dog Eat Dog: Measuring Returns to Scale using a Digital Platform Merger

Andrey Fradkin, Boston University, Boston, MA, United States

Successful digital marketplaces can make existing markets more efficient and can create entirely new markets. It is common wisdom that many of the gains from digital marketplaces are difficult to achieve until they acquire scale. However, the mechanisms behind these efficiencies have never been quantified. We propose to use Rover.com's acquisition of DogVacay to study the returns to scale and benefits from integration in platform industries. The combination of the two marketplaces offers aunique opportunity to study this question because it is one of the few cases where the scale of a marketplace changes in a sudden and exogenous way, not caused by incremental adoption.

2 - Deceptive Claims using Fake News Marketing: The Impact on Consumers

Anita Rao, University of Chicago Booth School of Business, 5807 S Woodlawn Avenue, Chicago, IL, 60637, United States

Fake news can be harmful if it misleads consumers to take actions they otherwise would not have taken (e.g. vote for another party, purchase an inferior product). However, if fake news merely confirms existing beliefs without changing consumers' actions, the extent of such harm is less severe. The main challenge in identifying the impact of fake news, is that we do not observe actions before and after the exposure to fake news. This paper exploits a unique setting where the FTC enabled the shutdown of ten companies that were operating fake news websites that in reality were advertisements for various products. Using detailed browsing data of these product websites, I identify the extent of consumer interest in the presence and absence of fake news. The findings indicate that interest wanes after the shutdown of fake news, but there is some substitution to other channels such as regular advertisements.

3 - Learning Market Structure & Consumer Preferences from Search Data

Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States, Luis Armona, Greg Luis

The law of one price"has been documented to fail even in online markets for homogeneous products where information is abundant and search costs are relatively low. One potential explanation for this phenomenon has been narrow search behavior by consumers, leading to small subsets of products entering choice sets, and increased firm market power. We present a demand model that takes into account consumer search patterns in differentiated product markets with difficult to quantify characteristics. Using machine learning methods, we estimate consumer preferences and latent product attributes using individual-level search data from a leading hotel search platform. Our methodology uncovers the latent characteristic space on which firms compete, in the form of high-dimensional, real-valued vectors characterizing each product's attributes. We then use these latent features to estimate a traditional model of hotel demand. We find that the features capture hotel competition better than traditional measures, such as observable hotel characteristics and geography.

4 - Revealed Preference Heterogeneity through Online Ratings

Brett Hollenbeck, University of California-Los Angeles Anderson, Los Angeles, CA, 90025, United States, Yufeng Huang

Significant efforts in marketing and economics are devoted to recovering consumer preferences and demand from discrete choice purchase data. These preferences are used to forecast success of new products, describe consumer segments for targeting, and measure the effects of marketing variables, among other uses. We consider what features of preferences and demand can be estimated from large, publicly available sets of online product ratings. These data are large, update quickly, and provide a direct measure of post-consumption consumer satisfaction. They also provide within-reviewer rankings of products and a direct measure of category-level preference heterogeneity. We propose a new estimator to measure consumer preference heterogeneity using online rating data within and across consumers. Ratings within a consumer reveal her preference ordering across products, while disagreement across consumers' ratings to similar products is informative about their taste heterogeneity. We test the data on Amazon product ratings and compare with traditional scanner data.

■ TC07

Aula 07

Marketing Challenges in the Digital Age

Special Session

Chair: Robert Zeithammer, UCLA Anderson, Los Angeles, CA, 90095, United States

1 - Stay Calm, and Carry on Ignoring Heterogeneity in Risk Preferences

Robert Zeithammer, UCLA Anderson, USA, Los Angeles, CA, 90095, United States, Martin Spann, Lucas Stich, Gerald Häubl

Consumer bidding for products and services is an important novel pricing method enabled by digital marketplaces. Most existing methodologies for revenue optimization in markets with consumer bidding assume that the consumers are either risk-neutral or all equally risk-averse - a so-called "homogeneity assumption". This paper explores the implications of heterogeneity in risk-aversion for optimal selling, both analytically and empirically. Using bidding data from an incentive-compatible laboratory experiment with name-your-own pricing, we find a large amount of heterogeneity in risk preferences, but our counterfactual simulations imply that sellers in markets with consumer bidding can safely ignore it and simplify their modeling of preferences with a standard homogeneity assumption.

2 - "I Don't Recall": The Decision to Delay New Product Launch to Avoid Costly Product Failure

Oded Koenigsberg, London Business School, London, United Kingdom

Innovations typically introduce novel features or embody cutting edge components aimed at delivering desired customer benefits. Oftentimes, however, we observe new products being recalled shortly after launch. Indeed, a firm may rush to the market in an attempt to pre-empt rivals and capture demand early, yet in so doing forgo rigorous quality control testing prior to product release—thereby subjecting itself to the risk of a recall due to product failure. To shed light on this phenomenon, we model a duopoly setting in which ex-ante identical firms plan to launch an innovation into the marketplace. Each firm must decide whether to conduct time-consuming quality assurance testing, which ensures no defects or safety problems, but delays product introduction. If the product is launched without testing and a recall occurs, the firm faces both pecuniary costs and future reputational damage. We identify conditions for an asymmetric equilibrium to emerge in this context, whereby one firm elects to conduct testing to provide a fail-proof product while the other rushes to market. In addition, we establish conditions where competition prompts both firms to release the product immediately, thus risking a recall, even though a monopolist would delay the launch to conduct thorough testing. The basic framework is then extended to examine how foreseeing the dilemma of whether to conduct testing to avoid a recall affects firms' R&D investments and product assortment decisions. Though, in general, post-launch product failure negatively affects firms' willingness to undertake R&D effort, we uncover a mechanism that leads firms to more likely invest in R&D as the probability of a recall increases (if testing has been skipped). Moreover, by allowing the firms to choose which product to launch given a portfolio of mature and innovative offerings, we derive conditions under which a firm may ex-post shelf an innovation it has developed and stick with its mature product, even after performing quality assurance testing, i.e., the innovation would not be recalled.

3 - Interactive Advertising: The Case of Skippable Ads

Anthony Dukes, USC, Los Angeles, CA, United States, Qihong Liu, Jie Shuai

The skippable ad format, commonly used by online content platforms, requires viewers to see a portion of an advertiser's message before having the option to skip directly to the intended content and avoid viewing the entire ad. Under what conditions do viewers forego this option and what are its implications for advertisers and the platform? We develop a dynamic model to identify conditions under which the viewer (i) skips the ad or (ii) engages with the advertiser. Our model incorporates the advertising market and assess implications of skippable ads on the platform's profit and advertisers' surplus. Relative to the traditional ad format, we find that there are unambiguously more advertisements and viewers on the platform with skippable ads. Under reasonable conditions, the skippable ad format is a strict Pareto improvement, which raises the surplus of advertisers and the profit of the platform.

4 - Regulating Deceptive Advertising: False Claims and Skeptical Consumers

Yue Wu, University of Pittsburgh, Katz Graduate School of Business, Pittsburgh, PA, 15260, United States, Tansev Geylani

In today's business world, firms often claim that their products are superior, but product statements may not be truthful. Knowing firms' potential dishonesty, consumers are skeptical about these possibly false statements and may verify them. To protect consumers, regulators can penalize firms who deceive consumers. In response to consumers and regulators, firms have incentives to make their false claims deceptive, so that others find it hard to verify. In this paper, we develop a game theoretical model to study the interaction between dishonest firms, skeptical consumers, and regulations. We show that increasing the penalty for false statements can surprisingly reduce consumer surplus, firm profits, and social welfare. The reduction in welfare is because raising the penalty can incentivize higher spending on deceptiveness, which hinders consumers from investigating potentially false claims. The lack of information makes it difficult for consumers to identify product quality, thus leading to lower welfare. Furthermore, when it is costless for regulators to adjust the penalty, we find the optimal penalty that maximizes both consumer surplus and welfare. This optimal penalty is the minimum penalty that ensures truthful claims, and it increases with firms' quality difference and the probability that consumers encounter a high-quality firm.

■ TC08

Aula 08

Digital Marketing 3

Contributed Session

Chair: Yiting Deng, University College London, London, E14 5AA, United Kingdom

1 - Visibility in Organic Search Results and Shareholder Value

Gabriela Alves Werb, Goethe University Frankfurt, Frankfurt am Main, Germany

Organic search already represents the most important source of online traffic for firms in several industries. Despite anecdotal evidence in the popular press suggesting a link between visibility in organic search and shareholder value, there is to date no hard evidence of the long-term value of a firm's visibility in organic search for its shareholders. Against this background, this study: (1) provides a conceptual framework to understand how a firm's visibility in organic search may affect shareholder value, (2) empirically investigates the hypothesized effect by analyzing 7 years of weekly data on 50 U.S. publicly listed firms and (3) investigates the moderating role of firm and market characteristics. The results indicate that an increase in a firm's visibility in organic search positively affects shareholder value after including finance fundamentals and controlling for firm-specific risk factors, market-wide and industry-specific shocks. On average, a 1% improvement in a firm's visibility in organic search results is associated with a 0.01% increase in shareholder value. For a typical firm in the analyzed sample, a 1% improvement in visibility in organic search translates into approximately $5.7 million more returns for shareholders in the long-term. These findings can assist marketing managers to put a dollar value on investments in Search Engine Optimization (SEO). For investors, these findings suggest that all else being equal, they should rate downward the stocks of firms that are affected by visibility losses in organic search.

2 - The Last Mile Matters: Impact of Dockless Bike Sharingon Subway Housing Price Premium

Junhong Chu, National University of Singapore, Singapore, Yige Duan

Dockless bike sharing provides a convenient and affordable means of transport for urban residents. It solves the "last-mile problem," and reduces the travel cost between home and subway. It renders subway more accessible for people living distant from subway stations, so they no longer need to pay a premium for living near a subway station. Using resale apartment data in 10 major cities in China and a difference-in-differences approach, we find that the entry of dockless bike sharing reduces the housing price premium by about one-third. The effect is equivalent to a reduction of 2,334~2,623 CNY (348~391 USD) in commuting costs per household per annum over 30 years. Parallel pre-trend tests and entry exogeneity analysis establish a causal relationship between the entry of bike sharing and the reduction in premium. The effect is robust to the selection of samples, measures of distance, and competing explanations. It varies substantially across apartments, communities, and cities, and is driven by a relative rise in listing prices of, and a relative increase in demand for, apartments distant from vis-à-vis proximate to subway stations.

3 - Consumer Social Adaptation and Dynamic Firm Product Strategies

Jane Gu, Associate Professor of Marketing, University of Connecticut, Storrs, CT, United States, Ning Nan

Immersed in digitalized social communication, today's consumers seek advice from their social network connections to aid purchase decisions, and also adapt how they listen to social advice over time to enhance decision quality. Our study examines how consumer listening of such adaptive individualized social signals induces dynamic market responses to a firm's sequential new product launches and affects the firm's optimal dynamic product strategies in a market characterized by heterogeneous consumer preferences. We find that such social listening leads to sub-optimal consumer purchase decisions, or the "individualized social signal bias," which consequently impairs the firm's market payoff. The negative impact of the "individualized social signal bias" exacerbates when the consumer market exhibits a lower social connection density or a higher social connection irregularity. Second, when consumers adapt how they listen to social advice during sequential product launches, the "individualized social signal bias" is alleviated. Interestingly, this remedial effect motivates the firm to switch to a more specialized product strategy that caters more to the tastes of some consumers at the cost of lowering fit probability with others. Lastly, we develop a novel index, Social Signal Entropy (SSE) to measure the "individualized social signal bias," and demonstrate that SSE's dynamic trend associated with a firm's past product launches can effectively guide the firm's future strategy adaptation.

4 - Promotions and Online Reviews

Yiting Deng, University College-London, London, United Kingdom, Anja Lambrecht, Yongdong Liu

Price promotion increase sales, at least in the short term but the effect of price promotion on consumers' product evaluation is not well understood. We focus on the market for mobile apps, a category where price variation, including discounting to a zero price is common. We ask how price discounts affect the evaluation in reviews posted subsequently online. Our results suggest that price promotions lead to a lower product rating. This effect is especially pronounced for price promotions to zero. In line with these results, price increases lead to more positive product evaluations. We provide evidence suggesting that higher prices lead to a better match of a product to consumers' tastes.

■ TC09

Aula 09

Digital Marketing 15

Contributed Session

Chair: Felix Eggers, University of Groningen, Nettelbosje 2, Groningen, 9747 AE, Netherlands

1 - Media Response to Social Media Sentiment: The Case of the National Anthem Protests

Wenche Wang, Assistant Professor, University of Michigan, Ann Arbor, MI, United States, Stacy-Lynn Sant

Frames are organizing themes in the news media which are used by audiences along with their internally coherent interpretive schemas, to better understand social issues and in turn, influence public opinion. While media frames can influence public opinions, the decision of framing by the media is also affected by the public's attitude due to the nature of profit maximization. Using a contentious issue in sport - the National anthem protests, this paper examines how news media is affected by the opinions and attitudes of the public. We analyse data sourced from the news media's official Instagram accounts, as well as interactions on these posts including comments and likes. We perform a sentiment analysis to test whether news medias' social media posts and the responses by the general public share a similar sentiment and how this sentiment may have changed over time. We conduct a topic analysis on the news media's Instagram posts and examine how the topic of the posts may have evolved in response to the public opinion. While the ease of access to information, particularly through social media, may alleviate information asymmetry, it also creates opportunities for the news media to quickly assess the public narrative and therefore shift, or even completely change the issue's narrative. The transparency of public opinion due to social media may lead to a rapid deviation in the report of the original story and result in a higher degree of media bias.

2 - Investigating Consumers' Engagement on Social Media Platforms using Image and Text Mining: Evidence from Facebook and Twitter

Iman Ahmadi, Warwick Business School (WBS), Coventry, United Kingdom

Today, most social media platforms provide firms with the capacity of generating multimedia content (i.e., broadly textual and visual content), allowing firms to engage with their customers. While previous research recognizes the importance of visual content of firm's posts (i.e., images, videos) on consumers' engagement (e.g., comments, shares, retweets, likes), they almost exclusively focus on textual content. The authors develop a conceptual framework allowing for the holistic examination of the relationship of the composition of the textual and visual content of the firm's posts and the degree of consumers' engagement. Using their conceptual framework, the authors conduct a study covering more than 67,000 and 77,000 posts of around two-thirds of members of S&P 500 on Facebook and Twitter, respectively. The authors find that, depending on the type of the social media platform (i.e., Facebook or Twitter), the following components of the firm's multimedia content are associated with different (sometimes opposite) degree of consumers' engagement: (i) textual content encompassing information on the length, polarity, readability, questioning, and degree that the text is informative or emotional (i.e., product or non-product related words, respectively) and (ii) visual content encompassing information on the presence of human faces, facial emotions, text on the image, and the degree present non-human objects are of informative (e.g., brand, product, logo) or emotional (e.g., sky, tree, girl) nature. The authors conclude that firms must not only consider components of their textual and visual content but also type of social media platform when communicating with consumers.

3 - Owned Social Media Advertising: Brand Purchase and Spillover Effects

Hualu Zheng, University of Connecticut, Storrs, CT, United States, Lu Huang

Spillover occurs if advertising one brand affects the performance of another brand. This study examines the spillover effects of TV and owned social media (OSM) advertising in the U.S. soft drink industry. OSM refers to firm-owned brand pages on networking sites such as Facebook. Using a random coefficients logit model, we investigate within a brand portfolio, 1) how one brand's OSM advertising spills over to other brands, 2) how OSM advertising spillover differs from the spillover in TV advertising, and 3) how OSM and TV advertising jointly influence consumer purchase. Companies often manage individual brand pages in their OSM to yield optimal marketing outcomes for their entire brand portfolio. Therefore, the knowledge of how spillover operates among one company's brand pages is of great interest to brand managers in maximizing the profit of the brand family. Our results suggest that advertising one brand on TV increases sales of other brands in the family, while one brand's OSM advertising restrains other brands' demand. The negative spillover of OSM may limit the overall effectiveness of OSM advertising on the sales of the entire portfolio, whereas, due to the positive spillover, the combined effects of TV advertising may exceed the sum of the effects of individual brands' TV advertising. We also find that combining TV and OSM advertising leads to nonlinear effects on brand purchase. This study provides important managerial implications to marketers on setting budgets toward TV and OSM advertising, allocating OSM resources within a brand portfolio, and developing OSM competition strategies.

4 - Are Online Public Shamers Vicious or Caring? How Moral Considerations Shape Participation in Online Public Shaming

Chen Pundak, Tel Aviv University, Tel Aviv, Israel, Yael Steinhart, Jacob Goldenberg

Public shaming is defined as informally punishing individuals who have deviated socially, by informing the public about their conduct in a manner that expresses disapproval. While public shaming has long been a tool of justice and education, its embrace by the digital world enable users to easily and effectively spread information about the misconduct on each person or organization. But what causes people to participate in online public shaming campaigns against alleged wrongdoers? Such decisions may create an ethical dilemma because of its dual outcome: Online shaming campaign may encourage wrongdoers to amend their behavior, as well as encourage other people who were exposed to the shaming post to avoid engaging in similar actions. Thus, by participating in online shaming, an individual might contribute to the prevention of future offenses (such as sexual harassment or discriminatory customer service). Yet, these positive consequences may be accompanied by negative ones for the wrongdoer being shamed. In particular, public shaming may violate the wrongdoer's privacy and dignity, through exposure of personal details. A preliminary study confirmed the assumption that users acknowledge both positive (preventing similar cases and educating others) and negative (causing harm to the wrongdoer) sides of sharing shaming information. It further showed that users' evaluations of these consequences vary according to the level of wrongdoer identifiability. We suggest an individual's moral compass, the drive to distinguish right from wrong, shapes the participation decision - in which campaign to participate. Four studies show that individuals with a strong moral compass are more likely participate in online public shaming campaigns than those with a weak moral compass, but only when the wrongdoer's identifiability is low. Notably, the effect is attenuated when multiple individuals are targeted for shaming, rather than a single wrongdoer.

5 - The Impact of Social Media Usage on Productivity and Well-being: Evidence from a Randomized Controlled Trial

Felix Eggers, University of Groningen, Groningen, Netherlands, Avinash Collis

Recent research has shown that social media services, e.g., Facebook, Instagram, or Snapchat, create large consumer surplus. Despite their positive impact on (economic) welfare, researchers increasingly raise concerns about negative externalities associated with social media usage such as addiction, loss in productivity, fear of missing out, and depression. However, causal empirical evidence is still scarce. To address this research gap, we conduct a randomized controlled trial among students of a large European university in which we track participants' digital activities with a dedicated software. The software continuously measures how much time these students spend on various programs, apps, and websites. We conduct the experiment over the course of three terms (quarters) of an academic year. The first term serves as a calibration phase to obtain a baseline. In the second term we randomly allocate half of the sample to a condition in which social media usage is limited to a maximum of 10 minutes per day via the software. The third term serves to observe post-treatment effects, for example, if students in the treatment group continue to use social media less. After each term we measure participants' well-being and academic performance. Social networks receive a major part of all digital advertising spending. Understanding better how consumers use these services and are affected by them is therefore not only of academic and societal but also managerial interest.

■ TC10

Aula 10

Machine Learning 3

Contributed Session

Chair: Christian Colot, Universite de Namur, Namur, Belgium

1 - The Effect of Store Flyer Characteristics on Sales: A Big Data-based Approach

Cristian Rizzo, University of Salento, Lecce, Italy, Alessandro Maria Peluso, Fabrizio Durante, Gianluigi Guido

Store flyers represent a widespread means through which retailers communicate their offerings. However, the understanding of the characteristics of a flyer that contribute to its effectiveness is limited, particularly at a brand level. Grounded on Big-data methods, we propose a new analytical procedure for the analyses of store flyers that is useful when the number of characteristics (d) exceeds the number of sampled flyers (n). The procedure unfolds in three steps: (1) a LASSO regression, which allows shrinking the number of flyer characteristics to a more approachable set of variables; (2) best subset selection, which identifies the best possible combinations of those variables; and (3) regression analyses, which estimate the effects of the resulting variables on sales. The procedure accounted for more than 70% of variability in the focal brand's sales, thus attesting its superiority over traditional methods applied in previous studies. We also validate these findings by comparing our results with those obtained with forward and backward regressions, two widely applied statistical methods typically used to analyze data with a large number of predictors. This research has a two-fold contribution. On the theoretical and managerial side, it is the first study to examine the effects of a wide range of flyer characteristics on a single brand's sales. This has implications for both manufacturers and retailers interested designing and composing flyers able to maximize brand/store sales. On the methodological side, the proposed procedure allows the simultaneous analysis of substantially larger sets of flyer characteristics without incurring in overfitting.

2 - Who complains about what? Variational Autoencoders and Infinite Edge Partition Models for Text Modeling

Hyunsang Son, The University of Texas at Austin, Austin, TX, United States, Mark Yi-Cheon Yim

Service firms spend enormous resources to alleviate customers complains by providing a variety of types of compensation. However, managers may overlook many features that might influence a customers' reaction to a firm's response to such complaints. In this study, we tested several different text modeling methods, including Latent Dirichlet Allocation (LDA) and Variational Autoencoders (VAE), with appropriate decoders, such as Long Short-term memory (LSTM), which is better on generative text modeling, to analyze more than 300,000 customer-complaint text data in the finical service sector conditioned on sentiment level. As a starting point, we modeled several features, including topics of the complaints, the types of compensation that the company provided, response time, product type, and issues to predict whether customers were disputed about firms' offer or not. By simultaneously modeling several features, this research provides an in-depth knowledge for customer-relationship management literature.

3 - Structuring Deep-Learning-Model by Applying Consumer-Information-Processing Theories

Akihiro Inoue, Professor, Keio University, Yokohama-City, Japan, Keiichiro Asaoka

Deep Learning Model (DLM) becomes popular in marketing academia and practices. However, one criticism about DLM is the lack of the structure, that in turn leads to the difficulty in interpretation. In this research, we applied the two theories of consumer information processing, that is, the Elaboration Likelihood Model (ELM) and the compensatory heuristics. We collected the car data from a product-comparison site in Japan. We developed the two datasets, that is, one for peripheral processing and the other of central processing. Based on the ELM, the peripheral processing data contains peripheral attributes, such as image and review by others. The central processing data contains central attributes, such as power, size, cost, and comfortability. Then, we developed the two DLMs, that is, the peripheral processing DLM and the central processing DLM. As to the peripheral processing DLM where we assume the information processing is narrow and shallow, we developed the two-hidden-layer DLM accompanying convolutional and LSTM algorithms with three-output so as to predict the preference. As to the central processing DLM where we assume the information processing is wide and deep, we developed the six-hidden-layer DLM with five-output so as to predict the preference. We applied the peripheral processing DLM to both peripheral processing data and central processing data, and similarly applied the central processing DLM to the both datasets. We have found the smaller MSE for the application of the peripheral processing DLM to the peripheral processing data than to the central processing data, and similarly smaller MSE for the application of the central processing DLM to central processing data than to the peripheral processing data. Thus, we confirmed the appropriateness of our structuring in DLM. Also, we extended the DLMs so as to represent the compensatory heuristics, using the Lambda layer. We identified a best model for the peripheral processing DLM and a best model for the central processing DLM based upon the MSEs. We show the details in our presentation.

4 - A Deep Learning Approach to Quantify Sequence Similarities of Historical Customer Data

Stefan Vamosi, Research and Teaching Associate, Vienna University of Economics and Business, Vienna, Austria

The digital economy evolves with a growing amount of sequential marketing data including online browsing histories, location-based trajectories or sequential consumption patterns reflected in music or video streams. Marketing analysts aim at utilizing this kind of data to derive behavioral-based segments and for subsequent targeting of users. However, detecting similarities and measuring distances between sequences pose a number of challenging problems. In particular, in the case of excessively high-dimensional data (i.e., if the numbers of alternatives are high) and increasingly long sequences, traditional similarity-based approaches to time series clustering or sequence alignment algorithms have their known weaknesses and limitations. We present a generic solution to the problem of quantifying similarities in a high-dimensional, dynamic feature space based on a deep neural network approach. Our proposed framework combines recurrent neural network architectures, which are well established in the field of natural language processing, with a specific type of error propagation procedure used in image recognition. Every sequence (e.g., of customer actions) applied on the trained model is translated into a high dimensional vector, which summarizes significant properties (e.g., order, context, embedding, appearance) and serves for deriving distances between sequences. Based on the resulting vector space representations, any standard clustering technique can be applied to segment customers. We demonstrate the newly developed method using internet browsing behavior data and validate the classification performance by matching randomly drawn sequences to the correct original user. Furthermore, we illustrate that the proposed framework allows to track the evolution of customers through the clustered vector space.

5 - From Calls to Cross-industry Customer Insights: The Value of Network- and Personality-based Metrics

Christian Colot, Universite de Namur, Namur, Belgium, Philippe Baecke, Isabelle Linden

The digital revolution has led to unprecedented opportunities for collaboration between industries. One of these opportunities lies in data sharing. In this context, telecom data in particular can become a valuable data source. This study elaborates on a framework that includes different types of features that can be extracted from telecom data. More specifically, telecom data offer the opportunity to create not only network-related variables, but also variables about the mobile behaviour of the user that could be relevant proxies for the consumer's personality. Using data from two European telecom companies, we show the value of telecom data for improving the prospect selection processes of 36 businesses. We found that Personality Proxy variables are useful to support smaller niche businesses. For these businesses these variables are predominant and easy to operationalise. Alternatively, network analysis-based variables have the potential to be more beneficial to large companies since the value of network analysis continuously increase with the number of third-party business clients identified. However, to capture this value, companies should make strategic investments as these variables require a closer collaboration, not only with the telecom company, but also with the customer to comply with new data protection regulations.

■ TC11

Aula 11

CRM 3

Contributed Session

Chair: Evert de Haan, University of Groningen, Groningen, 9747AE, Netherlands

1 - Satisfaction Surveys or Online Sentiment: Which One Best Predicts Firm Performance?

Evert de Haan, Goethe University Frankfurt, Frankfurt, Germany

From research in the last couple of decades we know that customer satisfaction is an important driver and predictor of future firm performance. Collecting survey data, like customer satisfaction, provides the advantage of having control over aspects such as what and when to measure, the time interval between measurements, and the amount of observations, while it also provides possibilities to improve representativeness of the sample. Nowadays it becomes also easier to collect customer opinions without the use of surveys, e.g. by listening and collecting data on electronic word-of-mouth (eWOM). This data has the advantage over surveys that it is free to collect, it are actual outspoken opinions, and the potential insights which can be extracted are not restricted by the design of the survey. On the other hand the researcher has no control over the amount of data, about what the consumers provide insights, and the consumers that engage in eWOM might be far from representative. In this study we investigate how traditional customer satisfaction performs compared to eWOM in predicting current and future firm performance. For this we have customer satisfaction data from the American Customer Satisfaction Index, eWOM sentiment data by scrapping and analyzing over 8.5 million firm specific Tweets, and financial performance data from 46 firms across 8 years. We find, in line with earlier studies, that customer satisfaction is a good predictor of a firm's future performance. Online sentiment is however a good alternative, and depending on the outcome variable of interest can even outperform customer satisfaction. Combining both customer satisfaction as well as online sentiment does however yield the best predictions of future firm performance. We therefore recommend firms and other stakeholders to monitor both data sources to track the status of the customer base and the firm's image, given each data source provides incremental value.

2 - The Moderating Role of Customer Centricity on the Dysfunctional Effect of Mergers and Acquisition on Customer Satisfaction

S. Cem Bahadir, University of North Carolina at Greensboro, Greensboro, NC, United States, Nita Umashankar, Sundar G. Bharadwaj

Merger and Acquisition (M&A) activity is booming and shows no sign of slowing down. This is despite the fact that many M&As underperform. Past work has attributed the poor performance of M&As to a myriad of financial and integration issues. Despite customers being directly impacted by a multitude of post-M&A changes, little is known how customers react to a newly merged entity? Anecdotal evidence and findings from the literature conflict in terms of whether such corporate transformations please or displease customers. The authors use a difference-in-difference analysis of M&As spanning dozens of industries to find that M&As activity decreases customer satisfaction (an important driver of firm value). This is concerning given that a principal motivation for M&As is customer growth, and yet M&A activity might be triggering the exact opposite by causing customer attrition due to dissatisfaction. Still, some firms fare better than others at dissatisfying customers less. The authors show that acquirers that are customer-centric (i.e., those that emphasize marketing activities and customer service and are structured around customers (vs. products)) are less susceptible to a decline in satisfaction. Overall, the findings of this work have direct implications for senior executives considering M&As and M&A-integration consultants.

3 - Customer and Employee Satisfaction Effects on Cross-buying

Albert Valenti, Assistant Professor, IESE Business School, Barcelona, Spain, Gokhan Yildirim, Shuba Srinivasan

In the retail industry, where customers interact with employees during the purchase process, the satisfaction of both stakeholders plays an important role in determining customer spending. The service-profit chain framework states that employee satisfaction (ES) influences customer spending through customer satisfaction (CS), leading one to expect that CS and ES do not have simultaneous effects on customer spending. We jointly model the effects of CS and ES on cross-buying probability, controlling for customer heterogeneity and time effects, and accounting for nonlinearity and asymmetries. Moreover, we examine whether the effects of CS and ES on cross-buying are non-monotonic. We employ panel datasets on transactions and satisfaction at individual customer level and employee satisfaction at store level of a leading car rental company. Our results show that CS and ES have simultaneous effects on cross-buying. However, the relationship is concave non-monotonic. For low satisfaction levels, an increase in satisfaction leads to higher cross-buying; while for high satisfaction, an increase leads to lower cross-buying.

4 - Factors of Satisfaction to Use Sharing Economy Service

Da Yeon Kim, PhD Student, Korea University, Seoul, Korea, Republic of, Sang Yong Kim

The sharing economy, which is an economic model defined as a peer-to-peer (P2P) based activity to share goods or services is growing so quickly in light of the expansion of the Internet. In particular, the development of the Internet platform has helped to increase the size of sharing economy market by reducing the transaction cost between the peer and the peer and enhancing the convenience of the transaction. This system (i.e., sharing economy) has allowed people may use resources instead of owning. In the sharing economy environment, the consumer pays for assets or services by consumption rather than own assets permanently. For this reason, transactions in the sharing economy market have characteristics that are distinctly different from transactions in a traditional market where consumption means acquiring ownership. In our paper, we explore, via a quantitative model, why a customer might be satisfied after using the sharing economy service. In order to find the factors of customer satisfaction, we consider the characteristics of sharing economy market. Also, we use not only structured data (e.g., price, quality, etc.) but unstructured data, which is a customer-generated review after using the service. Our findings and modeling efforts should be of interest to p2p service platform practitioners, service providers, and scholars interested in the transaction in sharing economy industries.

5 - Customer Satisfaction Underappreciation

Ming-Hui Huang, Distinguished Professor, National Taiwan University, Taipei, Taiwan, Michael Trusov

Customer satisfaction contributes to firm financial performance, but does it contribute to top executives' pay? Our empirical evidence shows that it may not be the case. Customer-satisfying executives tend to have lower pay than their productive peers, even if both satisfaction and productivity strategies contribute to firm financial performance. Thus, customer satisfaction is underappreciated, which may result in both less societal welfare and also worse company performance. We propose a board myopia mechanism to account for this phenomenon. In facing short-term financial performance pressure from investors and the asymmetric information availability between accounting-based and market-based assets for compensation decisions, the board of directors may be myopic, underappreciating executives who invest in market-based assets such as customer satisfaction that drive long-term returns. We examine this satisfaction underappreciation phenomenon empirically using 23 years of panel data that detail firm productivity, customer satisfaction, firm financial performance, and executive compensation. The longitudinal data are analyzed using fixed-effect panel models and a simultaneous system of panel vector autoregression equations augmented with interactions to assess the direct effect of firm financial performance and its carryover effect to executive compensation across executives who are productive, customer-satisfying, or both. The results confirm that customer-satisfying executives are underappreciated: being productive is financially rewarding for both firms and executives, while being customer-satisfying is financially rewarding for firms but not as much for executives. We further demonstrate that using total shareholder returns to benchmark firm financial performance and reward executives with a higher proportion of stock compensation can encourage a long-term focus that alleviates this customer underappreciation.

■ TC12

Aula 12

Innovation 3

Contributed Session

Chair: Wanxin Wang, Park House, London, SW5 9BL, United Kingdom

1 - Exploring Review Topics on Airbnb and Their Impact on Listing Performance

Jurui Zhang, University of Massachusetts-Boston, Boston, MA, United States

This study explores reviews on Airbnb and examines the effects of review topics on Airbnb listing performance. We use over 2 million reviews from more than 60,000 listings posted on the Airbnb platform in U.S. market. Using the latent Dirichlet allocation method, we identify key topics of consumer reviews on Airbnb. Then we show that certain review topics can affect a listing's performance on Airbnb. These findings have implications for Airbnb hosts and the sharing economy.

2 - Idea Rejection in Innovation Contests

Mario Schaarschmidt, University of Koblenz-Landau, Koblenz, Germany, Gianfranco Walsh

Idea contests are a well accepted and cost-efficient approach to tap the creativity of users that complement own research and development activities. Especially firms that provide consumer-focused products and services that do not require substantial technical development are prone to use idea contests. However, although much research has been devoted to the factors that motivate consumers to participate in such contests, research that investigates how consumers react in case their idea was not accepted is comparatively rare. This research focuses on idea rejection and investigates customer voice such as positive word of mouth, negative word of mouth, and silent endurance as potentially affected outcomes. Across three experimental studies the authors show how rejected ideas may cause negative emotions and customer voice. Study 1 utilizes a 2x2 between-subject design to assess face threat and jury vote vs. community vote. Data from 202 MTurk workers were used. Study 2 investigates long term effects by assessing customer voice directly after being rejected and two weeks later. In round 1, 315 crowdworkers participated in the idea contest to design a chocolate bar. Two weeks later, 87 of them answered again. Study 3, a field study with a local burger place and real customers, used two forms of blame attribution as independent variables. All in all, emotions caused by being rejected seem to not last long. Negative word of mouth is more strongly affected than positive word of mouth. Silent endurance seems not to be affected by idea rejection in all of the three studies. The results are valuable for designing future idea contests, especially for small and medium sized merchants.

3 - The Moderating Role of Influencer Effect on Product Innovation Adoption

Beatrice Orlando, Sapienza University of Rome, via del Castro Laurenziano 9, Rome, Italy, Alessandro De Nisco, Veronica Scuotto, Manlio Del Giudice

This paper presents a behavioural-based model for product innovation adoption. Prior studies on the role of influencer on social media poorly explain how such a presence affects behaviours and the intention to adopt or purchase a new product. In particular, there are no evidences on what biases occur at either individual or collective level and how they interplay with perceptions. Nonetheless, this information has a critical value to explain how information on social media are processed by individuals and how it impacts herd behaviours. Building upon theories on information cascades a, current contribution analyses how individual perceptions and intention to purchase a novel product are influenced by various types of stimuli on social media. Thus, we extend the theory by assuming that bandwagon factors moderate the negative effect of the psychology of sunk costs by affecting individual perceptions and the intention to adopt/purchase an innovation. A survey was conducted to test model's hypotheses on a sample of 150 international students enrolled at the business management master course in an Italian university. The survey was based on a semi-experimental protocol: questions were shaped using the technique of decision gambles. This technique is commonly used to measure individual preferences under uncertainty. ANOVA and multiple regressions were used to test statistic moderation. Results of the analysis provide evidence that the presence of influencers might impact product innovation adoptions indeed, by altering individual perceptions. The bandwagon effect contrasts the psychology of sunk costs. This way, it vicariously influences the formation of the purchase intention. We discover a novel effect, for what individuals in digital environments tend to assume the goodness of the information conveyed by the influencer, without controlling its accuracy at all, and not even the identity or the expertise of the influencer. We name this effect the influencer bias. Beyond the managerial relevance of the work, it may also help to explain current phenomenon, such as the diffusion of fake news.

4 - It's too Late to be Authentic: the Interplay Between Temporal Distance and Authenticity in Crowdfunding Pitches

Wanxin Wang, Imperial College London, London, United Kingdom, Ammara Mahmood

Entrepreneurs devote considerable time and effort to their crowdfunding pitches. In this study we examine the impact of pitch framing on the outcome of crowdfunding campaigns and their subsequent commercialization. Building on construal level theory we contend that temporal distance plays a role in venture evaluation whereby at the venture funding stage investors may prefer abstract campaigns while at the commercialization stage concrete framing is preferred. We use text mining to determine the temporal focus of 456 pitches obtained from a leading equity crowdfunding platform. Our analysis reveals that pitches with high present-focused framing tend to have poor funding outcomes compared to pitches that have low present-focused framing. However, authenticity moderates this effect as high pitch authenticity dilutes such a negative impact. In contrast, at the commercialization stage, pitches with a concrete framing but low level of authenticity achieve greater profitability. Further analysis of ventures seeking multiple funding rounds shows that campaigns that are in higher rounds of funding (low temporal distance to commercialization) tend to achieve better funding outcomes when authenticity is emphasized, however, stressing on authenticity at later stages results in poor funding performance. Insights on underlying mechanisms are provided through a series of experiments. This study contributes to the research on crowdfunding by highlighting the importance of construal for investors, hence providing actionable insights for entrepreneurs seeking funding for ventures on crowdfunding platforms.

■ TC13

Aula 14

Branding 3

Contributed Session

Chair: Sherif Nasser, Cornell University, Ithaca, NY, 14853, United States

1 - Historical Memory and Brand Preference

Zemin (Zachary) Zhong, University of Toronto, Toronto, ON, Canada, Nan Chen

We study how historical memory of war affects current brand preference in the context of the Chinese automotive market. Our research design exploits two natural experiments: (i) the Imperial Japanese Army's Continent Cross-Through Operation in China in 1944 and (ii) the China-Japan sovereignty conflict over an island in 2012. We find that after the conflict, sales of Japanese cars dropped 8.5% more in invaded counties than in their neighboring non-invaded counties, despite having similar pre-trends. The effect persists for more than 24 months. We find strong evidence that consumers in invaded counties substitute more towards domestic cars than consumers in non-invaded counties. This invasion-driven substitution is stronger for more expensive and larger cars. Finally, we test that protests, ethnic identify, or patriotic education cannot explain the results.

2 - The Unintended Consequence of Tariff Retaliation: Evidence from the Chinese Automobile Industry

Yanlai Chu, Renmin University of China, Beijing, China, Junhong Chu

This article is to examine the effect of China's retaliatory tariff on US imports in the context of the Chinese automobile industry. Globalization may complicate the impact of a tariff change. Based on detailed sales data of automobiles in China, we find that: 1) for the imported automobiles, consumers buy more US brands compared with others, given similar price trajectory; 2) for domestically produced automobiles, consumers buy fewer US-brands and switch to other foreign brands, given no price change. In sum, the US brands suffer a loss in sales at the cost of the Chinese automobile industry. The findings advocate free trade and suggest a novel perspective to assess tariff change—an effect beyond price could hurt one country's domestic industry.

3 - Brand Awards and the Market Value of Chinese Firms

Min Zhang, Tianjin University, Tianjin, China, Jingjing Lyu, Qingmei Tan

The promotion of brand value is a crucial part in marketing. We choose winning brand awards as a proxy to enhance the brand value of firms. Thus, this study can provide a rational reference whether firms should participate in brand competitions for marketing. Based on the announcements about winner lists of Chinese brand awards from 2013 to 2017 with the use of event study, we obtain the significantly negative abnormal stock returns during the period of brand awards announcements dates. Adopting the market model to examine the excess abnormal returns, the cumulative abnormal return is -1.14% during the five day period (the day before the award announcement day to three days after that day). To investigate driving factors that may affect abnormal returns, we add some firm characteristics (e.g., competitive ability, industry type, location of registration) in the regression model. It shows that the firms located in the eastern region have stronger negative market reaction. Our study contributes to both research and practice. Although some studies have proved the positive effect of brands on firm value with the empirical research, our results based on event study show negative stock market response in short term following the brand awards announcements. As many famous brands have experienced crisis events, firms that maintain brand image by winning brand awards cannot regain the trust of investors. It is our hope that our finding could help brand managers recognize that just under some situations the brand competition for marketing may be beneficial for firm value enhancement.

4 - Branding Vertically Differentiated Products: Branded House or House of Brands?

Sherif Nasser, Cornell University, Ithaca, NY, United States, Thomas Junbauer

The decisions whether a multi-product firm markets its goods under a joint or a separate branding regime and how to price optimally in either scenario are essential for the firm's profits and long term success. Prior research on branding has primarily focused on how jointly branding products in different categories (i.e, brand extensions) can create or destroy value by means of spillover effects such as economies of scope, informational asymmetries, brand enhancement respectively brand dilution or risk. Building on these effects, we study the problem of a firm selling a line of vertically differentiated products that faces the decision whether to sell its products under a joint or separate brands. This allows us to focus on optimal branding and pricing decisions as a function of industry and product line characteristics such as spillover effects, minimal output levels that generate spillover, the tradeoff between the products, the presence of competition, and branding costs. Our findings suggest that firms opt to brand jointly for either of two dichotomous and mutually exclusive reasons. Under small brand spillover effects, firms may choose a single brand to forego the cost of erecting a second one. In contrast, with substantial brand spillover effects, the firm chooses to forego profits of its premium product to market its enhanced lower-tier alternative as a mass market product even if erecting a second brand is free. We find that firms are more likely to jointly brand in the presence of competition as joint branding acts as a buffer endowing firms with additional power to differentiate from their rivals. In some of these scenarios firms may optimally choose to operate a halo product at a loss to boost consumption of its lower-tier product. Finally, our results provide a justification for the presence of hybrid branding approaches.

■ TC14

Aula 15

Advertising 2

Contributed Session

Chair: Ulun Akturan, Galatasaray University, Istanbul, Turkey

1 - The Long-term Financial Impact of Political and Consumer Boycotts

Nima Jalali, University of North Carolina-Charlotte, Charlotte, NC, United States, Seyedreza Mousavi, Jennifer Ames Stuart, Charles Bodkin

Boycott of different types became increasingly frequent over the past few years. Consumers can share their voice to firm's actions through social media and call for boycotts almost instantaneously. These reactions on social media lead to many consumer and political boycott instances. While the literature has studied the immediate role of boycotts on firms' financial performance, little is known about the long-term impact of such boycotts. Hence, we aim to extend this literature by studying the long-term impact of consumer boycotts. Specifically, by considering a few recent consumer and political instances, and by employing the synthetic control approach, we construct a synthetic control for the boycotted firms prior to the boycott event, and investigate the gap between the stock price of the focal firm and its synthetic control. Our results suggest that the impact of social media inspired boycotts might be longer than previously known. We also examine the validity of our findings through a variety of robustness checks.

2 - Collective Layoffs and Marketing Effectiveness: The Effect of Collective Layoff Announcements on Advertising and Price Elasticities

Vardit Landsman, Eramus University and Tel-Aviv University, Rotterdam, Netherlands

Collective layoffs frequently occur in Western economies. This paper examines to what extent collective layoffs affect marketing mix responsiveness to advertising and pricing. It also examines whether two layoff characteristics moderate such effects: the motive the firm provides for the layoffs, and brand identity (domestic or foreign). We econometrically analyze 205 collective layoff announcements from the automotive industry between 2000 and 2015. We find that advertising elasticity decreases following layoff announcements. Price sensitivity increases yet only following layoff announcements with specific characteristics. Layoff characteristics moderate the effect of layoff announcements on both advertising and price elasticity. We find that layoff firms spend less on advertising in the year following a layoff announcement than they would absent the announcement and that sales of layoff brands in that year are, on average, 11% lower than their predicted level absent the announcement. These findings are relevant to marketing managers of firms undergoing collective layoffs and to analysts of collective layoff decisions.

3 - Does Country-of-Origin Marketing Matter?

Xinyao Kong, The University of Chicago Booth School of Business, Chicago, IL, United States, Anita Rao

Firms often display product information on their front-of-package labels even when such disclosure is not legally required, with some firms go as far as making deceptive claims. This paper takes "Made-in-USA" claims as an example and studies the impact of country-of-origin information on consumer demand. First, we leverage the Federal Trade Commission's investigation on and manufacturer's subsequent removal of deceptive "Made-in-USA" claims of four brands for exogenous variations in country-of-origin claims. Using a panel dataset of household purchases and store sales, we measure the impact of "Made-in-USA" claims removal on consumer demand. Next, we conduct field experiments on eBay over a three-month period, where we vary whether a product is advertised as "Made-in-USA" or not. These experiments enable us to recover consumer's willingness to pay for the country-of-origin feature. The experiments alongside with observational data allow us to rationalize firms' incentives in making country-of-origin disclosures.

4 - Does Ad Content Affect Self-brand Connection in Tight Cultures?

Ulun Akturan, Professor, Galatasaray University, Istanbul, Turkey

Self-brand connection refers to "the extent to which a consumer has incorporated a brand into his or her self-concept" (Escalas and Bettman, 2003 p. 339). Consumers use brands as a tool to create and represent their self-images in order to achieve their identity goals. Strong self-brand connection indicates high levels of attachment to the brand. While there is a weak self-brand connection, consumers are less likely to feel attached to the brand since they do not see the brand as a mirror image of themselves. The aim of this research is to explore how self-brand connection is affected by ad content in tight cultures. Cultural tightness and looseness was first conceptualized during 1960s (Pelto, 1968), and developed theoretically since then. Tight cultures are more homogeneous as a result of more explicit and enforced norms. On the other hand, loose cultures are more heterogeneous and more tolerant of the deviant behavior. In tight cultures, individuals do not "solely monitor their own behavior but also pay increased attention to others' actions", and they have no or little tolerance for deviant behavior. Therefore, in this study it was assumed that consumers in tighter cultures would develop a negative attitude not only towards ads with deviant behavior but also to the brands, which airs that kind of ad content. This study is executed in a tight culture, Turkey. Two studies were conducted, one was including a high image brand and the other one was including a low image brand. The non-student sample was employed, and within-subjects factorial design was used in both of the studies. Deviancy was manipulated by using a heterosexual couple vs. gay couple. Surprisingly, it was found that self-brand connection for low image brands is negatively affected by an ad including a deviant behavior while there is not a significant impact for high image brand. One possible explanation may be that, for high image brand, self-brand connection depends upon not only the ad content but also some other factors. While, for the low image brand, the self-brand connection can be easily damaged by ad content.

■ TC15

Aula 16

Channels 3

Contributed Session

Chair: Zhe Lin, National University of Singapore, Singapore, 117592, Singapore

1 - Category Expansion through Cross-Channel Demand Spillovers

Umut A. Guler, Koc University, Istanbul, Turkey, A. Yesim Orhun

Do branded retail stores help to promote the relevant product category as a whole? Based on the expansion of the Starbucks chain in US counties, this study documents such a demand spillover across-channels and across-firms, with the firm's branded stores positively affecting the sales of same-category products (i.e. ground coffee) in grocery retail channels. To establish the causality of our results, we use panel data and instrumental variables methods that exploit a supply-side factor in store expansion, i.e., its facilitation by the chain's presence in neighbor counties. We find that, on average, the presence of a Starbucks store stimulates a 1.64% increase in the county-level dollar sales of other-brand ground coffee products. For own (Starbucks) brand products which face a more direct business stealing effect from the company stores, there is no positive effect in the net. Likewise, there is no net positive spillover on medium- and higher-price other-brand products, with the effect essentially deriving from an increase in the sales of lower-priced items that are not direct substitutes to Starbucks. We explore potential mechanisms of this effect (taste cultivation, caffeine addiction, (pure) billboard effect, habit formation) and provide evidence consistent with habit formation.

2 - Different Interpretations of Expiration Date between Mobile and Online channel in Time Commerce

Min-Sung Kim, Yonsei University, South Korea, Seoul, Korea, Republic of, Kang Joon Choi, Jae Young Lee, Keunwoo Kim

Time commerce is a specialized retailer that sells discounted price of products as expiration date approaches. As it is growing in a wide range of products including food, hotels, and airline tickets, a deeper understanding of expiration date is essential. The purpose of this research is to confirm that interpretation of expiration date differs between purchasing on mobile and online channels. When consumers buy products in time commerce, they make tradeoffs between urgency and importance. They feel the urgency that they will not be able to buy products at a discounted price, and they have pressure to use the product immediately before the expiration date. At the same time, consumers are worried about importance because they think the quality of the product is falling as expiration date approaches. Based on mere urgency effect, this study predicts that unlike online channels, consumers think more of urgency rather than importance in mobile which leads to irrational behavior in purchasing more expiration date imminent products. This misleading information tendency can be explained by the fact that search cost is high, and the behavior is somewhat impulsive in mobile purchase according to previous studies. In the empirical analysis, a research model was defined using data collected from an anonymous time commerce, where the expiration date information is the core attribute of the product. Estimation results from seemingly unrelated IV regression model show that consumers are more likely to purchase products as expiration date approaches on mobile while they seem to be rational in online purchases. Additional analysis to show that this tendency came from channel differences rather than individual propensity has been consistent. Results reveal that differences in channel characteristics (i.e., mobile and online) have led to different interpretations of the expiration date. This study also provides a theoretical basis for understanding this and gives time commerce managerial implications for an effective marketing strategy in mobile and online channels as expiration date approaches.

3 - Online Shopping: Do Offline Stores Still Matter?

Christian F. Hirche, PhD Candidate, University of Groningen, Groningen, Netherlands, Tammo H. Bijmolt, Maarten Gijsenberg

Online shopping continues to grow in popularity, entailing growth in product purchases, but also in product returns. At the same time, offline stores remain present and might exert an influence on customers' online purchase and return behavior. To optimize profitability and allocate resources adequately, managers need to know whether and how offline stores influence customers online. In order to test the influence of offline stores on online shopping behavior of customers, we use data from a large Dutch shoe retailer and a database of the shoe retailer's store locations. We use a spatial model to estimate the influence of proximate retail stores on customer behavior, while controlling for spatial and customer heterogeneity. We decompose overall online shopping behavior into number of shopping trips and number of purchased and returned products per shopping trip. For the latter, we distinguish between products of different price levels, discounted versus undiscounted, and uni-size versus multi-size products. The results show that the retailer's offline stores do decrease the number of returned products per shopping trip. Whether or not product returns are decreased depends on product characteristics: returns of higher risk products (i.e. higher price, multi-size or undiscounted) are decreased whereas returns of lower risk products (i.e. lower price, uni-size or discounted) are not affected. In addition, the retailer's offline stores do not influence product purchases. As a consequence, the online channel profits from offline stores as return costs are reduced without product purchases being cannibalized. Our study shows that it is crucial to consider the advantageous role of offline stores when investigating online purchase and post-purchase behavior and take between-product variation into account.

4 - Deep-learning the Crowd's Sentiment

Hannah H. Chang, Associate Professor of Marketing, Singapore Management University-Singapore, Singapore, Anirban Mukherjee, Ping Xiao, Noshir Contractor

What is the value of the online community's ("the crowd") evaluation of an early-stage (raw) idea for a new product? We examine whether the evaluation of an early-stage new product idea by the online community is diagnostic of consumers' purchasing the product. We study this question in the context of crowdsourcing—an emerging form of new product development in which a firm sources raw, early-stage new product ideas from the crowd. To assess the commercial potential of crowdsourced ideas, the firm ask the crowd (who are also its potential consumers) to evaluate each idea and indicate their intention to purchase a product based on the idea. We collect and examine a novel, large-scale dataset of all evaluations (scores and stated purchase intentions) of early-stage product ideas and actual purchases for all new products introduced by iconic crowdsourcing portal, Threadless.com, between 2003 and 2010. In total, our data consist of 2,589,655 evaluations from 257,319 users, and 3,057,468 purchases from 335,249 distinct users of products based on 1,843 product ideas. Our results strongly indicate that the composition of a crowd's evaluation, its sentiment, is more diagnostic than its mere volume. Theoretical and managerial implications are discussed.

5 - Can Offline Stores Impact Online Product Returns? Evidence from an Apparel Company

Zhe Lin, National University of Singapore, Singapore, Junhong Chu, Yi Xiang

With the rapid development of e-commerce platform, many companies now can directly sell their products to consumers both online and offline. Although the online channel provides consumers with broad access and convenient flexibility, it increases the possibility of inaccurate evaluation of online products, especially for "touch and feel" type of goods such as apparel products. In this paper, we try to investigate the impact of offline stores on online product returns. Based on the unique dataset from one large apparel company from China, we empirically examine the impact of offline stores in one region on the local online product return behavior. The dataset contains online and offline transaction data in about three years, during which the company opened many offline stores. Since the apparel company made the decision of opening offline stores solely based on offline sales and profits, we consider this decision as an exogenous shock to online product returns. To get the focal effect, we conduct OLS and difference-in-difference analyses with spatial and temporal fixed effects. The results of our analyses demonstrate that the number of offline stores in one region has a negative effect on the local online product returns. Furthermore, opening new offline stores can significantly decrease the online product-return rate in corresponding local market. Finally, we discuss the implications of our findings for online and offline retailers.

■ TC16

Aula 17

Consumer Behavior 3

Behavioral Track

Chair: Vincent Chi Wong, Lingnan University, Ma On Shan, Hong Kong

1 - How Much Choice is Too Much? A Machine Learning Based Meta-Analysis of Choice Overload

Heng Xu, American University, Washington, DC, United States, Nan Zhang

According to the choice overload hypothesis, while an increasing number of available choices will likely have a positive impact on an individual's decision satisfaction at first, the impact will eventually turn negative when the complexity of choice decisions exceeds the individual's cognitive capacities. In other words, the function between the number of choices and consumer satisfaction follows an inverted-U-shape: as the number of choices increased, satisfaction would increase to the inflection point and then decrease. Although there is ample evidence in support of the choice overload hypothesis, the answer to the question of when excessive choice may impede decision satisfaction remains inconsistent in the literature. In this paper, we identify an important gap in the existing studies of choice overload: the inherent incompatibility between (the common belief of) an inverted-U-shaped choice-satisfaction function and (the universal adoption of) two-group experimental design with only two assortment sizes (small and large). We developed a novel machine-learning based meta-analytic technique called the dual-space gradient descent algorithm and applied the algorithm in a meta-analysis of the same 99 observations analyzed in two latest meta-analyses of choice overload. Our analysis offers a simple explanation for the inconsistent conclusions reported in the literature: the wide discrepancy of existing results is better attributed to how the two-group experimental design amplifies the variation of an inverted U-shaped effect, rather than to the inherent complexity or uncertainty of choice overload itself.

2 - Business Angels' Behavior: Do Policies Designed to Incentivize Investment in Young Technology Startups Really Encourage Investment?

Stav Rosenzweig, Ben-Gurion University of the Negev, Beer Sheva, Israel, Eliran Solodoha, Shai Harel

Governments and policy makers are increasingly aware of the importance of incentives in stimulating innovation. In an attempt to encourage innovation, policy makers frequently design policies to incentivize business angels - wealthy individuals with considerable business experience - to invest their knowledge and money in technology startups. However, there is some controversy regarding the impact of such policies. Some studies report an increase in the number of business angels investing in technology startups but other studies demonstrate a decrease in their number. Building on legitimacy theory, we argue that policy incentives may signal to potential investors that investment in early-stage startups is risky. This signal effectively de-legitimizes these firms and discourages investment. We use a quasi-experiment to examine a policy designed to incentivize business angels to invest in early-stage technology start-ups. The policy was implemented in Israel from 2011 to 2015. Looking at more than 2600 startups, we find that following the implementation of the policy, the number of business angels investing in firms at their early stages decreased compared with (1) the number of business angels investing such firms before the policy was implemented, and (2) the number of business angels investing in startups in their revenue growth stage. We supplement our findings with lab experiments, showing that a tax incentive increases risk perceptions. We contribute to the legitimacy theory literature by revealing a potential compensatory side of de-legitimization - decreasing the legitimacy of early-stage technology firms is likely to increase investment in advanced-stage firms.

3 - Do Products with Reduced Negative Attributes Always Sell? Consumers' Implicit Theory Matters

Vincent Chi Wong, Assistant Professor of Marketing, Lingnan University, Hong Kong, China, Lei Su, Howard Pong-yuen Lam

The current research focuses on how consumers respond to marketing communications conveying reduced negative attributes (e.g., "our mineral water uses 34% less plastic than before")—a specially framed negative attribute that has not been studied in marketing research despite its prevalence in marketing practice. Across five experiments and one field study, the authors found that consumers' responses to such communications depend on their implicit theories of the self. Incremental theorists, who believe traits and abilities are malleable, tend to interpret reduced negativity communications as reflecting a trend of improvement, and as a result have more positive responses; in contrast, entity theorists, who believe that traits are dispositional and fixed, tend to interpret reduced negativity communications based on the undesirable end state of the attribute, and as a result have more negative responses. The authors further found that the proposed effect diminishes when consumers believe it is quite easy to eliminate the negative attribute, or when the negative attribute has extremely harmful consequences. The findings contribute to the understanding of implicit theories, attribute framing, and marketing communication in the novel context of reduced negative attributes. Importantly, the findings have marketing implications for managers concerning when, how, and to whom to communicate such attributes. The authors further developed new marketing communication tools (e.g., advertising copy, spokespersons' quotes) that affect the accessibility of implicit theories, which presents an opportunity for companies to influence consumers' temporary implicit theory orientation and thus to strategically manage their perceptions of products that make reduced negativity claims.

■ TC17

Aula 18

Green Marketing

Behavioral Track

Chair: Yuanyuan Zhou, University of Strathclyde, Glasgow, G4 0QU, United Kingdom

1 - The Shape of Water and Other Liquid Assets: The Influence of Ecologically-designed Packaging on Brand Valuations

Vera Herédia-Colaço, UCP - Católica Lisbon School of Business and Economics, Lisbon, Portugal

Single-use plastic packaging is one of the most pervasive trends of the last century and is affecting the sustainable development of societies and the environment in general. Yet, bottled water consumption has been transformed into a global and profitable business industry with sales growing one hundred times since 1980. In spite that past research has looked into how different packaging encourages food consumption behaviors (e.g., healthy eating), it has not systematically examined how branded package design encourages more sustainable behaviors. Across a pilot and an experimental design study, the authors examine the effect of ecologically-designed versus single-use plastic packaging for low versus high familiar brands. Findings suggest that ecologically-designed bottles have a greater impact than single-use plastic bottles on consumer's valuations for low familiar brands. Consumers show to be motivated by "a novelty leads to higher processing" effect, when they visually inspect novel branded packaging. Interestingly, results from a moderated-mediation model show that package design plays a significant role on brand valuations via consumers' ethicality perceptions for high familiar brands. These results suggest that novel package design may be especially relevant for low familiar brands whose strategic goals are to motivate consumer brand awareness. Nevertheless, increases in brand familiarity lead to brand valuations of distinct nature, namely to consumers' ethicality perceptions of a brand.

2 - Natural Environmental Factors' Impacts on Consumer Behavior

Jia Li, Wake Forest University, Winsto-Salem, NC, United States, Weixin Liu, Yitong Wang

This paper examines to what extent, if any, natural environmental factors affect consumer purchase decisions. We collect and combine several unique datasets to study the impact of air pollution on consumers' price sensitivity, product assortment choice, color selection, etc. In our data, a city's air quality varies substantially on the daily base, which allows us to identify the impact of air quality on consumer purchase choices. In addition, some dirty days are visual (e.g., when PM2.5 is the major contributor to the air pollution) while others are not (e.g., when O3 is the major contributor to the air pollution), which allow us to suggest the potential mechanism that air pollution affects consumer purchase decisions. This study links the macro environmental factor to micro marketing factors such as product assortment, promotion, and advertising, and have important implications to both marketers and policy makers.

3 - Holding a Fixed (vs. Growth) Mind-set Undermines Responsibility: How Implicit Theories Influence Consumers' Green Consumption

Sohyun Bae, Hong Kong Baptist University, Hong Kong, JianXiong Huang

Although previous research has shown that not all consumers are willing to purchase environmentally friendly products, limited research has identified which consumers are less likely to purchase those products and why. In this research, we partly fill that gap by demonstrating how implicit theories influence consumers' green consumption. Implicit theories refer to two distinct assumptions about the malleability of personal traits. Whereas entity theorists regard personal traits as fixed and thus believe that individuals, no matter their efforts, cannot improve themselves, incremental theorists view personal traits as flexible and thus believe that individuals can indeed improve themselves. Accordingly, we predict that entity theorists, in believing that they cannot solve environmental problems through their own direct efforts, are less concerned about those problems and perceive minimal personal responsibility for solving them. By contrast, incremental theorists, in believing that they can solve environmental problems by way of effort, are more concerned about those problems and perceive greater personal responsibility for preserving and improving the natural environment. By extension, we predict that entity theorists, conceiving themselves as minimally responsible for reducing environmental problems, participate in green consumption (e.g., intention to purchase green products) less than incremental theorists. To test our hypotheses, we conducted three studies and found that regardless of whether implicit theories were measured or manipulated, entity theorists were less likely than incremental theorists to purchase green products (e.g., recycled or ecofriendly products) due to differences in their perceived responsibility for protecting the natural environment.

4 - Powering Green Consumption: The Roles of Self-Accountability and Power Distance Belief

Li Yan, Lecturer, University of Technology Sydney, Sydney, Australia, Hean Tat Keh

As human activities are a primary driver of environmental problems, increasing the consumption of green (vs. conventional) products is proposed as a means of ameliorating the situation. The present research investigates the effects of social power on green consumption. Specifically, drawing on the agentic-communal model of power, we show that low-power consumers have greater propensity for green products compared to their high-power counterparts (Study 1). Nonetheless, high-power consumers can also embrace green consumption when they have a greater sense of self-accountability (Study 2). Furthermore, the effects of power on green consumption are moderated by power distance belief (PDB), such that low power promotes green consumption in the low-PDB context while high power promotes green consumption in the high-PDB context (Study 3). We tested these predictions using consumers' purchase intention, preference, and willingness to pay for green products. These findings have important theoretical and practical implications. To our knowledge, this is the first study establishing the causality between social power and green consumption. In using common products as the stimuli (e.g. batteries and handwash), our approach differs from prior research explaining green consumption in terms of status motives, or the "going green to be seen" effect. As the variables of self-accountability and PDB can also be primed or manipulated, our findings have significant implications for marketers and policy-makers in promoting green campaigns. For example, in their marketing communications, marketers and policy-makers should try to heighten high-power consumers' sense of self-accountability and also take into account cultural differences in terms of PDB.

5 - The Impact of Normative Beliefs and Self-consciousness on Making Greener Choices through Greener Preference

Yuanyuan Zhou, University of Strathclyde Business School, University of Strathclyde, Glasgow, United Kingdom, Juliette Wilson, Maria Karampela

Green consumption has been seen as a means of minimizing the adverse impact of human consumption on the environment (Tripathi, 2017). The promotion of greener choices has been a concern for researchers, scholars, marketing practitioners and policy-makers. One way of popularising this is through the design of effective behavioural interventions by presenting 'motivationally salient' alternatives. This requires an understanding of the intentional formulation processes behind the resulting green consumption. Extant frameworks use normative motivations to understand this process which are either from self-expectation (personal norms) or social expectation (social norms). Norms play a crucial role in an individual's choice by shaping individual preferences (Bicchieri, et al, 2014), while the role of an overall greener preference has been neglected. Thus, this research synthesises both personal and social normative sources to examine their combined effect on greener choice through green preference. Especially, this research unpacks how private and public dimensions of self-consciousness affect the greener choice making when consumers encounter conflicted expectations/norms. Additionally, this research investigates how 'choice architecture' would further help consumers to make greener choice. This research adopts experimental research to examine two interventional routes to alter consumers' behaviour towards greener choices: i) motivationally normative information as the content of choice options, and ii) choice architecture (i.e., default setting). The preliminary findings of this research will be presented in the conference. The aim is to bridge the theoretical gap regarding how normative motives interplay with the self-consciousness in driving green consumption. It will also have an important role in supporting marketing practitioners in the design of of effective interventions for promoting greener choices.

■ TC18

Aula 19

Self Control

Behavioral Track

Chair: Fabian Kraut, Muenster, Am Stadtgraben, Muenster, 48143, Germany

1 - When Having a Trick Up Your Sleeve is a Bad Thing: Highly Effective Self-Control Strategies Can be Demotivating

Allen Ding Tian, Shanghai University of Finance and Economics, Shanghai, China, Gerald Häubl

Consumers have access to many products that represent "self-control strategies" in that they are designed to help curb impulses and facilitate the achievement of long-term goals in domains such as health and fitness, personal finance, and time management. Companies typically highlight the effectiveness of such products in an effort to promote consumer adoption. For instance, in order to signal the effectiveness of its debt consolidation services, Freedom Debt Relief highlights its American Fair Credit Council membership, favorable customer reviews, and impressive statistics. This reflects the common assumption that more effective self-control strategies better enable people to achieve their self-control goals. The present research, however, challenges this assumption. We propose that greater strategy effectiveness can backfire by undermining the motivation to exercise self-control and that this is particularly likely among individuals low in trait self-control - ironically, those who have the greatest need for assistance to begin with. The reason for this unintended effect of high strategy effectiveness is that it reduces anticipated guilt resulting from succumbing to temptations. Evidence from four experiments provides support for this theorizing. This research delineates an unintended consequence of communicating highly effective self-control strategies to individuals low in trait self-control, who are, ironically, most in need of support. Our findings suggest that having a highly effective self-control strategy at one's disposal can backfire by serving as a justification to indulge. Given the prevalence of self-control strategies in everyday life, consumers, marketers, and policy makers should be cautious of this boomerang effect.

2 - The Influence of Self-Control and Social-Norm Espousal on the Effectiveness of Information to Lower Calorie Content of Meal Orders among Young Adults

Jutta Roosen, Technical University of Munich, Munich, Germany, Irina Dolgopolova

Public health policy is increasingly challenging the marketing tools employed by the fast food industry. We introduce modifications on a fast food ordering screen including a humanoid virtual order assistant and a color-coded sign posting. While the sign posting offers color-coded information about the calorie content of the meal order, the assistant changes its facial expression depending on the current amount of calories in the shopping basket. We hypothesize that color-coded sign posting offers information on calorie content of the food order at the same time showing societal disapproval (red) when ordering meals with an excessive amount of calories. The order assistant by contrast offers emotional signals that may address customers in need of social support. In two studies, we use young adults as target group because they are at risk of developing obesity with serious health implications for later life. Furthermore, emotion regulation is more difficult among younger compared to older adults, which may render emotional support when ordering food more decisive. Results of a face-to-face survey (n=398) implementing the modifications of the ordering screen on a tablet computer show that the virtual order assistant is the only intervention that is effective in lowering the calorie content of the ordered meal and that this effect is moderated by self-control. In an online experiment (n=1001), we collected additional data in a between-subject design to further examine the moderating role of self-control and, in addition, social-norm espousal. Results show the effectiveness of the virtual order assistant and the color-coded scheme in lowering the energy content of the meal order.

3 - Evaluation Mode Affects Self-control: The Moderating Role of Health-related Goal

Sadaf Mokarram Dorri, Bocconi University, Milan, Italy, Siegfried Dewitte

Self-control choices involve a tradeoff between short-term and long-term consequences (Hoch and Loewenstein, 1991). While deciding which alternative to choose, many consumers often fail to exert self-control to act in accordance with their long-term goals. Previous research suggested preference reversal for two options with two attributes that vary, between separate evaluation (i.e. evaluating one option at the time) and joint evaluation (i.e. comparing two options together), as the sensitivity to each attribute changes between the two evaluation modes (Hsee et al. 1999). This research explores how evaluation mode might affect self-control in the food domain. In three studies (N=840), we demonstrate that taste of the food is easier to evaluate compared to nutrition value, hence people are more sensitive to taste when evaluating a food item separately, that leads to higher choice share of tasty food. However, joint evaluation makes the comparison between two options easier compared to separate evaluation and hence the disadvantage (advantage) of unhealthy (healthy) food becomes more apparent in the joint evaluation mode. This shift in focus to nutrition value leads to lower (higher) choice share of unhealthy (healthy) food. In addition, we show inducing a health-related goal attenuates (amplifies) the effect of separate (joint) evaluation mode on choice share of healthy and unhealthy food, by increasing the importance of healthiness of the food. We contribute to the self-control research by showing how evaluation mode affects self-control. Our findings also suggest that prior research on self-control needs to be revisited, as in some studies self-control is measured in the joint evaluation mode (i.e. choosing between vice and virtue) whereas in some other studies self-control is measured in the separate evaluation mode (i.e. deciding about either vice or virtue).

4 - Jumping to Decision: The Impact of Control Deprivation on Consumers' Information Seeking Behavior

Seon Min Lee, BK21Plus Research Professor, Korea University, Seoul, Korea, Republic of, Seungwoo Chun

Does the threat of personal control lead people to make a bad decision? We suggest that the threat of control can affect the consumers' selection of information on which to base their decisions but not the purchase decision itself. The concept of "jumping-to-decision" effect, which defines as the tendency for people to seek less amounts of, but deterministic, information to decide, has been suggested and validated by four experiments. People who experience the threat of personal control choose less amounts of information presented in sequential way to make the final purchase decision (experiment 1) but spend more time on deterministic information (experiment 2). This effect is evident only for consumers who less prefer predictability under the threat of personal control (experiment 3). However, the low controls rather seek for more number of information to choose the better option after the purchase decision has made (experiment 4). These findings indicate that the threat of control lead consumers to be risk averse during decision process but to be risk seeking in the decision itself.

5 - Impact of Variety and Control on Consumers' Reaction to Recommendation Systems

Fabian Kraut, Chair for Value-Based Marketing, University of Muenster, Muenster, Germany, Sonja Gensler, Thorsten Wiesel

Recommendation systems aim to ease consumers' decision making by suggesting specific items that meet consumers' preferences. Most recommendation systems focus on accuracy, i.e., identifying the item that has the highest utility for the consumer based on his/her preferences. Yet, focusing on accuracy often leads to unsurprising recommendations. Thus, research has proposed that recommendation systems should consider other criteria such as variety. Yet, making recommendations which are less accurate but allow for variety might lead to negative consumer reactions (e.g., reactance). Allowing consumers to update recommendations and thereby evoking the feeling of control might address potential negative reactions such as reactance. It is the aim of this study to examine whether considering (i) variety and (ii) consumer control in a recommendation system improves the system's performance. To do so, we developed a recommendation system for food choices (weekly meal planner) that makes recommendations for a healthy diet. A large-scale online experiment with more than 900 consumers investigates the performance of different recommendation systems with varying degrees of variety in recommendations and two states of consumer control (no vs. restricted). Overall, consumers evaluate recommendation systems that take variety into account more positively. However, the results also suggest an inverted u-shape relationship of variety on consumer evaluations when they are in the no control condition. Thus, firms using recommendation systems should increase variety in recommendations and include consumer control in the recommendation process. This study contributes to the literature on recommendation systems by demonstrating that algorithms focusing on accuracy lead to less positive consumer evaluations than algorithms that consider variety.

■ TC19

Aula 20

Pricing 3

Contributed Session

Chair: Jianghua Wu, Renmin University of China, School of Business, Beijing, 100872, China

1 - The Positive Side of Consumers' Negative Perceptions

Mushegh Harutyunyan, Nazarbayev University GSB, Astana, Kazakhstan, Baojun Jiang, Chakravarthi Narasimhan

When some consumers have a negative perception about a firm due to fairness concerns or other factors, they will become less willing to purchase that firm's product. In practice, consumers' negative perceptions sometimes even lead to a boycott of the firm by some segment of consumers. The conventional wisdom is that consumers' negative perceptions about a firm will hurt its profit, because the firm may have to take costly measures (e.g., price reductions) to alleviate consumers' concerns to induce sales. Our analysis reveals that, interestingly, in a competitive market, having a segment of consumers with negative perceptions about the firm can have a non-monotonic effect on the firm's profit. More specifically, if the fraction of consumers with negative perceptions is small, then their reduced willingness to pay for the firm's product will alleviate price competition, making all firms better off and consumers worse off. Furthermore, an increase in the fraction of consumers with a negative perception about the firm can increase the firms' profits and reduce the consumer surplus. However, when the fraction of consumers with negative perceptions gets above a threshold, firms will tend to compete more aggressively, which benefits the consumers and reduces the firms' profits.

2 - Competitive Product Customization in a Multimarket Environment

Xueying Liu, Rice University, Houston, TX, 77025, United States, Dinah Cohen-Vernik, Amit Pazgal

The continued development of new technologies has allowed firms to better address the individual needs of their customers. For example, in 2018, fast fashion firm Uniqlo introduced customized clothing to fit their consumers' unique needs, which allows Uniqlo to gain competitive advantage by offering customized fashion at a reasonable price. While existing literature has focused solely on price competition between customized products, we investigate firms' choice of the range of customized products and its impact on pricing in equilibrium. In a three firms model we find that a-priori symmetric firms may employ asymmetric customization strategies in equilibrium, and we demonstrate that the presence of per-product customization (PPC) cost (in addition to the overall cost of customization technology) drives this result. We also demonstrate that as long as the PPC cost is reasonable, all the firms offer a range of customized products in equilibrium, regardless of how expensive the customization technology is. As the PPC cost increases, fewer firms customize in equilibrium. Furthermore, in a two-firm model, the equilibrium where both firms offer customized products is a prisoner's dilemma. This result is generalizable to oligopoly setting where all firms make the highest profit if none of them customizes.

3 - Economics of Jailbreak

Nanda S. Kumar, University of Texas-Dallas, Richardson, TX, United States, Juncai Jiang, Liying Mu

As a popular yet controversial topic, jailbreak involves mobile users bypassing the limitations and restrictions imposed by mobile platforms to gain access to apps that are unavailable through the official app stores. In this study, we build a game-theoretic model to explain why (1) mobile platforms such as iOS and WP (Windows Phone) develop a rigorous review program to censor low-quality apps while Andoid does not, (2) iOS forbids the jailbreaking behavior while WP encourages its users to jailbreak the platform, and (3) jailbreaking iPhone is illegal based on the Digital Millionium Copyright Act while it is legal to jailbreak iPad.

4 - Dynamic Pricing and Consumer Advertising in Prescription Drug Markets

Abhik Roy, Professor of Marketing, Quinnipiac University, Hamden, CT, United States

In prescription drug markets, the effects of advertising on price sensitivity of demand have been studied, and the interaction between price and non-price promotions is well established. Recently, supply-side phenomena such as competitive pricing strategies, and the interaction between them and consumer advertising have also been examined. The study builds on research into the relationship between competitive pricing strategies (Bertrand-Nash or Stackelberg competition) and direct to consumer advertising (DTCA). A dynamic model in which sales is influenced by a combination of consumer advertising, detailing and pricing, is developed and estimated using US data from a number of medical therapeutic categories. The dynamic model is appropriate for a market where there is a limited period for recovering the costs of drug development before a branded prescription drug loses its patent protection. A number of hypotheses about the relationship between DTCA and competitive pricing behavior are developed and tested. It is found that the dynamic model reinforces most of the conclusions of the corresponding static model, but in some markets, it contradicts the conclusions of the static model.

5 - Integrated Randomized Pricing Strategy for Omni-channel Retailing

Jianghua Wu, Renmin University of China, Beijing, China, Yan Zong

Many traditional retailers recognize the advantages of mobile Internet and other online channels. Omni-channel retailing provides consumers with greater convenience in terms of purchasing products and gathering price information. With the increasing amount of information under omni-channel retailing, customers can strategically choose where to purchase (which retail channel) and when to purchase (purchase now or wait and purchase later). With the availability of such options, channel integration has become a huge challenge to omni-channel retailers. This study focuses on joint pricing optimization for omni-channel retailers. Specifically, it proposes a randomized pricing strategy that considers customers' discrepant perception between two channels and strategic waiting behavior. In this strategy, while a retailer offers a fixed price in an offline channel, he may randomly provide a discount according to a preset probability in an online channel in order to distinguish among customers and gain more profit. This study also explores how strategic consumer behavior affects the omni-channel retailers' randomized pricing strategy and profit. The findings of this study can provide guidelines in the development of effective pricing strategies for omni-channel retailing.

Thursday, 4:00PM - 5:30PM

■ TD03

Aula 03

Advertising 7

Special Session

Chair: Scott Koslow, Macquarie University, North Ryde, NS, 2109, Australia

1 - Effective Online Advertisement Appeals in Building of Brand Equity

Ben S. Liu, Professor of Marketing, Quinnipiac University, Hamden, CT, United States, Yuli Cao, Sherriff T.K. Luk

Emergence of social media platforms has stimulated scholars' interest in investigating the effect of online advertisements on brand attitudes and purchase behavior (eg. Hanshen et al., 2018; Kim and Ko, 2012). While social media marketing offers marketers better communication grounds with the consumers to cultivate brand loyalty beyond traditional methods (Jackson, 2011; Akhtar, 2011), providing relevant content is fundamental to online advertising strategies for building brand equity (Brito, 2011). Previous studies showed that emotional appeal advertisements trigger information processing faster (Phuc 2011) and are more flexible to suit the taste of audiences and provoke emotional connections than advertisements with a rational appeal (Wang and Lin, 2011). However, brands are also perceived as either emotional or functional/utilitarian. Therefore, such interesting yet under-researched questions as the following are identified: (1) should an emotional brand adopt emotional advertisement appeal to be more effective in shaping consumer's brand attitudes? and (2) should a functional brand use rational/utilitarian appeal? The present study is designed to answer the above research questions. Through two-phase studies in cosmetics and fashion brands, we created a measurement tool containing three benefit factors, namely Functional, Excitement and Beauty. We then, test the effects of the online advertisement on major brand equity, including liking, preference, reputation, and influential. The findings support that "consistency between the nature of the brand and online advertisement appeals" can moderate the effect of advertisement appeals on brand equity. Thus, this study contributes to the effective online advertising decision for building brand equity.

2 - Marginal Upselling: An Empirical Investigation in the Perishable Service Industry

Aidin Namin, Assistant Professor of Marketing, Loyola Marymount University, Los Angeles, CA, United States, Velitchka Kaltcheva, Dinesh Gauri

This paper investigates the advertising strategy and policies in the cruise industry for different cruise cabin types. We model advertising strategy as share of advertising expenditures by the focal company relative to total ad expenditures in the cruise industry over weekly time periods. We estimate our demand model (i.e., number of bookings over time) using a Poisson regression setting, utilizing a proprietary dataset from a leading cruise company in the US. Our findings indicate that for the closest three weeks to cruise departure, increasing share of advertising by the focal company would result in an increase in the number of bookings for suite and ocean-view but would result in loss of bookings for balcony and upper/lower cabin types. For those weeks which happen to be 2 to 26 weeks from the departure date, increasing share of advertising expenditure contributes positively to number of bookings for suite and ocean-view cabin types with a similar effect for either, while it harms demand for upper/lower and balcony cabins. For weeks between 26 to 52, it would result in an increase in demand for ocean-view cabins only, causing reduction in demand for all three other cabin types. Finally, if increase in advertising expenditure share occurs during the farthest two weeks from departure, the company should expect demand elevation for upper/lower and ocean-view cabin types, while they should anticipate demand reduction for suite and balcony types. Our results have important managerial implications for cruise-ship managers and shed light on advertising decisions made in this industry.

3 - On the Effects of Ad Blockers on Online Users and Publishers

Mohammad Zia, Assistant Professor of Marketing, Chapman University, Orange, CA, United States, Upender Subramanian

Ad blockers are employed by consumers to prevent advertisement from appearing on publisher websites. While ad blockers entered the industry with the promise of providing consumers an ad-free browsing experience, many have since introduced an "Acceptable Ads Program" (AAP) that allow publishers to show some limited forms and amount of advertising to ad blocker users. The AAP has led to much debate and controversy, with consumers accusing ad blockers of failing to protect ad block user interests and provide an ad-free experience, while publishers regard the AAP as an overreach by ad blockers to extract a cut from publisher revenues. We examine the ad blockers strategic rationale of offering the AAP and its implications. We model users' decisions (on whether to adopt ad blocker and visit publisher website), publishers' decisions (on setting content quality and ad intensity), and a non-for-profit ad blocker's decision (on how much ads to allow). Consistent with recent introduction of AAP, we find that the non-profit ad blocker, which maximizes the surplus of its users, may nevertheless not block all ads since doing so can dis-incentivize the publisher to provide (costly) high-quality content. Moreover, when consumers are sufficiently heterogeneous in their aversion to ads and valuation for quality, the ad blocker can cause a win-win situation in online advertising environment: every user's surplus, publisher's content quality and its profit will all increase compared to a world without ad blocker. Furthermore, we show that an increase in the cost of adopting ad blocker to consumers can have a positive effect on their equilibrium surplus, leading to the non-profit ad blocker to charge its users a positive price.

4 - The Role of Consumer Insight in Creative Advertising Development: Essential Aid or Cognitive Bias?

Scott Koslow, Macquarie University, North Ryde, Australia, John Parker, Lawrence Ang, Alexander Tevi

Advertising professionals praise the role of consumer insight in solving advertising problems creatively. Marketing clients and account planners claim to use insight to inject the necessary strategy into a campaign, building a creative platform upon which a brand connects with consumers. Although insight is widely seen as an invaluable aid, another perspective is that insight can create mental set fixation, a cognitive bias that reinforces only limited perspectives on a problem, thus inhibiting creativity. This study examines whether strong, weak or no primed insight conditions help or hinder professional creatives to develop highly creative advertising ideas, testing across two media, print and television. Self-assessments of creatives show that they see insight as compensating for low domain knowledge. However, assessments by objective judges, who are also creatives, show insight works by compensating for low intrinsic motivation. Although we show consumer insight can improve the quality of creative ideas, it should be carefully managed to produce consistently high-quality creative work.

■ TD04

Aula 04

Mobile, Algorithm, and Artificial Intelligence (AI) Session 6: Digital Information Transfer

Special Session

Chair: Xueming Luo, Temple University, Philadelphia, PA, 19122, United States

Co-Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - More than a CV: How Information Revelation Affects Job Mobility in Platforms

Tedi Skiti, Fox School of Business, Temple University, Philadelphia, PA, 19122, United States, Xueming Luo

In this paper, we explore the implications of voluntary information revelation on job mobility. Platform algorithms allow employees to upload content about their expertise and employers to search for content. We build theoretical arguments that this additional information may function as a signal and significantly reduce information asymmetry for employees' unobserved ability. We argue that this effect is particularly important for employee groups that lack other signals such as education and experience. We utilize a quasi-experiment and an extensive dataset from LinkedIn to provide the causal effect of professional content on job mobility. We contribute to the limited literature on voluntary information revelation and market-driven mechanisms platforms.

2 - Transfer Learning for Marketing: A Bayesian Co-Clustering Approach

Yang Li, Cheung Kong Graduate School of Business, 1 East Chang An Avenue, Beijing, 100738, China

Real-world marketing problems often involve disparate data sources that exhibit no apparent relationship between them. This limits the propagation of data insights because the common assumption that the training and testing samples should be drawn from the same underlying distribution is mostly violated. Conventional frameworks tend to model disparate datasets separately, ignoring the potential learning transfer from existing data to new data. In this paper, we propose a Bayesian co-clustering based transfer learning solution to bridge data results across different data domains. We also employ variational Bayesian method to achieve scalability in big data context. For both simulated data and real data, we show the new approach yields superior performance in the modeling of new datasets.

3 - Evaluating and Improving the In-game Anti-addiction System: Implications for Consumer Usage and Welfare

Xi Chen, Erasmus University, Burgemeester Oudlaan 50, Rotterdam, 3062PA, Netherlands, Xueming Luo, Chang Zhang

The recent development of information technology has seen video gaming become one of the most popular entertainments. However, the design of video games could cause gamers engaged in excessive gaming. With the problematic gaming increasingly considered as a public health issue, governments and gaming companies have put forth various measures. In this paper, we aim to study the effects of in-game anti-addiction systems and how to improve them. Using program evaluation methods and adopting the "rational addiction" perspective, we quantify the effects of in-game systems and improve the design of the systems to achieve balance between the usage and welfare of gamers.

■ TD05

Aula 05

Small Firms and How They Sell in Emerging Markets

Special Session

Chair: Stephen J. Anderson, Stanford University, Stanford, CA, 94305, United States

1 - The Impact of Customer-Facing Modernization and Back-End Modernization for Small Retail Firms in Emerging Markets: Evidence from a Field Experiment

Shreya Kankanhalli, Stanford University, Stanford, CA, United States, Stephen J. Anderson, Leonardo Iacovone, Sridhar Narayanan

The retail sector in Mexico and other developing countries tends to be dominated by millions of traditional small-scale businesses that fail to adopt modern business structures. It is important to investigate approaches to modernizing the retail sector given the prevalence of traditional retail firms in urban centers and the critical role that retailers play in distributing goods from international suppliers to local consumers. We propose two novel approaches to effectively induce retailers to modernize their businesses: a "customer-facing" approach and a "back-end" approach. We evaluate the impact of the two approaches on modernization levels and sales via a field experiment. In our RCT, 1154 small retailers are randomized into three groups of equal size: control (n=384), "customer-facing" treatment (n=385) and "back-end" treatment (n=384). Over 6 weeks, junior fellows (i.e. top university students majoring in business or related disciplines) partner with retailers in one of the two treatment groups and work with them to implement relevant modernization structures through 12 site visits. Retail firms in the "customer-facing" treatment group only implement customer-facing modernization structures, while retail firms in the "back-end" treatment group only implement "back-end" structures, with help from their junior fellow. Both treatments could positively impact sales performance through different mechanisms. Changes in customer-facing structures work to improve the retailer's individual store-level brand. By contrast, improving product-facing structures could enable retailers to become better "product-planners" in the sense that they dedicate more time and effort to understanding their products. With half the midline survey data collected so far, we find that our treatments impacted the modernization levels of the firm by 20-25% in the case of the customer-facing treatment and by 25-50% in the case of the back-end treatment. We additionally find suggestive evidence that modernization changes have resulted in improved sales performance for both groups.

2 - How Selling Changes the Salesperson: Insights from a Randomized Control Trial in India

Iris Steenkamp, London Business School, Queens Club Gardens, Gainsborough Mansions, London, United Kingdom, Rajesh Chandy, Heather Kappes, Om Narasimhan

Most research in the sales literature (and in marketing more generally) has traditionally focused on how selling changes sales and profit outcomes for firms. In this research, we argue that a reverse relation exists; sales activities can shape how individuals think and behave, and can shape even how their communities think of them and behave towards them. We focus on emerging markets, and present preliminary insights from a randomized controlled trial that is currently underway with rural women in Uttar Pradesh, India. Working with a local partner that seeks to address the last-mile problem of distributing products and services in poorly served and remote locations in rural India, we examine the impact of selling on the women who sell these products and services. We argue that in such contexts, where women have little exposure and interaction outside their immediate contexts, engaging in sales activities can lead to 1) psychological change, in terms of IQ and personality of the salesperson, and 2) gender empowerment, in terms of female leadership within the family and within communities. In doing so, we seek to shift the focus of research from the impact of selling on outcomes for the firm to the impact of selling on outcomes for the salesperson and her community. A primary implication of this research is that ignoring the impact of sales on salespeople causes researchers and practitioners to underestimate the full impact of sales activities. In particular, in emerging markets, sales jobs can help individuals transform themselves, and also change their communities in profoundly important ways. Sales activities - a very common phenomenon in emerging markets - can contribute to (social) development by empowering women and reducing gender biases in the communities in which they live. To the best of our knowledge, this is the first research that examines the effect that involvement of sales jobs can have on the individual and on the social consequences of these marketing activities.

3 - Remote Coaching of Small-Business Entrepreneurs in Uganda: Stimulating Marketing Strategy Innovation and Examining the Impact on Firm Sales

Pradeep Chintagunta, University of Chicago, Chicago, IL, 60637, United States, Stephen J. Anderson, Naufel Vilcassim

This paper studies the impact of international coaching on the strategic marketing changes of emerging market entrepreneurs. It sheds light on three novel research questions: (1) What is the effect of remote business coaching on firm sales? (2) Does this international coaching stimulate greater changes in marketing strategies (pivots) or marketing tactics (practices)? (3) Do entrepreneurs benefit more from coaching when they are less strategic in their decision-making? We conducted a randomized control trial with 930 entrepreneurs in Uganda to examine the impact of an international coaching intervention that connects management professionals in primarily advanced markets and entrepreneurs in emerging markets with the aim of improving business performance. The analysis finds a positive and significant main effect on firm sales - treated entrepreneurs increase monthly sales by 32.4% on average. In addition, entrepreneurs who receive international coaching are 63.3% more likely to have pivoted or shifted their marketing strategy in a new direction. And consistent with this mechanism of inducing strategic business changes, the results show that entrepreneurs who receive international coaching tend to do better when they (ex ante) lack strategic focus. These results have important implications for the development of marketing strategies by entrepreneurs and multinational managers, as well as for organizations interested in improving the performance of small firms in emerging markets and beyond.

4 - Building High-Growth SMEs in Nigeria: Training the Entrepreneur versus Linking the Firm to Business Service Markets – Insourcing, Outsourcing or Consulting

Stephen J. Anderson, Stanford University, Stanford GSB, Stanford, CA, 94305, United States, David McKenzie

Many small firms lack the marketing and finance expertise needed for firm growth. The standard approach has been to train the entrepreneur-owner to personally develop these capabilities, through classroom training sessions or customized consulting services. These programs not only require entrepreneurs to divert time from their business, but also push them to learn a range of skills across business functions (e.g., finance, operations, marketing). However, rather than forcing the entrepreneur to be a jack-of-all-trades, an alternative is to link firms to these skills in the market by: (i) insourcing workers with this expertise; or (ii) outsourcing these tasks to professionals specialized in the area. To the best of our knowledge, there is no empirical evidence on the effectiveness of these interventions or a market-based system. Thus, we test which approach works better via a field experiment designed to shed light on several research questions: • What is the effect of insourcing or outsourcing business capabilities on firm sales? • Does insourcing or outsourcing impact sales via changes in: Organizational focus by adding business practices (aligned with the worker/professional)? Owner focus by increasing time spent on growth (while delegating standardized tasks)? Outward focus by encouraging firms to use a marketplace to procure business services? • Do these new interventions work better for entrepreneurs who are higher/lower on multi-tasking? The project aims to recruit 2,000 firms (with 2-15 workers each) operating in the light manufacturing, construction, hospitality, ICT and entertainment sectors in Abuja and Lagos. In response to a national advertising campaign, interested entrepreneurs apply online through the Business Innovation and Growth (BIG) platform. Eligible firms are then invited to attend an induction workshop in the region where they operate, where they receive additional information about the program and complete a baseline survey. Qualified firms are then randomly assigned into one of five equal-sized (n=400) experimental groups: • Group 1 (training treatment): offered business training consisting of in-class and online modules. • Group 2 (consulting treatment): offered 11 days of business consulting services (~88 hours) by consultants over 6 to 9 months, meeting at least once per month. • Group 3 (insourcing treatment): given access to an online marketplace where they choose a vetted HR specialist who recruits one accounting or marketing worker to join the firm (internally hired) and perform tasks in their functional area. The firm gets a subsidy to cover costs for 9 months. • Group 4 (outsourcing treatment): given access to a (different) online marketplace where they choose a vetted Accounting or Marketing specialist to outsource these functions. The professional (externally contracted) spends at least 1 day per week (~8 hours/week) at the business site implementing activities for the firm. The firm gets a subsidy to cover costs for 9 months. • Group 5 (control): not offered any intervention during the study period. To date we have collected data from a one-year follow-up survey (midline). We are currently conducting the two-year follow-up survey (endline). Early results show the promise of our new market-based approach. Both insourcing and outsourcing treatments led to improvements in digital marketing and financial practices. Entrepreneurs in these groups are also more likely to reallocate time (towards growth, client, and futurefocused activities) and to access a marketplace for business services.

■ TD06

Aula 06

Digitization 3: Advertising

Special Session

Chair: Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States

Co-Chair: Pinar Yildirim, University of Pennsylvania, Philadelphia, PA, 19104, United States

1 - Assessing Ad Block Effects in Mobile Display Advertising

Xiliang Lin, JD.com, Mountain View, CA, 60615, United States, Tho Le, Harikesh Nair

The causal effect of exposure to many forms of advertising, like display ads, is often found to be low; yet, puzzlingly, firms continue to invest heavily in such advertising. One reason may be that firms face incentives to advertise from purely competitive considerations - if they do not, they face the risk that competitors may occupy those ad-positions and show their ads instead. Therefore, firms may advertise simply to block competitors, even though the lift from ad-exposure at those positions is small. Such “ad-blocking” may explain the continued propensity to advertise, especially on high-traffic ad-positions. In this paper, we assess whether such worry is warranted by leveraging data from JD.com, an eCommerce company, which is a large digital advertiser in China. We define a causal estimand that captures the incentives to an advertiser from such ad-blocking, and present estimates of this effect from 30+ randomized controlled trials implemented on the home page of JD APP. We find ad blocking effects varies, and may be small.

2 - Trade-os in Online Advertising: Modeling and Measuring Advertising Effectiveness and Annoyance Dynamics

Vilma Todri, Emory University, Atlamta, GA, United States, Anindya Ghose, Param Vir Singh

Digital advertisers often harness technology-enabled advertising scheduling strategies, such as ad repetition at the individual consumer level, in order to improve advertising effectiveness. However, such strategies might elicit annoyance in consumers, as indicated by anecdotal evidence such as the popularity of ad-blocking technologies. Our study captures this trade-off between effective and annoying display advertising. We propose a Hidden Markov Model that allows us to investigate both the enduring impact of display advertising on consumers’ purchase decisions and the potential of persistent display advertising to stimulate annoyance in consumers. Additionally, we study the structural dynamics of these display advertising effects by allowing the corresponding effects to be contingent on the latent state of the funnel path in which each consumer resides. Our findings demonstrate that a tension exists between generating interest and triggering annoyance in consumers; whereas display advertising has an enduring impact on transitioning consumers further down the funnel path, persistent display-advertising exposures beyond a frequency threshold can have an adverse effect by increasing the probability that consumers will be annoyed. Investigating the dynamics of these annoyance effects, we reveal that consumers who reside in different stages of the funnel path exhibit considerably different tolerance for annoyance stimulation. Our findings also reveal that the type of display advertisements -animated vs static- as well as consumer demographics - such as income and education- moderate consumers’ thresholds for annoyance elicitation. Our paper contributes to the important literature of annoyance effects in digital advertising and has significant managerial implications for the advertising ecosystem.

3 - Background Noise? TV Advertising Affects Real Time Investor Behavior

Jurate Liaukonyte, Cornell University, AEH, Ithaca, NY, 14853, United States, Alminas Zaldokas

Using minute-by-minute television advertising data covering approximately 326,000 ads, 301 firms, and $20 billion in ad spending, we study the real-time effects of TV advertising on investor search for online financial information and subsequent trading activity. Our identification strategy exploits the fact that viewers in different U.S. time zones are exposed to the same programming and national advertising at different times, allowing us to control for contemporaneous confounding events. We find that an average TV ad leads to a 3% increase in SEC EDGAR queries and 8% increase in Google searches for financial information within 15 minutes of the airing of that ad. Such advertising effects spill over through horizontal and vertical product market links to financial information searches on closest rivals and suppliers. The ad-induced queries on advertiser and its key rival lead to higher trading volumes of their respective stocks. For large advertisers, around 0.8% of daily trading volume can directly be attributed to advertising. This suggests that advertising, originally intended for consumers, has a sizable effect on financial markets.

4 - Channel Position and the Causal Effect of Advertising on Demand for Consumer Goods

Andrey Simonov, Assistant Professor, Columbia University, New York, NY, United States, Shirsho Biswas, Jean-Pierre Dube

We exploit the random assignment of television networks to numeric channel positions across local cable systems in the US to study the causal effect of advertising on demand and profitability. An extant literature has shown that viewer channel choices are moderated by the numeric channel position of a network. Our identification strategy uses only the incremental viewers associated with channel position to estimate the causal effect of advertising. Our analysis relies on a novel combination of various consumer packaged goods databases.

■ TD07

Aula 07

Insights into the Consumer-generated Content Process

Special Session

Chair: Yaniv Dover, Hebrew University, Modiin, 71703, Israel

Co-Chair: Dokyun Lee, Carnegie Mellon University, Pittsburgh, PA, 15213, United States

Co-Chair: Renana Peres, Hebrew University of Jerusalem, Mount Scopus Campus, 91905, Israel

1 - Providing a Utility Basis for Ordered Models via Optimal Quantization

David B. Godes, University of Maryland, College Park, MD, 20742, United States, Michel Wedel

As the workhorse models for the study of online reviews, the ordered logit and ordered probit play a critical role in user-generated content research. However, unlike their more-famous cousin, the MNL model, these models lack a utility-maximization basis. This limitation inhibits both the behavioral inferences one may draw, and the prescriptive recommendations one may make, from model estimates. To address this shortcoming, we develop a model in which each individual faces a known (to her) continuous distribution of experiences. She seeks to communicate to others the ex post realizations of her individual experiences through a discrete-and-ordered transformation of the continuous outcome. That is, she must select a quantization of her experiences into a (possibly-endogenous) set of discrete values. We propose a utility-based process for this quantization and demonstrate a simple approach to estimation using standard Bayesian methods. Finally, we highlight several important applications of the model including precise recasting of ratings from one format to another (e.g, from a five-point to a two-point distribution), combining ratings taken from different rating formats and the design of “optimal” ratings systems.

2 - Extremity Bias in Online Reviews: A Field Experiment

Dina Mayzlin, University of Southern California, Marshall School of Business, Los Angeles, CA, 90089-I424, United States

In a range of studies across many platforms, submitted online ratings have been shown to be characterized by a distribution with disproportionately-heavy tails. These have been referred to as “j-shaped” or “extreme” distributions. Our focus in this paper is on understanding the underlying process that yields such a distribution. We develop a simple analytical model to capture the most-common explanations: differences in utility associated with posting extreme vs moderate reviews, and differences in base rates associated with extreme vs moderate reviews. We compare the predictions of these explanations with those of an alternative memory-based explanation based on customers forgetting about writing a review over time. The forgetting rate, by assumption, is higher for moderate reviews. The three models yield stark differences in the predicted dynamics of extremity bias. To test our predictions, we use data from a large-scale field experiment with an online travel platform. In this experiment, we varied the time at which the firm sent out a review solicitation email. Specifically, the time of review solicitation ranged between one and nine days after the end of one’s vacation. This manipulation allows us to observe the extremity dynamics over an extended period both before and after the firm’s solicitation email. Our results clearly support the predictions from the memory-based explanation, but are inconsistent with those from the utility-based and base-rate explanations.

3 - Image Network and Interest Group – A Heterogeneous Network Embedding Approach to Analyze Social Curation on Pinterest

Liye Ma, University of Maryland, College Park, MD, 20742, United States, Baohong Sun, Kunpeng Zhang

Social curation platforms help consumers navigate through the vast digital content to find what fits their interests. However, little is known about the structure and pattern resulting from the social curation process. Using the popular image curation platform Pinterest.com as the empirical context, this research aims at understanding (i) how digital content are organized through social curation; (ii) what user curation activities reveal about their preferences and the context; (iii) what insights can be drawn on consumer defined brand positioning.To do so, we first propose to represent social curation using a heterogeneous information network, consisting of three types of node: image, user, and curation word. Edges

between nodes represent users' content collection and annotation actions. We then leverage heterogeneous network embedding, a technique recently developed in machine learning, to analyze the network. Heterogeneous network embedding captures the structural and semantic information of a large-scale network while mapping it to a lower dimensional vector space amenable to standard analytical techniques.We apply the proposed approach to a large dataset containing more than 100 thousand users and one thousand furniture related images. Our proposed approach significantly outperforms the prevailing methods on predicting users' curation actions. Furthermore, analyzing the embedding vectors results in the discovery of user interest groups and image clusters, as well as the match between them. The match between user and image groups is shown to be highly stable over time. We further demonstrate how the technique can be used to assess brand perceptions and positions.

4 - Post-Consumption Susceptibility of Online Reviewers to Random Weather-Related Events

Yaniv Dover, Hebrew University, Jerusalem, 71703, Israel, Leif Brandes

Online reviews are supposed to provide an unbiased source of information for consumers. However, prior studies have shown that, due to the complex nature of consumer-producer matching and the influence of the consumer's social environment on their decision-making, such reviews are subject to biases. In the present work, online reviewing behavior was even susceptible to offline events that are exogenous, random, and unrelated to consumption or social factors. Using a unique research approach with extensive and rich hotel-review data, detrimental weather conditions at the time of review provision were found to affect reviewing behavior, despite occurring days after consumption and at a distant location from the hotel. The results indicate that bad weather, such as rain, snow, or both combined, increase the overall incidence of online reviews, and that reviewers consistently provide lower ratings on rainy days. Rainy weather also significantly affects both the format and text of reviews. Further evidence suggests that lower ratings on rainy days result from mood effects on evaluative judgment, rather than from selection effects. Overall, this study suggests that both the incidence and content of consumer product opinions are malleable and can be influenced by external events in real-life scenarios and days after consumption.

■ TD08

Aula 08

Digital Marketing 4

Contributed Session

Chair: Sourindra Banerjee, University of Warwick, Darwin College, Silver Street, Cambridge, United Kingdom

1 - Quantifying the Effects of Platform Coupons in Sharing Economy

Xueming Luo, Temple University, Philadelphia, PA, 19122, United States, Shaojun Qin, Zhijie Lin

Despite the growing literature on sharing economy, little attention has been paid to firms' marketing decisions in this new business setting. This paper contributes to the gap by studying the effects of coupons offered by platforms in the sharing economy. Using a proprietary dataset from a food sharing platform in Asia, we examine the influence of platform coupons on users from both sides of the market. We find that platform coupons work as a double edged sword for the business: while they help increase customers' spending per order by promoting mobility (i.e. encouraging customers to try unfamiliar and risky sellers/dishes), they also attract more price sensitive customers to the platform. In fact, the latter force dominates the former one such that sellers respond by charging lower prices for dishes and engaging in fewer dish innovations, which may have a negative impact on the platform in the long run.

2 - Impact of Online Review Narratives on Offline Business Performance

Tuck Siong Chung, Associate Professor, Essec Business School, Singapore, Singapore, Soumya Mukhopadhyay

Drawing upon past literature on narrativity and inter-firm competition, we argue that online review narrativity have a significant impact on the aggregate performance of offline firms irrespective of the nature of the focal good/service. Moreover, we posit that this impact is positively moderated by the intensity of spatial competition that typically characterizes any offline market. Potential customers often try to imagine the sequence of events that surround the consumption of a product and service. The experiential narratives of other consumers provided by online review can facilitate this process and thus influence consumer decision process. Firms has an incentive to locate close to competitors (competitive agglomeration). For example, consumers often prefer to go to retail clusters with multiple restaurants when looking for dining options, thus restaurants benefit from this pull effect when locating next to each other. However, locating close to competitors also lead to greater price competition and therefore lower profits. If firms can offer differentiated products, then they can enjoy the benefits of competitive agglomeration without competing too intensely on price. We argue that for the case of utilitarian products the impact of online review narrativity on firms' aggregate performance significantly increase with higher level of competitive agglomeration. On the other hands, the combine appeal (pull effect) of the retail cluster is more important in influencing aggregate performance than online review narrativity for hedonic products. We test these propositions using a large-scale dataset from Yelp and find significant empirical support in their favor.

3 - Knocking on the Inside of Beauty Influencers

Serim Hwang, Carnegie Mellon University, Pittsburgh, PA, United States, Xiao Liu, Kannan Srinivasan

From 2015 to 2018, top beauty influencers on Youtube created 12% of their videos by partnering with beauty product firms, and top sponsoring firms partnered with 20~80 influencers to promote their products. Despite the fast growth of the influencer market, no research has investigated consumers' reaction towards influencer advertisements in videos. Our research aims to explain both vocal and non-vocal differences in the video advertisement content and how such subtle differences affect consumer sentiment and product mentions in the video comments. To identify the voice effects, we control for product quality, influencer's popularity and vocal characteristics, seasonal sponsorship trends, and other confounding factors. Using a difference-in-differences model, we found significant differences in voice loudness and Mel Frequency Cepstral Coefficients (MFCC) values in sponsored versus non-sponsored videos. More surprisingly, we also found that such vocal differences can be a good indicator of sponsored videos' success in getting attention. Our research contributes to understanding the impact of influencer advertisements on consumer evaluations. From a manager's viewpoint, we suggest which influencer would be the best fit for promoting a firm's product. For an influencer, we provide suggestions on how to improve content quality.

4 - What Gives "Real-time Marketing" it's Bite? A Byte of Humor

Sourindra Banerjee, University of Leeds, Leeds, United Kingdom, Abhishek Borah, Yuting Lin, Apurv Jain, Andreas Eisingerich

Although the phenomenon of "real-time marketing (RTM)" has attracted attention from academics and managers, the effectiveness of RTM in generating virality (number of re-tweets of a marketing message) and adding to firm value remains unexplored. We build on the concept of spontaneous chatter to empirically address this gap and theorize RTM's role in affecting virality and firm value. Specifically, we conduct a quasi-experiment in which a focal brand's RTM message is compared with a counterfactual (synthetic) brand to show that RTM message leads to virality. We further analyze a uniquely compiled database of 462 real-time marketing tweets of 139 brands over a 6 year period. The results demonstrate that high levels of spontaneous viral chatter occurs: (a) for RTM tweets tinged with humor and unanticipation; and (b) for RTM tweets marked with humor and timeliness. Our results shed light on when RTM tweets significantly drive firm value. An important implication is that spontaneous chatter and ultimately firm value can be driven proactively by RTM activities that trade upon humor, unanticipation, and timeliness.

■ TD09

Aula 09

Digital Marketing 16

Contributed Session

Chair: Melanie Bowen, Justus-Liebig-Universitat Giessen, Marketing und Verkaufsmanagement

1 - Direct and Indirect Effects of Firm Generated Content on Sales

Annamaria Tuan, University of Bologna, Bologna, Italy, Daniele Dalli, Ashish Kumar, P.S.H. Leeflang

Despite the many studies that measure the effects of social media expenditures but also likes and comments on sales (e.g. Mochon et al. 2017; Kumar et al. 2016), measuring social media effectiveness "remains unclear" (Nielsen, 2018). In this study we determine the direct and indirect effects of Firm Generated Content (FGC) on sales where Likes, Comments and Shares on Facebook and Twitter are used as potential mediators (i.e. User Generated Content (UGC)) and where we distinguish between three types of content of FGC posts. To this end we develop and calibrate a VAR model with exogenous variables (VARX), which is based on the structure of the well-known SCAN*PRO model (e.g. Wittink et al 1988; Van Heerde, Leeflang, & Wittink, 2000). Hence we model a full dynamic system that accounts for interrelations, feedback effects, direct and indirect effects between three sets of variables: (1) marketing variables, (2) variables that measure UGC and (3) brand sales. We consider 13 national and international brands in the consumer packaged goods categories in the Italian market from January 2015 to September 2018. For each brand we collect sales data at weekly level (brand sales, brand sales in case of promotion or only in store communication or only price promotion), weighted distribution, average prices, Facebook and Twitter posts (text, nr. of likes, nr. of shares, nr. of comments), traditional advertising expenditures and press news about each brand (source: Lexis Nexis). By using manual content analysis we code the content of Facebook and Twitter posts in informative, emotion-evoking or action-inducing content (Taecharungroj, 2016) and create dummy variables for each post.

2 - How TV Advertising Influences Word of Mouth: Evidence from Twitter

Lachlan Deer, University of Zurich, Zurich, Switzerland, Pradeep Chintagunta

The emergence of second screen phenomenon is one of the most fundamental changes in TV viewing behaviour with 84% of U.S. consumers using a second screen while watching TV (Nielsen, 2014). One of the main second screen activities consumers engage in while viewing TV is engaging in so called “social TV” - browsing and expressing their opinion about programs and ads aired during commercial breaks on social media websites such as Twitter. The airing of TV ads act as information shocks to consumers, potentially leading to post ad spikes in tweets about a product via second screening. The goal of this paper is to measure the effect of television advertising on online WoM. Specifically, this paper measures the impact of national television advertising by movie studios on Twitter conversations focussed on wide release movies in the minutes directly after an ad airs. The focus on the movie industry, and wide release movies in particular stems from the industry’s emphasis on (national) television as its main advertising platform and the importance of Twitter based online WoM in generating buzz and awareness for new release movies. Our empirical approach exploits detailed information on the approximately 1 million movie advertisements aired over 2014 and 2015 extracted from the Nielsen AdIntel database. The advertising data is combined with the universe of over 100 million movie relevant tweets posted over the two year period obtained from Twitter. Our empirical analysis proceeds in two steps: the first step models the volume of tweets about a given movie as a function of the explanatory variables, comprising movie and advertising spot characteristics, and time-varying parameters using a Hierarchical Linear Model. Second, we study whether television advertising shifts the composition in the topics of conversation. We develop a LSTM Recurrent Neural Network to classify tweets into distinct, industry relevant conversation topics. These topics are used to construct topic specific tweet volume specific measures that are then fed into a multivariate extension of the HLM described above.

3 - Communication Channel Choices in a Social Networking Site

Youngsoo Kim, Texas Tech University, Lubbock, TX, United States

Given that users are simultaneously connected in multiple communication channels (e.g., chat and message) in a social networking site (SNS), we explore their communication structures. We collected data from a SNS with 4.8 million registered users. The empirical estimation shows interesting results. First, there are asymmetric and contingent cross effects between the communication channels. Second, the relationship between local network size (number of connected peers) and tie strength (communication frequency) differ by a communication channel. These findings show the tradeoff between network coverage and network reach in the word-of-mouth (WOM) effects. Third, we identify the distinct evolutionary trajectories of the communication usage frequency by channel. Our experimental study shows that we can better predict WOM effects by understanding user’s collective networking behavior across diverse channels.

4 - How Marketer-generated Content in Social Media Impacts Sales Along the Sentiment Cycle

Welf Hermann Weiger, Assistant Professor, University of Goettingen, Goettingen, Germany, Ossama Elshiewy, Steffen Jahn

The brand sentiment of user-generated content in social media tends to shift in a cycle-like fashion. Social media practitioners and researchers have so far only focused on consequences for sales when sentiment reaches positive or negative peaks (i.e., social media candy- vs. firestorms). These perspectives neglect ongoing shifts between positive and negative brand sentiment. In this research, we distinguish between valence and trajectory of brand sentiment over time which yields four phases: (i) positive and rising sentiment, (ii) positive and falling sentiment, (iii) negative and falling sentiment, and (iv) negative and rising sentiment. We use this novel classification to analyze how Dollar sales of an FMCG brand are affected across these four phases. We find positive sales elasticities during “positive and rising sentiment” and “negative and rising sentiment;” while negative sales elasticities occur during “positive and falling sentiment” and “negative and falling sentiment.” To derive important managerial implications from these findings, we aim at understanding how the firm’s deployment of marketer-generated content (MGC) impact sales during phases when brand sentiment is rising or falling. First, we find that increasing MGC curbs the positive sales effect of rising sentiment. Social media marketers should disseminate MGC carefully during such phases. Second, the results yield that MGC attenuates the negative sales effect of falling sentiment and is effective in buffering sales losses during phases of looming social media firestorms.

5 - A Multilevel Modeling of Optimum Scheduling Content on Social Media: The Relevance of Country and Brand Characteristics.

Melanie Bowen, Justus-Liebig-University, Giessen, Germany, Sadrac Cénophat

Firms are increasingly relying on social media as a channel for marketing communication. Previous research shows that posting on social media enables companies to grow their social media audiences and achieve marketing and sales relevant customer metrics. Said research indicates, that these positive effects are enhanced through increasing engagement (i.e., likes, click, comments) of social media users with the organization’s social media posts. Recent seminal research shows, that social media users’ post engagement can be enhanced through the optimal timing (i.e., time of day) of social media posts. Although extant research provides a great leap forward in reducing the complexity pertaining to the optimal posting of content on social media, it provides no clarification how international companies should engage in social media and more specifically how the scheduling of social media posts must be adapted to different countries. Drawing on contingency theory, we used 7,953 Facebook posts from 116 brands across 61 countries to model and test the proposition that the optimum scheduling of content on social media is contingent upon country-level variables (i.e., network readiness and unemployment rate) and firm characteristics (i.e., the brand). The results show that country- and company-level factors respectively explain 29.55% and 49.09% of the variance in users reactions to firms’ social media posts. The proposed and tested model enables social media managers the optimal scheduling social media posts across countries in order to maximize social media users’ engagement rate and subsequently social media post success.

■ TD10

Aula 10

Machine Learning 4

Contributed Session

Chair: Abhishek Borah, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France

1 - Manage Customer Lifetime Value by Big Data Analytics

Chi-cheng Wu, National Sun Yat-sen University, Kaohsiung, Taiwan, Yung-Jan Cho

Customer centricity and value orientation has been the main themes of marketing, and customer lifetime value (CLV) is the core concept in these trends. In the literature, CLV used to be estimated by multi-variate, econometric or hierarchical Bayesian methods. Basically these methods predict CLV from a pre-determined, limited set of independent variables. Since the advent of digital marketing, when companies gather customer information from every digital marketing media, they usually have tens of thousands of variables per customers, which cannot properly be analyzed by the traditional methods. In this study we incorporated predictive modeling (an advanced analytics technologies evolved from AI and machine learning) into customer value management framework (Kumar 2008); and used a real case (company M) to demonstrate how companies can make use of the ‘big’ data from the web, to improve their performance in digital marketing. The objective of this study is to propose a managerial framework that applies big data analytics to customer (value) management; thereby the marginal effect of every marketing effort for every individual customer can be evaluated and every marketing practice can be fully customized for optimal performance. Leveraging machine learning methods and predictive modeling techniques, we started by forecasting each individual’s CLV, and plotting the distribution of CLV for the customer base. We then divided the customer base into value-distinctive segments, estimate transition flows among the segments, and evaluate their average CLV’s separately. For each customer acquisition, development and retention instruments, we then built predictive models that forecast the responding probability and expected revenue for each customer; thereby managers can allocate and execute their marketing budget effectively. From the analysis of the transaction data of company M, we had some interesting findings and proposed some managerial suggestions accordingly.

2 - How Nostalgia Drives Customer Loyalty: The Mediating Role of Social Connectedness

Qiao Gong, The Chinese University of Hong Kong, Hong Kong, Yijian Ning, Yiwei Li

Although consumer behavior research has suggested nostalgia as a potential source of consumer loyalty, little empirical evidence has been provided in support of this hypothesis. To the best knowledge of the authors, this research serves as the first empirical investigation of the effect of nostalgia on consumer loyalty, leveraging a unique customer mobile behavior data from a major telecom service provider in China. We show that nostalgia exerts a significant positive effect on consumer loyalty. More importantly, our results reveal that nostalgia influences consumer loyalty through social connectedness. Specifically, an individual with nostalgia tends to avoid losing social connectedness (e.g. potential call-ins from other phone numbers), and subsequently becomes reluctant to change his service provider, resulting in observed strong consumer loyalty. Our empirical model also accounts for the differential impacts due to consumer heterogeneity including gender and age, enabling a better understanding of managerial and decision-making implications in the context of customer lifetime value research in general.

3 - Who Uses Store Credit? Targeting Online Consumers on JD.com

Chunyu Lan, Renmin Uinversity of China, Beijing, China, Jianbo Cheng, Zelin Zhang, Peter T. Popkowski Leszczyc, Ernan E. Haruvy, Bin Ao

In the era of big data and large customer databases it is essential for marketers to determine what subset of consumers to target with their promotional messages. The objective of the current research is to determine which consumers have a greater likelihood of using store credit, in order to better target such consumers. Store credit is credit provided by the retailer only for purchases at their store. Our focus is on the store credit program, initiated by JD.com, China's largest online retailer, in 2015, for purchases made on their website. The data set contains purchases made by over 500 million shoppers with close to 500 million distinct SKU's, over a period of two years (from June 2016 - June 2018). Results indicate that consumers who use store credit are more likely to be male, have made fewer purchases and are less deal-prone. We find a non-linear relationship between income and store credit usage, as consumers with medium level income are more likely to use store credit than either high or low income levels. In addition, usage of store credit is positively related with previous usage of store credit and a lack of having a credit card registered with their account. Usage of store credit, in turn, has a positive effect on the amount spent per shopping trip, and this effect is stronger than of a credit card.

4 - The Impact of Coalition Loyalty Program Evolution on Credit Card Purchase Activity

Xiaojing Dong, Santa Clara University, Marketing Department, Lucas Hall, Santa Clara, CA, 95053, United States, Wayne Taylor

This paper uses a new dataset from a major European credit card issuer to fill an important gap in the study of coalition loyalty program effectiveness by examining how complex spatial relationships influence card usage. A coalition program offers incentives to customers at multiple businesses; one challenge facing managers of these programs is the decision of which partner to add or remove from the coalition network as these decisions may influence card usage from current customers. We use detailed, individual-level transaction data to analyze how purchase behavior is influenced by the spatial evolution of a coalition loyalty program network. By augmenting recent advances in machine learning methods with traditional spatial models we are able to account for the influence of complex spatial interactions while at the same time provide useful and actionable analyses to managers.

5 - Brand Visibility Index in a Digital World: Towards a New Measure of Conspicuous Consumption Using Online Web Searches

Abhishek Borah, Assistant Professor, INSEAD, Fontainebleau, France, Clement Bellet, David Dubois

This work examines whether and when the ratio of Internet image search volume to web search volume reflect expenditure visibility - a key feature of conspicuous consumption. We extract image to web search volume ratios, taking account of the normalization feature in Google Search, from millions of households between 2008 and 2018 across hundreds of brands within major categories of expenditures in the US and other countries, and match these measures to price and income elasticity data. Extending the recent literature on the measurement of expenditure visibility, we find that our 'web visibility index' reliably predicts brand visibility as measured in surveys by capturing the amount of interest for visible features of brands (image search) over general interest for brands (web search). We highlight how researchers and practitioners who wish to predict brands' premium pricing and income elasticity can leverage this new measure and discuss its implication for understanding the stability of conspicuous consumption over time and across countries.

■ TD11

Aula 11

CRM 4

Contributed Session

Chair: Ke Li, Keene State College, Jersey City, NJ, 07302, United States

1 - Modeling Customer Churn in Non-contractual Settings: From Identification to Instant Prediction

Ali Tamaddoni, Assistant Professor in Business Analytics, Deakin Business School, Deakin University, Melbourne, Australia, Stanislav Stakhovych, Michael Ewing

Customer churn management is a primary pillar of proactive retention strategies. Research on churn management and retention has drawn on a variety of modelling approaches including probability models, econometrics models, and machine learning. When prediction precision is the goal, machine learning models are typically favoured, due to their ability to handle rare events and to process a large number of predictors. However, the uncertainty surrounding customer churn in non-contractual settings renders machine learning models less efficacious in predicting churn. This is due to the inherent difficultly in labelling these (non-contractual) customers as 'churners' and 'non-churners' and then training the associated predictive models accordingly. This contextual anomaly has motivated academics and practitioners to persevere to identify new approaches to deal with this issue. In this study, we demonstrate that the current machine learning-based practices to predict non-contractual churn in the marketing literature suffer from both a lack of agility and an inability to account for customer heterogeneity. We argue that such shortfalls have led the models to identify churn (ex post) rather than predicting it (ex ante), potentially limiting their effectiveness in retaining at risk customers. In response, we propose a new approach for modelling churn in non-contractual settings, using machine learning classifiers, where the lag between churn time and prediction time is eliminated and customer heterogeneity is recognised. The results from an empirical study and simulated data show how the proposed change can increase the probability of accepting retention offers by would-be churners, leading to more effective and profitable retention campaigns for companies.

2 - How Do Firms Ask for Consumers' Data Permission? And How Do Customers React?

Caterina D'Assergio, PhD Student, University of Bologna, Bologna, Italy, Sara Valentini, Elisa Montaguti

Over the years, people have increasingly shared their personal information with companies in exchange for their services. Similarly, also companies have progressively used data to profile their customers and create a more efficient and effective delivery of customer's value. However, the increasing number of data breaches experienced in the last decades, along with other factors, has led to the introduction of a new EU data protection regulation that offers citizens a shelter for their privacy. In this new regulatory context, a key question for firms is how to ask for personal information. The purpose of this paper is, hence, twofold. First, we examined re-permission emails sent by a sample of 367 firms operating in multiple industries using Latent Dirichlet Allocation model and linguistic inquiry computerized text analysis methods in order to map how firms communicate their data requests. This has led to the development of a taxonomy of the main topics in terms of two key dimensions: communication framing and degree of communication complexity. Second, we will run a field experiment in collaboration with a company, to manipulate these two key dimensions and evaluate their impact on the consumers' probability to share their personal details. We identify eight main topics characterizing re-permission's emails. These are: control, protection, oblivion, transparency, regulation, incentives (e.g. promotions) and losses vs. gains framing. We further classify permission emails in terms of degree of complexity. We find that control is by far the theme most frequently used in the messages (27%), followed by protection (20%) and oblivion (16%). Through the use of a field experiment we will, then, be able to detect the best communication strategies that firms should use to ask for data and the themes which are more likely to generate wider consent.

3 - Managing Customer Moments

JeeWon (Brianna) Choi, Assistant Professor, University of South Florida, Tampa, FL, United States, Denish Shah, Yichen Cheng

In the digital realm, customer journeys are fractured and characterized by discrete intent-driven moments. The challenge for the firms lies in identifying and leveraging these moments in a timely matter through appropriate marketing interventions. In this study, we analyze clickstream data from a large financial services firm to identify the discrete moments and hence evaluate the impact of those moments on user engagement and ultimately conversion. We apply semi-supervised machine learning techniques to analyze the data and propose a framework to enable firms to manage discrete moments of users in the digital realm. Subsequently, we run experiments involving real-time marketing interventions to demonstrate the usefulness of the proposed moment management framework. Our study contributes to marketing theory and practice by offering a new framework to manage customers in the digital media through application of contemporary machine learning based techniques.

4 - From Prediction to Understanding: Shedding Light on Customers' Churn Journeys

Roelof Hars, University of Groningen, Groningen, Netherlands, Hans Risselada, Jaap Wieringa

In this paper, we argue that to improve our understanding of customers' churn decisions, it is important to consider their 'churn journey'. Analogous and complementary to a purchase journey, a churn journey takes places from the onset until the end of a customer's relationship with a firm, and can reveal crucial details about a customer's current state. In turn, knowledge of this state can guide firm interventions. Using a unique panel dataset that contains 3.5 years of detailed clickstream-, transactional-, contact-, and external search data of over 400.000 customers of a European financial service provider, we aim to model churn probability as a function of a customer's current state and firm actions. Initial results suggest that the frequency, recency and clumpiness of specific types of customer-firm interactions (e.g. viewing product details, comparing prices, responding to engagement initiatives, calling the firm for information or informing them of changes) are clear signals of relationship (dis)investment, and are strongly related to churn probability.

5 - Managing Relationship with Customers Who Do Not Respond

Ke Li, Keene State College, Keene, NH, United States

Even though firms make enormous efforts to maintain relationship with customers so that they can profit from customers' lifetime value, many customers just do not respond to firms' marketing messages. In this paper, we examine the mechanism of customer's selective inattention to firms' marketing communications by applying the information theory of rational inattention. By constructing utility-maximizing information structure, we explore what communication channels that customers pay attention to, what information they choose to process, what indicator to look at, as well as what the optimal information flow is. Our study helps companies to enhance their marketing communication effectiveness so as to better their relationship with customers.

■ TD12

Aula 12

Marketing Strategy 1

Contributed Session

Chair: Avishek Lahiri, Georgia State University, Atlanta, GA, 30326, United States

1 - Marketing Organization Type and Firm Performance

Leigh McAlister, University of Texas-Austin, Austin, TX, United States, Raji Srinivasan, Ty Henderson, Jade DeKinder

Marketing textbooks lead one to believe that, in every firm, the marketing function has authority for decisions over insight, strategy and execution. Workman, Homburg, Gruner (1998) made the point that the extent to which marketing activities (insight, strategy and execution) are done by people with marketing titles differs across firms. The concept of market orientation was developed to characterize the performance of marketing activities in those firms that distribute some or all of those activities across non-marketing functions. Research has shown that the greater the extent to which marketing activities are under the authority of the marketing function, the higher the firm's market orientation and the better the firm performs. We propose that this happens because growth depends on the coordination of insight, strategy and execution and that coordination is more likely when authority for all marketing activity rests in a single function. Further, we propose that marketing is more likely to have authority for insight, strategy and execution when it is a line (vs. a staff) function. We show that, in addition to the scope of the markeitng function's decision authority and the firm's market orientation, firm performance is also a function of the level of marketing spending if marketing is a line function, but not if marketing is a staff function.

2 - The Cloud and its Silver Lining: Negative and Positive Spillovers from Product Recalls

Verdiana Giannetti, Leeds University Business School, Leeds, LS6 1AN, United Kingdom, Raji Srinivasan

Product recalls, caused by product failures, are increasingly common across many industries, including medical devices, drugs, cars, and consumer packaged goods. Product recalls hurt the sales of the recalled products and, sometimes, of non-recalled products because of negative spillover effects. Yet, there are few insights on whether and how product recalls may help the sales of non-recalled products in the category. We hypothesize that the sales of a non-recalled product will be hurt by brand-level (i.e., same brand) product recalls, while they will benefit from country-level (i.e., same country) product recalls. Further, we test hypotheses related to how the marketing mix of the non-recalled product, i.e., advertising and price, interacts with brand- and country-level product recalls to affect its sales. We test the hypotheses using monthly sales data on 124 passenger cars sold in the U.S. market between 2006 and 2015. We account for the endogeneity of marketing mix variables using a control function approach. The results, which are robust, indicate that, while brand-level product recalls hurt the sales of the non-recalled product, country-level product recalls benefit them. Further, higher advertising and prices of non-recalled products attenuate the negative effect of brand-level product recalls, while lower prices of non-recalled products strengthen the positive effect of country-level product recalls. The findings, which shed novel light on the positive spillover effects from product recalls, generate actionable guidelines for business practice.

3 - Marketing Competence and Startup Performance

Zhuoer Qiu, Goethe University Frankfurt, Frankfurt, Germany, Simone Wies

Startups are important drivers of national economies yet statistics of tremendous failure rates abound. An often-cited challenge for startups is to invest in the right type of organizational competence and scale these up at the right time, especially when it comes to marketing competencies. In this project, we study whether and how startups develop marketing and other organizational competences, in which sequence they acquire a given competence and how these decisions influence the startup's likelihood of survival and performance. We proxy organizational competences by the human capital startups hire into the firms. Based on a unique and rich panel dataset of U.S.-based startups founded between 2004 and 2011, we use sequential analysis to identify systematic patterns of firm growth trajectories. Each group features different organizational competences developmental paths that show distinct patterns in how marketing competences are developed over the life course of the startups, both in terms of depth and breadth. Besides founding team characteristics and venture capital involvement, our results suggest an important role of marketing competencies at various stages in venture growth to achieve superior performance and ensure survival. Our findings provide new insights of how startups should allocate resources to develop and manage their marketing and other organizational competences.

4 - The Overall Impact of Hunting Orientation on Customer Acquisition

Srinath Gopalakrishna, Professor of Marketing, University of Missouri, Columbia, MO, United States, Andrew Crecelius, Ashutosh Patil

Researchers and practitioners acknowledge that sales prospecting plays an important role in new customer acquisition. Yet, rigorous academic research on prospecting is virtually nonexistent. In this study, we examine the salesperson's role at the front of the sales funnel which involves prospecting for leads (Prospecting Performance or PP) and converting those prospects into customers (Conversion Performance or CP). Extant literature has highlighted the relevance of a salesperson's Hunting Orientation (HO) in driving customer-acquisition performance (in our case, Prospecting and Conversion Performance). In this research, we propose and find support for the positive moderation effects of HO on the positive impact of several salesperson-oriented characteristics such as the length of their tenure, the level of advertising undertaken by the firm on behalf of the salesperson, number of help staff hired by the salesperson, and Adaptive Selling capability of the salesperson. The outcomes we investigate are the salesperson's Prospecting and Conversion Performance. We find that the positive impact of these salesperson-level characteristics on the salesperson's PP and CP, is further enhanced with increased levels of HO capability of the salesperson. We discuss managerial implications of our findings.

5 - Effect of Multiple Stakeholder Reputations on Organizational Outcomes: The Case of Higher Education

Avishek Lahiri, Graduate Research Assistant, Georgia State University, Atlanta, GA, United States, V. Kumar, Ankit Anand

The higher education sector in the USA is going through a difficult phase with stagnating enrollment and endowment inequality across organizations. The problem is exacerbated with declining government support necessitating a sharp rise in tuition fees. One of the solutions to improving both the enrollment and endowment situation lies in building and maintaining organizational reputation from a multiple stakeholder perspective. Previous studies have shown organization reputation to provide multi-faceted benefits such as improve financial performance (Hall 1992), attract investors (Srivastava et al. 1997), applicants (Turban and Greening 1997) and charge premium prices (Rindova et al. 2005). This study utilizes an eight year unbalanced panel data sample of 165 business schools to test the effect of organizational reputation on enrollment and endowment using a Seemingly Unrelated Regression model after endogeneity correction of reputation. The theoretical support is drawn from signaling and institutional theories. We explore the moderating effects of organizational ownership, diversification, environmental turbulence and business activity. Using exploratory factor analysis and established theories such as resource dependence and value creation, we highlight the salient stakeholders who are essential for the survival of higher educational organizations. Our preliminary findings show that internal stakeholders' reputation have an impact on enrollment while external stakeholders' reputation affects endowment. Additionally, we provide strategies for higher educational institutes to develop reputation and achieve organizational outcomes by targeting stakeholders based on the organization's level of control.

■ TD13

Aula 14

Crowdfunding

Contributed Session

Chair: Parneet Pahwa, University of Texas-Dallas, Richardson, TX, 75080, United States

1 - Dynamics of Consumer Behavior Patterns Based on Motivation to Achieve Funding Goal and Strategy with Option in Reward-based Crowdfunding

Jihyeon Hwang, Yonsei University, Seoul, Korea, Republic of, Jaeyoung Lee

In reward-based crowdfunding, fundraisers make decisions focused on achieving funding goal. they expect to overfunding amount more than the pre-set funding goal. This study finds that fundraisers who consider fundamental motivation of funder in crowdfunding and use corresponding strategy with option setting and option price, have more success in funding. We note that the consumer behavior of funder is based on the motivation to achieve the goal, and a pronounced pattern of consumption behavior can be vary depending on the option strategy. When the motivation is clear, patterns of consuming behavior is a pronounced U-shape over the funding cycle. However, in case there is only the cue related to goal is presented, the pattern appears as an inverse U-shape pattern of consuming behavior over the funding cycle. In addition, we show that marketing strategy that option setting and option price related to motivation to achieving goal moderates the pattern of consuming behavior. Together, these results have substantional implications in terms of identifying and presenting a study of consumer behavior and corresponding to marketing effort in crowdfunding.

2 - Initial Coin Offerings (ICO) - The Role of Naïve Consumers in P2P Fund Raising

Nitin Mehta, Professor, University of Toronto, Toronto, ON, Canada, Nikhil Malik, Param Singh Sidhu, Kannan Srinivasan

Initial Coin Offerings (ICO) are a novel mechanism for entrepreneurs to raise funds. ICO investors acquire a share of future services provided by the platform, through digital coins, instead of an equity stake. These digital coins can be used to buy or sell services on the platform or they can be traded on an exchange. ICO's raise majority of funds from a crowd of small naïve investors instead of large sophisticated venture capital (VC) firms. Naïve investors differ from VC investors since they (I) expect lower returns on investment, (ii) are more likely to use the coins on the platform rather than speculate on coin prices and (iii) are less sophisticated in assessing platform quality. We show that a high quality enterprise can find a separating equilibrium by spending some signaling cost. This cost is spent by providing discounts for raising a minimum level of funds from large sophisticated VC investors. We find that entrepreneur, naïve investors and sophisticated investors can all be better off than traditional VC fund raising. We also show empirical evidence where eventually successful ICOs perform a pre crowd sale of digital coins to VC's before going to the naïve crowd. In practice, this information asymmetry resulted in a flood of low quality ICO's in 2017 raising billions of dollars from naïve investors, eventually failing to deliver promised product. A separating equilibrium where high quality entrepreneurs efficiently signal their quality could not be attained. This led to reactive regulations for protecting small naïve investors. Social networks banned ICO advertisements altogether, SEC in US added a limit of $1 Mn for an investor to fund an ICO and China outright banned all ICOs. We collect times series data on over 1000 ICO's. Surprisingly, we show that the regulations wiped out high quality enterprises as well because the core ICO benefits - fund raising at lower ROI and resolution of demand risk were quashed. Eliminating naïve consumers in the market was worse off for sophisticated consumers and entrepreneurs.

3 - Does Equity Crowdfunding Hurt or Help Reward-based Crowdfunding? Analysis of a Natural Experiment in the Canadian Market

Jihoon Hong, University of Southern California, Los Angeles, CA, United States, Dinesh Puranam, Gerard J. Tellis

Equity crowdfunding recently went into effect in the United States and Canada, so now companies can sell financial stakes to investors through equity crowdfunding, and non-accredited investors can participate in the investment process for start-ups. Since the start-ups can collect substantially more funds via equity crowdfunding than reward-based crowdfunding, creators with high quality, who previously posted successful projects in the existing reward-based crowdfunding, may have a strong motivation to raise the capital in equity crowdfunding. As a result, the quality of the projects may decrease in the reward-based crowdfunding. In this study, we use 16 months of Kickstarter project data across Canada and investigate how the introduction of equity crowdfunding affects the existing reward-based crowdfunding platform. Using a quasi-experiment design and a difference-in-differences approach, the authors identify the causal effect of the policy change on project quality. A key finding is that serially successful (high quality) creators are less likely to post their projects, but serially unsuccessful (low quality) creators are more likely to make the projects after the policy change. Further, the authors provide evidence that this change may hurt the consumers. These findings are potentially useful for both researchers and practitioners.

4 - Effect of Appeal Content on Fundraising Success and Donor Behavior

Parneet Pahwa, University of Texas-Dallas, Richardson, TX, United States

Many fundraisers, for instance, K-12 public schools and charter schools particularly in high poverty areas do not have the resources to reach out to donors nor do they have the time to strategize to achieve their fundraising objectives. Teachers and students in these schools have a variety of needs which are not met because of inadequate funds. Aside from requesting the local community for financial support, many teachers in these schools use platforms such as DonorsChoose.org to appeal to the broader community to raise funds. These appeals typically provide a brief description of the students in the school, the needs that they have and how the fundraising effort will impact their learning objectives. The goal of our study is to uncover the elements of the appeal that drive both the success of the fundraising effort and donor behavior. We want to understand how the length of the appeal, the sentiment of the appeal impacts the success of the fundraising effort and the amount donated by the donors. We also want to examine how framing of the information that is displayed on the website impacts the amount donated by donors.

■ TD14

Aula 15

Advertising 3

Contributed Session

Chair: Moses Miller, Hebrew University of Jerusalem,Herzliya, Israel

1 - Brand in an Unsafe Online Environment: Examining the Effect of Congruency, Surrounding Content and Consumers' Thinking Style on Brand Associations

Aditya Billore, Associate Professor, Indian Institute of Management Indore, Indore, India, Ashish Sadh

In the online context consumers generally, are exposed to brand information among a clutter of information. This content surrounding the brand message may or may not be in line with the brand message. This study tries to explore how congruent and incongruent online environments impact information processing by consumers and ultimately their perception. Existing studies have examined positive as well as negative consequences of the congruent and incongruent environment in different contexts like games, social media, etc. In this study first, we try to understand how people with varying styles of thinking; Analytic and Holistic process the information considering it as a group of independent elements or related elements. Further, we attempt to understand how exposure to the various type of surrounding information (negative/positive) results in relevant and irrelevant brand associations. Study-1 proposes an experimental design consisting of stimuli for operationalizing the congruent and incongruent online environment along with a priming task for thinking styles. Study-2 will include treatments with unrelated negative/positive information. The findings of the study are likely to provide insights in optimizing brand safety; i.e., protecting the brand image against any noise because of the online environment.

2 - Synergies, Spillovers, and Reactance: Omnichannel Response to Multimedia Advertising

Paul R. Hoban, University of Wisconsin, Madison, WI, United States, Min Tian, Neeraj Arora

We explore the cross-channel impact of traditional and digital advertising and examine how these effects vary across the path to purchase. The data stem from a randomized field experiment exploring potential synergies between direct mail (DM) and retargeted digital display advertising (RDA) at a fast fashion retailer. Combining offline and online behaviors, the data detail the browsing patterns, purchases, and advertising exposures for 136,770 customers over a three-week period. We find significant cross channel effects, including channel substitution. In isolation, RDA increases both online and offline sales. In contrast, DM negatively impacts e-commerce revenues, as shoppers shift to the offline channel in response. We also find significant synergies. When served in conjunction, DM and RDA exhibit negative synergies with respect to offline purchases, as would be expected from decreasing marginal returns. However, the mediums exhibit positive synergies with respect to e-commerce transactions, indicating the impact of each is amplified by the presence of the other. Finally, we find evidence of reactance to RDA, which negatively impacts the probability that consumers visit the retailers website. Notably, this impact manifested only in a reduced willingness to click on promotional emails, indicating that RDA reduced the impact of other forms of digital media. These findings underscore the importance of evaluating advertising response holistically, including omnichannel measurement and avoiding measuring campaigns in isolation.

3 - CONVAL: Development and Application of a Measurement Model for Assessing Firm-Generated Content Value in Social Media

Maik Eisenbeiss, University of Bremen, Hochschulring 4, Bremen, 28359, Germany, Verena Sander

The rise of social media increased the necessity for firms to establish a presence on platforms like Facebook, Instagram, and Twitter. As a means to engage with consumers, firms create content for their fan pages (i.e., firm-generated content). In this context, publishing content that is perceived as valuable by consumers is crucial to achieve a firm's advertising goals. However, marketers are insecure about what consumers perceive as valuable and how to measure it. Current literature lacks of an appropriate model that measures consumers' perceived value of firm-generated content in social media and guides marketers in content creation. Based on a solid conceptualization, an extensive explorative study, and a large-scale study using 902 U.S. users of Facebook, Instagram, and Twitter, the authors develop and validate CONVAL—a 4-dimensional second-order measurement model including 17 items to assess firm-generated content value in social media. The results indicate a reliable and valid instrument, which is applicable by researches and practitioners. In addition, the authors calculate a multi-group model, revealing that marketers should particularly pay attention to emphasize informative content on Twitter, entertaining content on Instagram, and empathic content on Facebook. CONVAL is further presented in a nomological network, applying the measurement model to test novel content vs. traditional marketing approaches in a field experiment on Facebook.

4 - Increasing Online Brand Engagement by Planning Commercial Airings

Moses Miller, Hebrew University, Jerusalem, Israel, Lev Muchnik, Jacob Goldenberg

In this research, we shift the unit of analysis from the common one - a single commercial, to a batch of commercials (a series of consecutively aired ads) and examine how the similarity between ads in a batch affects immediate user online engagement, reflected in both Twitter activity and online transactions. We introduce and validate a method for measuring similarity among commercials based on commercial transcripts using Word Embedding and NLP techniques. The empirical analysis combines three massive data sets of textual and airing data of U.S. TV commercials, a ten percent random sample of Twitter chatter, and transactions data from a large e-commerce platform. We find that high similarity batches convey a focused message and are therefore more likely to promote direct viewer engagement. At the other extreme, low similarity batches reach the attention of a broader audience, thus increasing the likelihood of immediate viewer engagement. We show that most commercial batches do not reflect planned efforts to achieve optimal similarity, which may result in a loss of opportunity to optimize viewers' response.Indeed, our results for over a hundred brands confirm the anticipated U shape, where remarkably similar or extremely dissimilar commercial batches result in an increase of immediate related Twitter chatter and online transactions involving associated products.These results may help marketers maximize immediate online brand engagement by planning the similarity of commercial airings in batches.

■ TD15

Aula 16

Channels 4

Contributed Session

Chair: Lara Lobschat, University of Groningen, Nettelbosje 2, Groningen, 9747AE, Netherlands

1 - Firm Uncertainty and Channel Partner Selection

Qiang (Steven) Lu, University of Sydney, Sydney, Australia, J. Xiao, M. Hu

Choosing a partner in vertical relationships between upstream and downstream firms is a crucial decision and can be a key factor to entry success and the effectiveness of ex post marketing efforts. In this study, we examine how the concerns of a decision-maker involving competition, uncertainty, and resource capacity affect their choice of either an incumbent or entrant partner. Because the choices of upstream and downstream firms are correlated, we analyze their behaviors using a system of simultaneous choice functions and find that different types of decision-maker experience can cause different choices. Entrant dealers, for example, will choose an entrant (over incumbent) manufacturer to alleviate idiosyncratic uncertainty, but entrant manufacturers will choose either an entrant or incumbent dealer based on their own brand's country of origin. Moreover, we find that both the existing market structure and the decision- maker's resource capacity play significant roles in partners choices.

2 - Are Trade Allowances Driven by Retailer Power? Evidence from a Big-box Retailer

Andres E. Elberg, Assistant Professor, Pontifical Catholic University of Chile, Santiago, Chile, Carlos E. Noton

In recent decades, trade allowances have become an increasingly relevant component of the terms of trade negotiated between retailers and manufacturers (Bloom et al., 2000; Sudhir & Rao, 2006; Hristakeva, 2018). We analyze a rich proprietary dataset including allowance payments made by suppliers to two large supermarket chains managed by a retailer in Chile. The data include allowance payments made by all suppliers (> 1,300) in all product categories (~ 200) to both supermarket chains over a two-year period. These payments are agreed upon in bilateral negotiations (typically conducted annually) between a given supplier and the retailer. We exploit the cross-sectional as well as time variation in trade allowances to address the question of whether these payments are driven by the relative bargaining strength of the retailer vis-à-vis suppliers. In addition, we document the magnitude of trade allowances and their variation across suppliers and product categories. To the best of our knowledge, this is the first paper presenting a systematic examination of the magnitude of these payments. Our analysis uncovers several novel features of the behavior of trade allowances. First, we find that trade allowances are important in magnitude. Second, they are highly heterogeneous across suppliers and retailers. Third, most of the variation in allowances occurs within (as opposed to across) product categories. This suggests that the cost of stocking new products is unlikely to be a major driver of trade allowances as some commentators claim. Based on panel data regressions that account for time, category, and chain fixed effects, we find that suppliers who exhibit larger overall market shares tend to pay lower trade allowances as a share of wholesale revenues. This result is robust to the use of category market share as a measure of market size, to differences in the number of new sku's introduced by suppliers and to differences in suppliers relative riskiness. Furthermore, we show that unobservable heterogeneity is unlikely to reverse the sign of the relationship between market size and trade allowances.

3 - On the Internalization of Advertising and Marketing Services: An Adaptation Cost Analysis

Birger Wernerfelt, Massachusetts Institute of Technology, Cambridge, MA, United States

Many different activities have to be undertaken as part of a firm's advertising program and large firms typically perform some themselves, while others are sourced from external advertising agencies. We approach the phenomenon from the perspective of a theory of the firm and aim to characterize those activities advertisers should perform internally. A theory based on adaptation costs predicts that firms internalize activities for which their competitive position implies (1) that frequent modification is desirable and (2) that it is more important for human capital to be firm-specific as opposed to function-specific. We perform a preliminary test of these predictions on nine activities in a sample of large US firms.

4 - On the Same Team? Free-riding Potential, Slack Resources, and Outlet Survival

Moeen Naseer Butt, Ivey Business School at Western University, London, ON, Canada, Kersi D. Antia

Free-riding potential - the perceived inability of a party to capture the entire benefits of its efforts - is of vital concern to suppliers and their downstream channel intermediaries alike. Prior research on the phenomenon has overwhelmingly focused on the upstream supplier's (principal's) viewpoint and its aim of maintaining channel system integrity by reducing horizontal free riding - the prospect of other agents free-riding on the focal agent's efforts. We build on this body of work and extend it by considering the focal agent's viewpoint and its concerns regarding the potential for vertical free-riding - the upstream supplier free-riding on its efforts - as well. We assess how, in the context of business format franchising, franchisees' horizontal and vertical free-riding potential concerns might hurt individual outlets' long-term survival. We also hypothesize and find evidence regarding how the adverse effect of each type of free-riding potential on the franchisees' outlet survival is mitigated by the presence of organizational slack - resources accruing to the focal agent due to its prior strong financial performance. Although an effective cushion when either type of free-riding concern is high, slack may not be sufficient to ensure outlet survival when the downstream focal agent's concerns about both types of free-riding potential are high. Our examination of more than 500 outlets of a US-based franchise system observed over nearly a decade yields significant insights into channel members' concerns about both horizontal and vertical free-riding potential, and the performance implications thereof.

5 - Do Offline and Online Go Hand in Hand? Cross-Channel and Synergy Effects of Direct Mailing and Display Advertising on Purchase Funnel Progression

Lara Lobschat, University of Groningen (RUG), Groningen, Netherlands, Lisan Lesscher, Peter C. Verhoef

The rise of digital media and the respective shifts in consumer spending have strongly influenced both marketing communication and consumer behavior, leading to a focus on digital marketing channels. Yet, (offline) direct mailings as a marketing instrument continue to remain relevant (Forbes 2017) and widely applied in practice. This is mainly due to the ability of direct mailings to generate brand recall (UK Royal Mail 2015) as well as consumers' relatively higher response rate to direct mailings compared to digital marketing communication (DMA 2016). However, research on the cross-channel and synergy effects of direct mailings within online environments is scant. We aim to study the cross-channel and synergy effects of direct mailings and display advertising on earlier (i.e., generic and branded online searches, clicks on sponsored search ads) and later (i.e., closing of an insurance contract) purchase funnel stages. In a first study, we investigate the cross-channel effects of direct mailing and show that direct mailings remain a worthwhile marketing investment by analyzing unique quasi-experimental data from a large insurance firm and Google. In the second study, we also study the synergy effects of direct mailings and display advertising on early and later stages of the purchase funnel. For this purpose, we conducted a controlled field experiment together with a large insurance firm and Google. In this context, the insurance firm send out direct mailings and/or display advertising to existing and potential customers. The design of the field experiment is full-factorial. More specifically, the experimental groups differed in receiving direct mailing and/or display advertising during the focal campaign. Study 2 allows us to show whether a firm's offline and online marketing efforts go hand in hand or substitute one another in guiding consumers through the purchase funnel.

■ TD16

Aula 17

Consumer Behavior 4

Behavioral Track

Chair: Po-Hsuan Chou, National Chung Hsing University, Taichung, 403, Taiwan

1 - Understanding Japanese Consumer Experience throughout the New Customer Journey

Wang Mengjin, Keio University, Tokyo, Japan

While the concept of "consumer journey" evolves over time, marketing trigger shifts from traditional to digital, and recently a converging marketing strategy of traditional and digital has been provided. While the hyper-connected and caffeinated market environment has been witnessed and assessed globally, practical frameworks for monitoring country-specific consumer experience in the context of the new customer journey are lacking. In this paper, exclusive data from the Japanese largest consulting firm, Nomura Research Institute, Ltd., is adopted. By analyzing the brand advocacy ratio and the purchase action ratio of commodities which enable both traditional and digital marketing, Japanese consumers experience and customer journey is to be understand.

2 - Celebrity Gossip: Drivers and Consequences of Personal Information Retransmission

Gaia Giambastiani, Bocconi University, Milan, Italy, Andrea Ordanini, Joseph Nunes

This research investigates both the drivers and consequences of celebrity gossip. First, we look at when and why content of a personal and disclosing nature is more or less likely to be shared. Second, we look at consumers' evaluation of celebrities and content about them depending on the source of that content. We propose the retransmission of personal content, colloquially considered gossiping, can be explained by the sharer's relationship with the subject of the content (who the information is about). In doing so, we distinguish between three types of relationships that vary across two dimensions: mutual dependence and balance. Mutual dependence is the overall degree of reciprocal dependence in a relationship, while balance is how the dependency between the two parties is distributed. The desire to share information is a combination of two opposing concerns that vary based on the type of relationship: the perceived guilt associated with sharing something presumably private versus the perceived arousal of the content. Across three studies, we demonstrate that personal information about famous people (as opposed to other people) is most commonly shared because consumers experience lower guilt and higher arousal. Further, across two studies, we demonstrate how the source of personal information about an individual impacts perception of the content being shared as well as the subject of that content. We find celebrities can influence the retransmission of personal information about themselves in a self-serving way by letting positive news spread as gossip while sharing negative news directly. We make a theoretical contribution by detailing how the nature of the relationship between individuals helps determining personal information sharing. This work also makes a substantive contribution by helping to explain why celebrity gossip is so pervasive in society. In terms of managerial implications, we offer guidance to celebrities and their associates (e.g., managers) regarding whether or not to share personal information with consumers directly.

3 - Product Incompatibility and its Benefits for Customers

Christian Schäfer, Doctoral Student, Goethe University Frankfurt, Frankfurt am Main, Germany, Stefan Hattula, Torsten Bornemann

Products intended for joint usage with complements (i.e. system products), but designed as technically incompatible with other brands' products have largely been considered to be providers' blessing, but customers' burden. With the acquisition of the initial product, customers get locked into the brand's product portfolio. Consequently, they face high switching costs because, to leave the system, the incompatibility with other brands would for instance require rebuying already acquired products (but from another brand). While this switching cost logic can explain non-adoption of system products, marketing theory has not yet explained why customers initially adopt a closed system. Building on extant findings from research on choice and a preliminary interpretive study, we argue, and empirically show in three experiments that customers anticipate an increased ease in their future decision making, which further translates into higher purchase likelihood. Specifically, closed systems limit all future choice options to a set of relevant complements. Apart from limitations that come along with a closed system, customers might hence anticipate reduced cognitive load in future decision making. Results further suggest that anticipation of ease is particularly pronounced for complex product systems. While more complexity is associated with even higher future cognitive costs, high quality brands can reduce customers' risk perceptions of product performance in closed systems. From a managerial standpoint, this research shows how firms may leverage product complexity to stimulate buying behavior. Moreover, it helps explaining the success of products that have been introduced as technologically incompatible with complements from competing brands.

4 - The Influence of Causality Judgment and Anthropomorphism on Consumer's Preference

Po-Hsuan Chou, National Chung Hsing University, Taichung, Taiwan, Wen-Hsien Huang

Prior researches have shown that anthropomorphism on products or brands increases consumers' preference. However, we found that the anthropomorphized agents were not only products when there are cues for causality judgement. Causality refers to the relationship between a prior cause (e.g., a detergent that cleans clothes) and the perceptible effect (e.g., a clean clothes). From the real cases, we can see the anthropomorphized agents were sometimes potential cause (e.g., Persil's personified laundry detergent bottle), but sometimes the potential effect (e.g., a clean cloth which like a person gets rid of stains in the OLA Oxipoder commercial). Therefore, the objectives of this study clarifies how will the anthropomorphized agents between cause and effect influence consumers' judgements when the advertising message attempts to use different types of wording. This research involved two experiments. A sample of 68 office workers participated in the pretest. We employed the analysis of data for the remaining 239 participants here. The study utilized a 2 (benefit claim type: utilitarian vs. hedonic) × 3 (anthropomorphized agents: cause vs. effect vs. control) between-subjects study design. As we expected, a comparison of the anthropomorphizing conditions showed a main effect of anthropomorphized cause-and-effect agents and an interaction of benefit claim type × anthropomorphized agent. Based on the result, we found that when the type of benefit claim is utilitarian, consumers reported higher willingness to buy in the effect anthropomorphizing condition than those in the cause anthropomorphizing and control condition, and there is no significant difference between the later. While when the type of benefit claim is hedonic, consumers reported higher willingness to buy in the cause anthropomorphizing condition than those in the effect anthropomorphizing and control condition, and there is no significant difference between the later.

■ TD17

Aula 18

Health and Food

Behavioral Track

Chair: Daniel Guhl, Humboldt University-Berlin, Berlin, 10178, Germany

1 - The Effect of Package Color on Food Decision Making and Its Implications for Consumer Well-being

Nitika Garg, Associate Professor, University of New South Wales, UNSW Sydney, Australia, Chi Pham

Color is an important element of package design and is usually the first element that consumers notice and recognize when shopping. As consumers often link colors with symbolic meaning, the package color of food products can trigger associations with perceptions of tastiness and healthiness. In this research, we examine the effect of bright versus dark package colors for hedonic and healthy foods on consumer perceptions and their willingness to buy. Across six studies including a field experiment, we find robust color effects where food is perceived as tastier in a dark package and healthier in a bright package. Importantly, consumers are more likely to purchase hedonic food in a dark package and healthy food in a bright package due to the perceived congruency (dark-hedonic and bright-healthy) between color and food type. Further, while actual tasting weakens the influence of package color, this shift is not stable and the color effect re-emerges after some delay. We also test the moderating effect of brand familiarity and find that color effect is strongest for brands with low (versus high) familiarity in the marketplace. Finally, we show that a health claim amplifies the influence of package color such that a hedonic food product in a dark package with a health claim is perceived as both healthy and tasty and thus, most attractive to consumers. Our findings have key insights for marketers looking to enhance the attractiveness of their (especially, new) products. As the meanings associated with dark and bright are largely invariant across cultures, our findings should replicate across markets and cultures. Importantly, these findings also highlight a potential for advertising deception where hedonic and potentially harmful products (e.g., alcohol, fatty processed foods) are made more innocuous by using bright package colors. Thus, there are tangible implications for policy makers as well as consumers.

2 - How Consumers Use Nutrition Information

Daniel Guhl, Postdoc, Humboldt University-Berlin, Berlin, Germany, Steffen Jahn, Setareh S. Sanjari, Yasemin Boztug

Understanding consumers' utilization of nutrition information is of utmost scholarly and policy relevance. Recent research suggests that simple, evaluative labels are best suited to help consumers make healthful choices. These studies, however, have focused on food healthfulness assessments in relatively unambiguous settings, such as comparing pasta and potato chips. We examine more realistic situations (e.g., comparing nut and yogurt chocolates) to gain a deeper understanding about nutrition information processing. In an experiment and a field study, we investigate the role of front-of-package (FOP) nutrition label format, thinking style, and the mediating role of considering extensive back-of-package (BOP) information. Unique to this approach is the consideration of a binary mediator (BOP information consultation: yes vs. no) and binary dependent variable (correct vs. incorrect healthfulness assessment). A recursive bivariate probit model is used to handle these two jointly determined choices in a set of equations where the dependent variable in one equation is an endogenous regressor in the other equation. Results highlight a paradoxical effect of numerical nutrition label presence as well as analytical thinking style in terms of BOP label consultation and healthfulness assessment. Contrary to most existing studies, we find that consumers voluntarily consult extensive nutrition information under some conditions, and provide evidence that this consultation improves their decision quality. Yet analytical thinkers are less likely to consider this information but manage to perform well regardless. Moreover, numerical FOP label provision is superior when paired with high motivation but backfires among consumers with little motivation to process nutrition information.

■ TD18

Aula 19

Social Influence

Behavioral Track

Chair: Hyunjung Crystal Lee, Universidad Carlos III de Madrid, Calle Madrid, GETAFE, 28903, Spain

1 - Interdependent and Independent Self's Influence on Queueing Preference: A Conjoint Experiment

Hsiu Chen Chan, Department of Marketing, National Chung Hsing University, New Taipei City, Taiwan

Queuing is a positive signal of product and service quality. Although observation of a queue is not interactive, nevertheless, consumers are influenced by others. Previous research investigates the impact on perceived value from the number of customers ahead and behind. However, little is understood about the impact of different personality traits on the perception of queuing. This study explores how independent and interdependent self-construals influence the subjective utility of queuing through a choice-based conjoint simulation. The experiment stimuli include pre-tests to determine long/short lines and monetary value of line wait low/high/unknown payoff. The unknown variable introduces uncertainty and risk avoidance as a control variable. We propose the perceived utility of a line wait is higher for those with a higher interdependent self-construal orientation. The interdependent self depends on others and focuses on connecting with others in contrast to independent self. In contrast, the utility of monetary reward is higher for those with independent self-construal orientation. Such individuals pay attention to their own goals rather than the feelings and thoughts of others. The perception of queuing, as a signal of product/service desirability is influenced by social psychology. Nevertheless, our findings also demonstrate the utility of queuing varies across different personality traits. Anxiety toward an unknown situation, for those who have high uncertainty avoidance orientation can be reduced when queuing people are observed.

2 - Consumption Behaviour of Biopics in Bollywood through a Uses and Gratifications Lens

Soumya Sarkar, Indian Institute of Management-Ranchi, Ranchi, India, Siddharth G. Majhi

The motion picture industry has been used as a context to study the drivers of experiential and hedonic consumption behavior. Of late, the interest and attention of scholars in the field of consumer behavior have shifted away from empirical studies using economic approaches based on box-office data. Most previous studies have utilized such data to link movie parameters with performance. In this study, a more fine-grained approach is adopted to understand the consumption behavior of biopics in the context of Bollywood (the Hindi language industry in India). This industry, operating out of Mumbai (previously Bombay), has seen a significant increase in the release of biopics in recent years and their mixed box-office results makes this a novel and interesting context. We conducted a qualitative exploratory study through a string of in-depth interviews to identify key factors motivating biopic consumption and distinguish between consumer expectations from biopics and non-biopics. On using lenses of motion picture consumption research, uses and gratifications theory, and expectations theory, certain themes have emerged from the interviews. Biopics fulfill social utility, personal identity and surveillance needs of consumers which get manifested into the expectation of better and factually accurate content. This study has important theoretical implications for motion picture consumption behavior research, biopic consumption behavior, and hedonic consumption behavior, and managerial implications for film producers and marketers.

3 - Knowing Where I am: Using Self-Assessment to Overcome Consumers' Reluctance to Seek Help

Hyunjung Crystal Lee, Assistant Professor of Marketing, Universidad Carlos III de Madrid, GETAFE, Spain, Andrew Gershoff

The present research examines factors that consumers take into consideration when they seek help via online forums about how to use, or otherwise troubleshoot a problem, with a product. Using 6 studies, we demonstrate that the decision to post a question on an online product forum can be influenced by the perceived social norm established by preexisting questions that peer consumers have posted on the forum (study 1). Consumers are often concerned with others' perceptions when seeking help in public settings. Likewise, we show that consumers consider the perceived social norm of the forum when viewing an online forum. While doing so, concerns about others' judgments, and desires to avoid embarrassment resulting from those judgments, reduce consumers' willingness to post questions that seem to violate the norm. Then, we show ways to mitigate others' judgments by providing opportunities to publicly express their awareness of the norm, as well as their violation of the norm, before posting their questions. To accurately identify the specific social judgment that hinders consumers' help-seeking decisions, we examine several factors that could mitigate consumers' reluctance: public self-assessment of one's own question (studies 2 and 3), public acknowledgment of one's achievements in other domains (study 4), the communal norm of the forum (study 5), and the ability to reward the potential help-givers (study 6). By doing so, we introduce novel tools that marketers could use on online forum designs to facilitate consumers' question posting behaviors. In addition, we show why self-assessment is more effective than others in overcoming reluctance in seeking help. This work has the potential to help marketers recognize and mitigate context-relevant social and emotional barriers to seeking help and facilitate consumer help-seeking decisions. With this knowledge, marketers may also enrich help-platforms in ways consumers will truly appreciate while also facilitating the development of consumers' lasting relationships with each other and with the firm.

■ TD19

Aula 20

Pricing 4

Contributed Session

Chair: Arnd Vomberg, University of Mannheim, L 5 1 (Castle), Mannheim, 68131, Germany

1 - Brand Loyalty as a Cause for Competitive Price Promotions: An Empirical Investigation

Dan Horsky, ProfessorSimon Scholl of Business, University of Rochester, Rochester, NY, United States, Polis Pavlidis

Recent game theoretic results suggest that the use of price promotions by competing profit maximizing manufacturers of frequently purchased consumer goods may stem from the existence of the consumer phenomenon of brand loyalty. A price promotion by a brand clearly also attracts consumers who otherwise would have brought another brand or not bought in the category at all. When brand loyalty exists the brand's purchasers will develop a loyalty, a transient increase in utility, which will increase the probability they will buy it again in the following period when the brand resumes its regular high price. The theoretical results indicate that if consumer loyalty is strong enough it can make competitive price promotions lead to profits which are higher than those attained with a single optimal price. We thus investigate empirically whether brands for which consumers do not exhibit loyalty do not offer price promotions and in brands for which loyalty exists the frequency of offering price promotions is positively impacted by the magnitude of consumer loyalty. We do so with brands from twenty product categories that are part of the IRI household panel data set. We use a MCMC algorithm that handles the estimation of all twenty categories demand and supply models jointly to address the issue of "non-random" marketing mix variables. We are able to provide rich empirical evidence that consumer dynamics of the loyalty type are a significant driver of brands' price promotions. Specifically we find that in all product categories consumers exhibit brand loyalty and brands offer price promotions. Moreover, controlling for category, store and brand factors, brands with higher re-purchase effects are offered on price promotions more frequently.

2 - Optimal Pricing of Points in Points Plus Cash Reward Programs

Ricardo Montoya, University of Chile, Santiago, Chile

Customers in Reward Programs (RPs) typically accumulate points for their purchases that can be redeemed later for rewards. Recently, some RPs offer the option of combining a customer's points with cash to redeem them for products in a Points Plus Cash (PPC) frame. The cash in this scheme helps to buy the needed points to complete the full-point equivalent needed to redeem for the reward. The price of these points need to be determined by the company considering various factors such as the consumers' consumption heterogeneity and willingness to pay for the points, the value of the product, and the cost of that product. The goal of this research is to determine the optimal price in a PPC scheme taking these factors into account. The proposed framework considers differences in consumption rates and product valuations by customers that allow a profit-maximizing firm to determine the optimal dynamic price. Our main result characterizes the optimal price as a function of the time remaining to the end of the selling horizon. We show that the price increases in time and decreases regarding the number of points required to be redeemed for the product. Demand at the optimal dynamic price also increases over time. The optimal pricing uncovers three types of customers. A first segment prefers buying at the beginning of the selling horizon, a second group prefers buying at the end of the selling horizon, and a third group buys during the selling horizon. We use the developed framework to compare the proposed pricing strategy to other pricing options such as constant pricing and also to explore extensions to our basic model. The analysis shows that the main results are fairly robust to different assumptions.

3 - Reselling: When Buyers Become Consumer Re-sellers

Man Xie, University of Florida, Gainesville, FL, United States, Steven M. Shugan, Yanping Tu

Research examining pricing in on-line markets considers retail pricing, auction pricing and freemium pricing. Often overlooked, is pricing in resale markets. Internet channels greatly facilitate reselling with many emerging websites (Glyde.com, Thredup.com, shopify.com, tradesy.com, zillow.com, redfin.com). These channels allow the owners of many, often unique, products (collectibles, used boats, event tickets for specific seats, estate liquidations, jewelry markets, pawn brokering, furniture retailing, used car markets, housing, etc.) reselling capabilities. Reselling raises the question regarding how prior ownership affects asking prices. Using data from Zillow.com, we study pricing when buyers become consumers and then resellers of pre-owned products. We find that resellers' asking prices depend on both how consumer-resellers acquired the target products and the consumers' consumption experience with the products. The original acquisition helps determine the resellers' information set. Asking prices also depend on learning occurring during the consumption of the products. Asking prices also depend on the resellers' need for an immediate sale. We show that, on average, resellers' perception of the pre-owned products' worth decrease over time and asking prices consequently decrease over time. The reason is that buyers are more likely to buy products that look better than they are than products that look worse than they are. Learning eventually aligns with long-term perceptions. Hence, duration of ownership becomes negatively correlated with asking prices. We develop sufficient conditions for this negative correlation and provide empirical evidence that resellers experience this negative correlation in real estate markets.

4 - What the Past Tells about the Future: Historical Prices in the Durable Goods Market

Jin Huang, New York University-Shanghai, Shanghai, China, Zheng Gong, Yuxin Chen

We investigate the dynamic pricing strategy of a durable good monopolist in a new setting that assumes away perfect consumer information on arrival time and historical prices. We first show that when consumers with heterogeneous tastes are all uninformed of historical prices, the monopolist charges a high price for most of the time and periodically holds low-price sales. Then we consider the case in which a small fraction of consumers become informed about historical prices (such as price tracker users). We find that in equilibrium the seller lowers the high price and keeps it for a shorter period in each price cycle. With the presence of price trackers, the monopolist profits less while consumer welfare increases. We contribute to the literature by illustrating the informational role of historical prices and understanding how price tracking websites affect the market equilibrium. Our findings also provide microfoundations of price stickiness and have important managerial implications for sellers and platforms on historical price disclosure.

5 - Dynamic Pricing: Trading-off Short-term Profit Maximization vs. Long-term Consumer Relationships?

Arnd Vomberg, University of Groningen, Groningen, Netherlands, Christian Homburg, Karin Lauer

Dynamic pricing has recently become a hot topic in the press on which companies hesitate to comment. Alone on a single day, amazon.com changes its prices up to 2.5 million times. For instance, the price monitoring provider Minderest found that alone on Valentine's Day 2015, the price of a Nikon camera changed within hours by up to 240% on amazon.com. With respect to different types of dynamic pricing, the literature mainly differentiates time-based (i.e., price variation within short periods of time) and consumer-based dynamic pricing (i.e., price differentiation between consumers at the same time). Both time-based and consumer-based dynamic pricing seem to be interesting topics for companies to maximize profits. However, besides, the possibility of short-term profit maximization, it is crucial for retailers to account for side effects which likely negatively influence their customer relationships. This leads to the question: What are the long-term consequences of time-based and consumer-based dynamic pricing on consumer behavior? Drawing on learning from experience theory, the authors explore consumers' responses to dynamic pricing incidents in a long-term field study (n = 178) and a long-term experimental setting (n = 824). Moreover, they draw on secondary data from a leading multichannel retailer. Results are sobering for dynamic pricing retailers: Consumers remember dynamic pricing incidents and start changing their behavior (e.g., increased search behavior).

Friday, 9:00AM - 10:30AM

■ FA01

Aula 01

Marketing Finance Interface 2

Contributed Session

Chair: Punjaporn Chinchanachokchai, Sasin Graduate Institute of Business Administration, Ramkamhaeng 109, H, Bangkok, 10240, Thailand

1 - Corporate Social Responsibility Awards and the Market Value of the Firm

Qingmei Tan, Tianjin University, Tianjin, China, Min Zhang, Ruixi Long

Although corporate social responsibility (CSR) has been considered as an important competitive strategy, managers sometimes hesitate to invest in CSR since it is not always clear how such investments will benefit their firms. This study empirically investigates the impact of CSR performance on the firm market value through a firm's winning a CSR award as an indicator. Based on 342 announcements of CSR awards in China from 2005 to 2017 and the event-study methodology, we obtain that the stock market reacts negatively to CSR announcements. To detect potential drivers of negative market value, we further add various moderating factors, namely, nature of property right, industry type, registered address, number of rewards, and listing markets in the regression analysis, respectively. Our results show that the CSR awarding announcements have negatively stronger response for firms belonging to manufacturing industry, firms located in the east of China, firms listed in Chinese Hong Kong stock market, and firms with repeated CSR award, respectively. We contribute to the existing literature into three accounts. First, this study concentrates on CSR awards in China in contrast to most of the existing literature involved in developed countries. Institutional environments, stakeholders' CSR awareness, and firms' capacity for influencing stakeholders may be possible reasons for negative connotations associated with Chinese CSR awards. Second, we choose winning CSR award as a proxy instead of using accounting-based or survey-based measures in previous studies. Third, our data come from Chinese mainland stock market, Chinese Hong Kong stock market and U.S. stock market whereas the reported researches focus on single stock market. It shows that the negative abnormal stock return is stronger in the Chinese Hong Kong stock market than the other stock markets.

2 - Recalls of Innovative Products and Firm Market Value and Firm Stock Risk

Ismail Erzurumlu, NEOMA Business School, Rouen, France, Nukhet Harmancioglu

In this study, the determinants of the effects of innovative product recalls on both short- and long-term stock returns and firm unsystematic equity risk are examined. Drawing upon signaling theory, the study argues that certain recall (i.e., recall time, recall volume, recall severity, and recall initiator) and innovation characteristics (i.e., innovative product life and innovation type) influence firm market value and unsystematic equity risk due to recalls of innovative products. Specifically, it argues that firms' stock return losses and unsystematic risks grow as recall time, recall volume, or recall severity increases. Voluntary recalls attenuate the negative effect of innovative product recalls on the firms' stock returns and unsystematic risks. Severe product recalls, on the other hand, are likely to lead more negative stock returns and unsystematic equity risks compared to non-severe recalls. Moreover, the recall of an innovative product with a short life is likely to lead less negative stock returns and unsystematic equity risks than the recall of an innovative product with a long life.

3 - Marketing Intensity and Firm Performance: The Mediating Role of Information Risk

Malika Chaudhuri, Assistant Professor of Marketing, University of Dayton, Dayton, OH, United States, Ranadeb Chaudhuri

Extant literature establishes the relation between firm's marketing activities and creation of intangible assets such as customer, brand and relationship equity (Kim and Ko, 2012). However, there is limited research examining the financial consequences of marketing intensity. Our first research question examines the implication of marketing intensity on firm performance. Next, we analyze the role played by information risk in the above relation. Information risk is a non-diversifiable risk factor that is priced by the capital market (Easley and O'Hara, 2004). Information risk and its implication on financial and accounting health of a firm are well documented in the literature (Gonedes, 1973). Literature suggests that firm's marketing activities are signals designed to provide information to the investors (Chaudhuri, Janney and Calantone, 2019). These firm-related information helps to reduce information asymmetry, thereby alleviating firm's exposure to information risk. Additionally, reduction in information asymmetry may enhance investor confidence, thereby leading to improvement in financial health of the firm. Thus, our second research question examines the mediating role of information risk between marketing intensity and firm performance. We measure 'Information Risk' by Analyst Dispersion and Percentage Forecast Error (I/B/E/S), firm performance by OIBDP and 'Cash Flow' (Compustat). Firm's release of firm-specific information to appease investors' demand and thereby reduce firm's exposure to information risk is endogenously determined by the TMT's discretion towards allocation of resources towards marketing activities and is contingent on firm specific characteristics determining information quality (Cohen, 2006). We address this potential endogeneity issue by using an appropriate instrumental variable and using three-stage least squares method of analysis. Findings indicate a positive association between marketing intensity and firm performance. Furthermore, results demonstrate the mediating role of information risk.

4 - Integrating Financial Flow in Supply Chain Optimization

Shenghan Xu, University of Idaho, Moscow, ID, United States

We explore the impact of the coordination of financial flows between supply chain partners in the scheme of optimizing the total cost of ownership. A growing understanding is that, by integrating the financial service providers in the supply chain transactions, buyers and suppliers gain access to working capital while achieving sourcing goals, increasing the security of supply and building a stronger business relationship. In this work, we propose a linear programming-based theoretical evaluation framework with a quantifiable opportunity cost to demonstrate the implications of operational constraints imposed by different supply chain partners while engaging in the approved payable finance. We provide a mechanism to explore what the total cost savings are and how the financial gains from supply chain finance can be divided among buyers, suppliers and financial service providers. A new perspective in assessing the practice and recommending actions in different circumstances to increase systemwide benefits has been offered.

5 - Understanding Elderly Consumers and Their Investment Decisions

Punjaporn Chinchanachokchai, PhD Candidate, Sasin Graduate Institute of Business Administration, Bangkok, Thailand, Pavitra Jindahra, Surat Teerakapibal

With our aging world, the number of people aged over 60 years old will be 2 billion in 2050. The demographic shift demands elderly consumers to be financial independent, assuring the standard of retirement living they prefer. Many studies suggest that the elderly are risk averse, preferring conservative financial products with lower return. This fixation on risk averse products could impair the matching of the retirement revenues with expenses. Nevertheless, there is evidence that the elderly could tolerate higher risk. Hence, the belief that the elderly fixate on the risk averse products may not versatile. This paper investigates the investment decision of the elderly. It aims to provide insight into the roles of risk, return, liquidity, and financial knowledge requirement on financial product preferences. The investigation is done through finite mixture logit models on Thai conjoint choice data of 591 elderly (60+) consumers. Results show 3 distinct segments. Segment 1 (56.5%): middle income and well educated elderly prefer medium risk-return and sophisticated products. Segment 2 (25.29%): lower income and female elderly reveal strong preference on low risk-return option that can be freely withdrawn. Segment 3 (18.2%): higher income earners, on the other hand, do not fixate their preferences. In sum, majority of the elderly can take higher risk. Variation of risk tolerance varies according to income level. Males are willing to take higher risk than females. Education makes consumer be willing to invest in more sophisticated product. Implications on optimal financial product design are then discussed.

■ FA02

Aula 02

Retailing 3

Contributed Session

Chair: Marco Ieva, University of Parma, Parma, 43125, Italy

1 - After the Nudge is Gone: Keep Good Resolutions or Return to Old (Return) Habits?

Siham El Kihal, Assistant Professor, Frankfurt School of Finance & Management gGmbH, Frankfurt am Main, Germany, Oliver Emrich, Thilo Pfrang

In this paper, we investigate how social norm appeals may reduce return rates without harming overall sales, and, whether this intervention leads to a behavioral change for customers with multi-item ordering habits, in particular. In addition, our research explores how product returns will evolve over time, within and after the treatment period (i.e., when the behavioral appeal has been removed). In a field experiment with 3,428 customers of a large fashion retailer, we randomly expose customers to social norm appeals, self-focus and environment-focus appeals about reducing product returns that are induced during the online shopping ordering process, and observe their return behaviors for one year during and after the treatment. In a quasi-field study in the context of curated shopping, we replicate the findings and gain more insights into the attitudinal change that accompanies behavioral change. The two studies converge on the insight that social norm appeals induce customers to reduce product returns, but this effect becomes more strongly effective in the post-treatment period as consumers more strongly justify their returns during the treatment instead of changing their behavior immediately. The underlying attitudinal change regarding reducing product returns then becomes effective after the social norm appeal - which initially creates feelings of resistance - has been removed. Behavioral and attitudinal change is particularly pronounced for customers with multi-item ordering habits.

2 - (Un)expected Consequences of Becoming a Format Shopper

Xavi Vidal-Berastain, University of Rochester, Rochester, NY, United States

We quantify the causal impact of new format/platform entry on a broad range of consumershopping behaviors, including overall spending, frequency of visit, breadth and depth of basketand brand loyalty. This is a large undertaking, made feasible only by recent innovations in dataavailability and statistical methodology. In particular, we exploit machine learning and data fusiontechniques to combine a rich collection of data on consumer choice and store entry decisionsinto a unified longitudinal panel and employ and extend frontier synthetic control methods toaddress issues of selection and heterogeneous response inherent to this context.

3 - A Parsimonious Model of Behavioral Brand Loyalty for FMCG Markets

Oliver Koll, Professsor, University of Innsbruck, Innsbruck, Austria, Andreas Plank

This study examines pairs of subsequent choices (i.e., purchase couples) to examine the determinants of consumers' brand sticking versus brand switching behavior in FMCG markets. While prior studies modelled behavioral brand loyalty, among other factors, as a function of multiple earlier brand purchases this study suggests a very simple loyalty operationalization. Loyalty is present (absent) if a consumer purchases (does not purchase) the same brand on his or her next purchase occasion. That is, we limit the time series components of panel data sets to two states (i.e., previous purchase, consecutive purchase) and build a parsimonious model of brand repurchasing. The model tests for effects of brand-specific (e.g., price, share), retailer-specific (e.g., same or not, promo purchase or not, assortment size), transaction-specific (e.g. amount spent, interpurchase time) and consumer-specific determinants (e.g., age, household size) on brand repurchasing behavior. We examine purchase couples extracted from consumer panels in the UK and Germany for four different product categories respectively. The results show that market share of the brand, a private label purchase, shopping at the same retailer, and social class positively impact the likelihood to repurchase the same brand from one shopping trip to the next while household size, inter-purchase time and frequent category purchasing negatively impact this likelihood. This study contributes theoretically to prior literature on brand loyalty by introducing the purchase couple logic and provides managers with relevant insights into the determinants of brand loyalty in FMCG markets.

4 - How does Household Life Cycle Affect Food Baskets?

Fatima Madani, Monash University, Caulfield, Australia, Satheesh Seenivasan, Felix Mavondo

Households experience multiple life events (e.g. marriage, divorce etc.) over their lifetime, which significantly changes their preferences, purchases and consumption behaviors. These changes represent strategic opportunities or threats for stakeholders such as retailers and public policy makers. In this study, we investigate the effects of household life cycle transitions on two important aspects of households' food baskets - healthiness and freshness. Drawing from theories of allocation of time, role switching and interpersonal relationship, we develop propositions about how eight different life events, that transition households across typical life cycle stages, affect the healthiness and freshness of their food baskets. We use longitudinal panel data on households' actual purchases across all US grocery retailers for a period of six years from Nielsen. Using propensity score matching technique and difference-in-difference analysis, we find that specific life events such as childbirth, empty nesting, divorce in the absence of children etc. increase the unhealthiness of households' food baskets. Further, transitions such as children leaving households and divorce in the absence of children affect the freshness of households' food baskets. We also find that the effects of household life cycle transitions are more pronounced for food basket healthiness rather than freshness.Our findings have important implications for researchers, retailers and public health professionals.

5 - Understanding the Antecedents of In-store Customer Experience: the Role of Store Characteristics

Marco Ieva, Postdoctoral Research Fellow, University of Parma, Parma, Italy, Michaël Flacandji, Cristina Ziliani

Previous research has found that the in-store Customer Experience (CE) influences customer satisfaction and loyalty (Bustamante and Rubio 2017). However, it is still unclear what are the key drivers of the in-store CE (Lemon and Verhoef 2016). To address this gap, this study relies on previous works on CE creation in retailing (e.g. Verhoef et al. 2009) and adopts a Stimulus-Organism-Response paradigm (Mehrabian and Russell 1974). It identifies the role of store characteristics (Stimuli) as antecedents of the In-store CE dimensions, which impact on customer satisfaction (Organism), leading in turn to patronage intention (Response). An online survey has been run on more than two thousand shoppers in apparel retailing. Data have been analysed by means of Partial Least Square Structural Equation Modelling. Results show that store characteristics are significant antecedents of CE. Specifically, the cognitive CE dimension is driven by after sale service, product assortment and value of merchandise. The affective dimension is driven by salesperson service and store atmosphere. The physical dimension is driven by store atmosphere and the social one is related to facilities and salesperson service. As far as the relationship between CE and satisfaction is concerned, the cognitive and affective dimensions are positively related to customer satisfaction, whereas the social dimension displays a negative relationship. Finally, satisfaction is positively related to patronage intention. This work has implications for retailers and for brands that increasingly develop a physical presence: they are called to carefully manage those store characteristics that affect the in-store CE dimensions that drive loyalty.

■ FA03

Aula 03

Broadcasting Consumption Experiences

Special Session

Chair: Irene Scopelliti, City University of London, London, EC1Y 8TZ, United Kingdom

1 - Self-Promotion, Social Comparison, and Meaning in Life

Irene Scopelliti, City University of London, London, EC1Y 8TZ, United Kingdom, Young Eun Huh, Seo Young Myaeng

Exposure to others' self-promotional attempts - whether in personal conversations or through social media - has become increasingly prevalent. Previous research has documented that people in general experience negative feelings when they are exposed to others' bragging. In this project, we examine the role of an individual level antecedent of these negative emotional responses, the search and the presence of meaning in life (Steger et al. 2006). Specifically, we examined how the two dimensions of meaning in life - search (the extent to which people desire and strive to understand the meaning of their lives) and presence (the extent to which people have an understanding of their presence in the world and of the significance their existence) - influence how negatively recipients respond to others' self-promotion. A series of pilots and pre-registered studies revealed that searching for meaning in life is associated with more negative emotional responses to others' self-promotional attempts, whereas the presence of meaning in life mitigates these responses. We also observed that the mechanism underlying these effects is a greater tendency to engage in social comparison induced by one's process of searching for meaning in life. In addition, we found that a simple intervention involving a reflection on the presence of meaning in one's life significantly reduces the negativity of recipients' responses to others' self-promotion.

2 - FOMO: How the Fear of Missing Out Leads to Missing Out

Cindy Chan, University of Toronto, Jacquelin Rifkin, Barbara Kahn

People often interrupt ongoing experiences, such as dining at a restaurant or vacationing, to check for social media updates about missed experiences. Could accessing others' experiences come at the expense of enjoying one's own current experience? Six studies in the laboratory and field examine the "Fear of Missing Out" (FOMO) phenomenon and its effect on enjoyment of ongoing experiences. FOMO is elicited when people are reminded of a missed social experience (e.g., by viewing social media posts) and leads to a reduction in the enjoyment of one's ongoing, present experience—even when the present experience is expected to be more enjoyable. Furthermore, FOMO is socially driven: We find that FOMO is characterized by anxiety and sadness about the perception of missed social bonding and potential negative consequences for one's social belonging. As such, we find that the effects on enjoyment are attenuated when the missed event does not involve one's own social group and exacerbated among those who are chronically anxious about social belonging. Across our studies, we also show that FOMO cannot be explained by post-decision regret, social exclusion, distraction, or impression management concerns. These findings contribute to the literatures on experiential consumption and social emotions, and serve to caution people that a fear of missing out on social bonding can result in missing out on enjoying their own experiences.

3 - See What I Did Versus See What I Have: Impression Management Using Experiential Versus Material Purchases

Francesca Valsesia, University of Washington, Seattle, WA, United States, Kristin Diehl

That people use material purchases as signals to manage the impressions they make on others is well established. Experiential purchases play an important role in consumers' happiness and well-being. However, their possible use as impression management tools has not been examined. Across a field experiment and five laboratory studies, we find consumers are more likely to use experiential rather than material purchases as signals when trying to generate favorable impressions. We also find that receivers indeed form more positive impressions based on experiential compared to material purchase signals, as those signaling with experiential purchases are perceived to be more authentic. Experiential purchases are also found to be better signals in repeated impression management situations (when different purchases of the same type are used as signals). The use of multiple, cumulative signals leads to a decline in impressions for material but not experiential purchases. Finally, we find that, even though the exclusive use of experiential signals would create more favorable impressions, people still occasionally use material purchases as signals across repeated impression management opportunities.

4 - Hard Work or Talent? What People Emphasize When Promoting Themselves and Others

Janina Steinmetz, City University of London, London, United Kingdom, Ayana Younge, Ovul Sezer

Making a positive impression on potential employers is key to success on the job market. To do so, one must do well in the job interview, and one must have stellar letters of recommendation. Yet people often struggle with promoting themselves in interviews and with writing effective recommendation letters for others. As one strategy to promote oneself and others, people typically talk about success stories. However, a success story is hardly complete without a reason to which the success is attributed: People can succeed due to their hard work and effort, or due to their talent. What is not yet known is how people attribute their success (to talent versus effort) to give a positive impression of themselves and of others who they recommend. Three experiments ($N = 602$) explore this question and test whether people's attributions of success receive favor from their audience. The findings show that, in impression management situations such as job interviews, people mention their talent more than their audience would like to hear. This effect occurs because people communicate talent to seem competent but neglect to also communicate effort to seem warm and relatable. The same conflict between communicating someone's effort versus talent emerges when recommending others. Thus, success alone may not be enough to make a positive impression on others in recommendation letters and job interviews; emphasizing effort as the cause for success also matters.

■ FA04

Aula 04

Mobile, Algorithm, and Artificial Intelligence (AI) Session 1: Digital Commerce and Attribution

Special Session

Chair: Xueming Luo, Temple University, Philadelphia, PA, 19122, United States

Co-Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - The Role of Physical Stores in the Digital Age: Quasi-Experimental Evidence from Product Level Analysis

Jason Chan, University of Minnesota, Minneapolis, MN, 55455, United States, Kaiquan Xu

With increasing ecommerce penetration, it is believed that consumers are spending more of their shopping time online and away from physical stores. This brings to question the role of physical stores in an increasingly digitized landscape and whether they remain relevant to existing retailers. The measurement of the impact of physical stores is further characterized by the difficulty of attributing the increase in online sales to customers seeing and experiencing products showcased in physical stores, as this information is not typically observed and captured. Should physical stores remain valuable in the digital age, how should retailers maximize product placements in stores to enhance its complementarity to online sales? In this study, we attempt to shed light on these questions using a quasi-experiment, taking place through a nationwide retailer that expanded its physical presence over time. This work distinguishes from past studies in that it studies consumer behavior in the underexplored, yet important Chinese market in a mature ecommerce era. This work complements past work in the literature by providing empirical evidence of the conspicuous benefits of physical stores in a new context by explicitly showing that showcased products in stores have a positive relationship with online sales. Through a "DDD" framework conducted at the product-level, we provide more direct evidence on the effect of the physical channel on outcomes in the online channel. Accounting for inherent endogeneity concerns, the main effect of store openings on online sales holds under various checks. We also find that online sales for products showcased in physical stores increase for both high and low involvement products, while high involvement products not showcased face a subsequent drop in sales. This set of results suggest that two mechanisms are likely driving the online sales of products displayed in physical stores. An experiential effect helps consumers converge their purchase for high involvement products by providing them with additional sources of product information that is otherwise not available online, and an exposure effect increases sales by generating greater top-of-the-mind awareness of low-involvement products. In all, our study contributes by dispelling concerns on the diminishing role of stores and demonstrating how stores fulfill a crucial marketing purpose.

2 - Forward-Looking Customer Cultivation: Dynamic Multi-Stage Experiments

Xueming Luo, Temple University, Philadelphia, PA, United States, Shaojun Qin

This paper examines whether firms can increase the effectiveness of price promotions by cultivating customer preferences or tastes. We run multi-stage field experiments on a mobile book-reading platform. In the first-stage experiment, we randomize content ads on the platform. In the second-stage experiment, we further randomly send out price promotions or pure ads on top of the preceding experiment. Our results show that content ads significantly cultivate users' book-reading activities and preference structure. However, the effectiveness of price promotion is reduced for the cultivated customers. Our findings reveal a dynamic tradeoff between different marketing tools for managers who wish to target and cultivate customer preference.

3 - The Effectiveness of Location-Based Mobile Push vs. Pull Targeting: An Experimental Study

Martin Spann, Ludwig-Maximilians-University, Institute for Electronic Commerce, Geschwister-Scholl-Platz 1, 80539, Germany, Dominik Molitor, Anindya Ghose, Philipp Reichhart

The two main mobile targeting approaches are mobile push and mobile pull, where consumers actively inform themselves about offers in their vicinity via a dedicated application. While research in online marketing has found that pull (search engine advertising) is more effective than push (display advertising), previous research has not analyzed the effectiveness of mobile push vs. mobile pull targeting. We investigate the effectiveness of mobile push vs. mobile pull targeting mechanisms in a randomized field experiment. We find that out-of-store push coupons significantly increase the visit and purchase likelihood. In addition, in-store push coupons can significantly increase the visit duration.

4 - Multi-channel Conversion Attribution: A Machine Learning Approach

Jan Piet Peeperkorn, Groningen, 9718CL, Netherlands, Maarten Soomer, Qingchen Wang

This paper presents a novel machine learning approach to the problem of attributing online conversion credit. By incorporating customer behavior information that is highly effective in predicting whether a customer journey will result in a conversion, this approach achieves conversion prediction quality that significantly exceeds existing attribution models. Conversion credits are then assigned to different marketing channels based on their relative contribution as defined by the Shapley value framework, which is proven to ensure fairness and is easy to interpret. Our approach also allows for attribution at the individual journey level instead of in aggregate at the channel level.

■ FA05

Aula 05

From Data & Model to Insights & Implications for Retail Practice

Special Session

Chair: Rajagopalan Sethuraman, Southern Methodist University, Marketing Dept Cox School of Business, Dallas, TX, 75275-0333, United States

1 - Retail & the Recession: Income and Wealth Effects on CPG Purchase Behavior

Pradeep Chintagunta, University of Chicago, Chicago, IL, United States, Shirsho Biswas, Sanjay Dhar

We study the impact of income and wealth on consumer CPG budget allocations towards private labels vs national brands; grocery stores vs discount stores vs warehouse clubs vs. other stores; and food vs non-food items. We use household purchase data to identify within-household income and wealth effects on these decisions. We study these decisions both jointly and separately. We find that there is a statistically significant shift in budget allocation towards private label goods, discount stores and food items when consumers experience downward shocks to their income and wealth. However, these shifts are not very large in magnitude and hence not very economically significant, especially when compared to overall time trends towards purchases of more private labels, more purchasing in discount stores and higher food expenditures.

2 - Multichannel Marketing: Substance, Science, and Opportunity

Scott Andrew Neslin, Dartmouth College, Tuck School of Business, 100 Tuck Hall, Hanover, NH, 03755, United States

This presentation provides a sampling of substantive questions in multichannel marketing, the methods researchers are using to answer them, and where the next opportunities are. Questions investigated include determinants of channel choice, research shopping, the impact of adding channels, the omnichannel deal prone consumer, the impact of multichannel purchasing on customer profitability, the role of the physical store in generating customer value, and cross-effects of online media on offline sales. Methods include hidden Markov models, choice models, matching methods, media mix models, latent class cluster analysis, time series methods, and field tests. Opportunities include the impact of customers' multichannel usage on brand as well as retailer loyalty, why customer value differs by acquisition channel, the consumer's joint choice of brand and channel, segmentation versus integration in multichannel strategy, privacy issues in collecting multichannel data, price and channel-presence equilibria in a competitive environment, and resource allocation among channels. The overall conclusion is that multichannel marketing offers ample opportunities to employ rigorous statistical modeling to topics of substantial importance for both theory and practice.

3 - Reference Price and Omni-Channel Marketing

Russell S. Winer, New York University, Stern School of Business, New York, NY, 10012, United States

The empirical reference price literature has grown significantly over the years since the initial article by Winer (1986). The two central aspects of these models are (1) how the reference price formation process is modeled, and (2) the choice model itself. In this era of omni-channel marketing with consumers utilizing multiple channels to collect information and make purchases, both modeling the reference price formation process and the choice model need to be updated to reflect this new environment. This talk will focus on some ideas on updating reference price modeling to adapt to this new channels climate.

4 - How Do Assortment Size & Composition Influence Store Switching and Store Image? Review, New Study, and Future Research Directions

Rajagopalan Sethuraman, Southern Methodist University, Marketing Dept Cox School of Business, Dallas, TX, 75275-0333, United States, Juan Carlos Gázquez-Abad, Francisco J. Martínez-López

Assortment planning is among the most important strategic decisions that a grocery retailer has to make. This assortment planning and management process includes making decisions on size and composition of the assortment at the brand and SKU levels, as well as on their shelf-placement, pricing, and promotion. Many academic researchers have provided insights that guide retail practice on assortment planning using data combined with empirical / analytical modeling. The data have ranged from aggregate store/chain level data at the brand and SKU levels to individual panel purchase data to experimental data. The analysis methods have ranged from building structural econometric models to choice models to ANOVA. In this presentation, we will review the academic literature on assortment, compile the insights and implications, and offer gaps and avenues for future research. Then, we will analyze data from a large online field experiment in USA and Spain, where we manipulated assortment size and composition, and provide insights on the impact of assortment size on store switching and store image, and draw implications for assortment planning.

■ FA06

Aula 06

Digitization 4: Politics, Media, and Society

Special Session

Co-Chair: Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States

Chair: Pinar Yildirim, University of Pennsylvania, Philadelphia, PA, 19104, United States

1 - How and When the Political Cycle Identifies Ad Effects

Sarah Moshary, University of Chicago, Chicago, IL, 19104, United States, Bradley Shapiro, Jihong Song

A central challenge in estimating the effect of TV advertising on demand is finding exogenous shifters of airtime. Political advertising in the US has been proposed as a plausible candidate (Sinkinson & Starc (2018)), as it disrupts the commercial market to the tune of $1 billion during presidential election years. This paper formalizes this approach, exploring whether and how political cycles identify ad effects. We first present a stylized model of advertising markets to elucidate a theoretical underpinning of this IV strategy. We then characterize the strength of the first stage of the political ad instrument across 274 product categories that advertise on TV. In particular, we use machine learning to obtain optimal instruments. With these results in hand, we conduct a battery of tests that provide necessary, though not sufficient, tests of instrument validity.

2 - Polarized America: Going Beyond Political Partisanship to Preference Partisanship

Verena Schoenmueller, Bocconi University, Milan, 10032, Italy, Oded Netzer, Florian Stahl

In this research we use publicly available social media data to put together a comprehensive mosaic that reflects the differences between conservatives and liberals that span far beyond their political differences, which we term preference partisanship. We build the preference partisanship using a large dataset of Twitter users. We use the joint followership of political accounts and brand followership as a measure of political affiliation. We show that liberals and conservatives differ substantially regarding the brands they engage with. We further investigate the evolution of this preference partisanship post the 2016 U.S. election. Finally, by using demographics such as gender and location as well as users' brand perceptions we investigate the communalities and differences between liberal and conservative brands.

3 - Automation and Polarization

Pinar Yildirim, University of Pennsylvania, Huntsman Hall, Philadelphia, PA, 19104, United States, Maria Petrova, Bledi Taski

We study how personal employment histories, potentially affected by globalization and technological change, influenced people's support of Trump during the 2016 general elections. The main hypothesis is that the populist support is a result of an interaction between aggregate-level labor shocks, informational environment, and individual-level predispositions to populist messages. To study these questions, we use a unique database of more than 20 million resumes collected over the period 2010-2016, the largest available repository of resumes of people looking for jobs in the US, which was not used in academic research before. Using various economic shocks together with individual economic experiences and individual predispositions, we can tell how globalization and technological change brought on by automation of manufacturing jobs interact with.

■ FA07

Aula 07

The Psychology of Consuming, Allocating, and Managing Resources in the Marketplace

Special Session

Chair: Franklin Shaddy, University of California-Los Ageles, Los Angeles, CA, United States

1 - Meaning and Money Don't Mix: The Link between Meaningful Consumption and Frugality

Lawrence Williams, University of Colorado, Boulder, CO, United States, Nicole Mead

The pursuit of meaning can be a powerful motivator for consumption, influencing the brands that people choose, the loyalty they feel toward those brands, and the investments of time, energy, and money they are willing to make to obtain preferred goods. Recent research suggests that meaningful consumption is characterized by a belief that larger investments will provide longer-lasting benefits (Williams and Percival Carter 2019), so one might reasonably expect people pursuing meaning to be attracted to higher-quality, more durable products. However, we find that people who are induced to pursue meaning (vs. pleasure) are more inclined towards less expensive, lower-quality options. Compared to those induced to pursue pleasure in consumption, people induced to purse meaning show a preference for lower-quality options (spanning multiple product categories), both when price is and is not made salient (study 1). Follow-up studies indicate that this effect is attenuated by explicit reminders of the link between quality and durability (studies 2 and 3). Our final study explores the mechanism responsible for our findings. When focused on the beginning of a product journey (e.g., acquisition, transaction), people pursuing meaning (vs. pleasure) focus on alternative uses of their resources (money, time, energy), which subsequently results in the preference for less expensive, lower-quality options. However, this pattern is absent when people focus on the end of a product journey (e.g., use, disposal). Taken together, these findings point to a disconnect between what people say they want when engaged in meaningful consumption (more expensive products that last longer), and what they choose (less expensive products that fail sooner).

2 - When Cash Costs You: The Pain of Holding

Jay Zenki , The University of Melbourne, Melbourne, Australia, Kobe Millet, Nicole Mead

While previous research suggests that consumers find it painful to part with cash (i.e., the pain of paying), we argue that consumers may sometimes find it painful to hold on to cash (i.e., the pain of holding). More specifically, we expect that, when it is bulky and heavy, consumers find cash to be annoying. We theorize and find that this experience has implications for how consumers manage their cash. When choosing how to receive a 60€prize, 68 out of 102 participants preferred to receive this money in small notes instead of a larger note and several coins (study 1). In an ultimatum game, 193 participants were offered half of an 8€pool (i.e., 4€) in either 1-cent coins or 2-euro coins. Whereas only 1% of the participants rejected the 2-euro coins, 31% rejected the financially-equivalent four-hundred 1-cent coins (study 2). Furthermore, a scenario study with 201 participants found that participants were willing to donate more equally-valuable coins than notes because of a greater pain of holding (study 3). Finally, an internal meta-analysis of all our scenario studies (studies 3-9; total N=1,412) showed that participants endowed with equally-valuable coins (vs. notes; either Hong Kong or Indian currency) parted with more cash through spending or donation because of a greater pain of holding. As such, our current findings suggest that the pain of holding may encourage needless spending and prevent people from saving money. On the flipside, the pain of holding may have beneficial consequences for society, such as increased donation.

3 - When and Why People Prefer Markets Versus Lotteries

Franklin Shaddy, University of California-Los Ageles, Anderson School of Management, Los Angeles, CA, United States, Anuj Shah

How should scarce goods and services be allocated? On the one hand, people often subscribe to an equality norm—everyone should be given an equal chance to acquire things. For example, lotteries reflect an equality norm. On the other hand, people also often subscribe to a preference norm—things should be allocated to those who have the strongest want or need for them. Markets reflect a preference norm, in which WTP is assumed to signal preferences. Given these competing norms, when might people prefer to use markets versus lotteries? We suggest people consider how much preference variance there is within a group. If all members of a group have similar preferences, then people will endorse lotteries. But if members of a group have different preferences, then people will endorse markets. This is because people want markets to sort people based on their preferences, such that higher WTP is associated (albeit imperfectly) with greater want or need. But when everyone wants or needs something to a similar degree, there is less "signal" to detect; WTP and preferences are no longer correlated. Thus, we argue that when preference variance is low, people will perceive markets as unfair, endorsing lotteries instead. Across five studies (N=2,405), we found that participants endorsed the use of a market when preferences and WTP varied (preferring a lottery otherwise), that this relationship extends to real-world products and services, and that the desire to achieve allocative efficiency (i.e., make sure those with the strongest preferences get things) plays a mediating role. People often disagree about when markets are appropriate, but our research suggests a surprising malleability: People survey the nature of preferences within a group and choose an allocation system to fit it.

4 - Cash (Dis)Incentives

Ran Kivetz, Columbia University, New York, NY, United States, Rachel Meng

Common wisdom and academic theories suggest that incentives can motivate behavior change. While considerable research has focused on financial incentives as a default tool to encourage desired outcomes, less is known about the efficacy of monetary (cash-based) compared to nonmonetary incentives in shaping behavior. The present research investigates the psychology and consequences of cash incentives for individuals' choices, motivation, and behavior. Results from eight study series indicate that cash incentives evoke a "compensation mindset" that focuses consumers on the outcome of attaining the reward rather than the process of expending effort, leading them to prioritize maximizing the chances and immediacy of receiving a focal reward. Compared with noncash hedonic rewards of equivalent retail value, consumers facing contingent cash incentives were more likely to: choose smaller-certain and smaller-immediate rewards over larger-uncertain and larger-delayed rewards (respectively); settle for easier performance goals and tasks; and cheat more to secure compensation. Combined, these findings suggest that managers and marketers seeking to motivate their constituents may do well to reconsider the use of cash incentives.

■ FA08

Aula 08

Digital Marketing 5

Contributed Session

Chair: Alexander Bleier, Frankfurt School of Finance & Management gGmbH, Frankfurt am Main, 60322, Germany

1 - Paywalls in Digital News Consumption

Chutian Wang, University of Maryland, College Park, MD, United States, Yogesh V Joshi, Bo Zhou

We study popular revenue models used by digital newspapers. Newspapers usually provide some free content to all readers while making other content available only to subscribers by keeping it behind a paywall. We use an analytical model to characterize this market as a dynamic game between a newspaper and readers. Readers, who are heterogeneous in terms of their preferences as well as valuation for news content, decide whether to get news from other media sources and whether to pay for the newspaper. We find that as the proportion of high valuation readers increases, a newspaper decreases the number of free articles and increases the subscription fee, shifting from a pure ad-supported model to a premium content paywall. As the number of high valuation readers increases further, the firm shifts to a metered paywall, and finally to a paid content model. Interestingly, as the proportion of high valuation readers increases, the demand for subscription can first increase then decrease. The proportion of readers interested in a specific type of content also determines the optimal type of paywall. We contribute to the work on media firm revenue models by comparing different designs of the paywall. We discuss the implication of readers' interest on the optimal design of paywall, and analyze its impact on a news media firm's profits from content and advertisement. We investigate the effects of dynamics of the changes in readers' preferences on the firm's optimal paywall strategies.

2 - How the Number and Composition of Objects in User-generated Product Photos Affect Consumer Response

Purushottam Papatla, University of Wisconsin-Milwaukee, School of Business Administration, Milwaukee, WI, 53201-0742, United States, Nima Jalali

Online retailers have begun to curate photos of their products posted by consumers on social media on their websites to stimulate consumer interest in the products. Because the photos are taken by consumers, however, a potential drawback of such visual user generated content (VUGC) is the presence of many elements unrelated to the product. They could for instance include elements like outdoors, other household goods, pets or friends. Because visitors to online retail sites typically spend less than a minute on an entire web page and possibly just a few seconds on any curated photo, the presence of such other elements could potentially distract them from the product and suppress interest in further exploring or purchasing it. The literature however provides few insights into whether this happens and, if it does, how the effects vary with the number and type of other elements in the photo. This is the gap that we address in this research. Specifically, drawing on the literature on competition for attention for our theoretical background, our goal is to provide insights into how the proportion of the photo's area occupied by the product and other objects as well as the holistic effect of how they are composed in the curated photo affects consumers' interest in the product included in the photo. We rely on computer vision and deep learning to detect objects in more than six thousand user-generated photos posted by twelve retailers on their websites and investigate visitor response to the products in the photos.

3 - Multi-generation Diffusion Model with Dynamic Social Media Effect

Yinxing Li, Tohoku University, Sendai, Japan, Nobuhiko Terui

In recent years, big data analysis becomes one of the hot topics in many fields in include marketing field. Particularly, a big amount of text data in social media become a popular target for researchers these years. However, most of the researches focus on just use text data to improve the precision of forecasting, like the stock market, there are still lack of researches about how to combine traditional econometrics model and such kind of unstructured data. On the other hand, the text analysis algorithm has also developed a lot in recent years, models like LDA, or Naïve Bayes can extract features from text easily. However, in the machine learning field, they are focus on the model precision rather than interpretability, thus, there are few researches about interpretability of text data or result of machine learning algorithms. The purpose of this research is to apply machine learning algorithm, especially text analysis algorithm, to marketing models. I not only focus on the precision of model, but also analysis and interpret the role of text data in the model. we have applied marketing mix variables as well as social media information to Bass model for multi-generation. We also proposed a new Bass model with a hierarchical structure, which is able to forecast sales for the product of new generation without any sales data from this generation. We also applied our proposed model to a realistic marketing problem, and show how social media influence the leapfrog effect. In this research, we have proposed Bass model with social media effect, as well as hierarchical structure to parameters. The result shows the effectiveness of social media effect with dynamic labeled topic model both in the marketing mix and hierarchical structure. Mainly, it becomes possible to forecast sales of a new generation for a technology product before it launched to the market by using our hierarchical structure, which is impossible in previous studies.

4 - Social TV and Viewer Retention During Ads

Alexander Bleier, Assistant Professor of Marketing, Frankfurt School of Finance & Management, Frankfurt am Main, Germany, Beth Fossen

Understanding real-time changes in viewership during advertisements is becoming increasingly important, especially as the television industry moves toward a programmatic ad-buying model. This research explores how social TV activity, i.e., viewers' social media conversations about television programming, can help explain these dynamics in viewership. Using a multisource dataset of 8,417 ad instances aired on 83 programs, program-related Twitter mentions, and second-level changes in audience size during ads, we explore the relationship between viewer engagement in the form of social TV activity and viewer retention during ads. We find that shows with higher volumes of program-related social TV activity see more viewer retention during ads that air later in ad breaks and during ads that air after a spike in program-related online chatter. Moreover, independent of the volume of social TV activity, ads airing after a spike in program-related online chatter see higher viewer retention, while this effect diminishes later in the ad break. Our results provide important implications for television networks and advertisers that can use our findings to improve their respective advertising strategies.

■ FA09

Aula 09

Digital Marketing 17

Contributed Session

Chair: Hendrik Halbe, University of Lausanne

1 - Are Companies in the Indian Hotel Industry Paying Attention to Their Customers' Feedback? A Lexical Study of Online Reviews

Praveen Goyal, Assistant Professor, Birla Institute of Technology & Science PIlani, Pilani, India, Victor Saha, Megha Shishodia

Internet has been instrumental in disrupting and transforming various industries around the world. The process of customer feedback and review generation has become much more effective, thus resulting in faster iterations of product and service offerings. The long-term success of a company depends to a large extent on how it responds and deals with its customers' reviews. Since it is not always feasible to address each of the received reviews on a case-by-case basis, there entails a requirement for streamlining the received responses of the customers so as to facilitate companies in taking necessary action. This paper is, thus, aimed at developing a model that would determine broad themes from the online customer reviews of the Indian hotel industry and then analyse those themes on the basis of the SERVQUAL model. The study adopts text mining methods and sentiment analysis to achieve this objective. The data for the study have been collected from Kaggle, a community of data scientists. A total of 4768 reviews have been analysed, out of which 3659 are found to be positive, while 1109 are negative. These data points have then been classified according to the 5 dimensions of the SERVQUAL model. The service providers in the hotel industry would now have an enhanced understanding of the aspects where they are doing well, and where they would have to improve. In essence, the results of this study will help practitioners in bridge the gap between the feedback provided by the customers and the actions adopted by companies to improve their services.

2 - The Role of Information Precision and Consumer Expertise in Markets

Mohsen Foroughifar, University of Toronto, Toronto, ON, Canada, David A. Soberman

When new products are launched, consumers often lack information about their characteristics and quality. In such a context, social interactions such as word of mouth (WOM) becomes an important source of information. As a category matures, familiarity with the category and a category-specific lexicon helps consumers talk about products more easily. Accordingly, the precision of information as well as consumers' ability to assess and understand information improves. We analyze a simple monopoly setting to investigate the implications of these changes. We find that more precise information does not necessarily lead to higher profits. Specifically, when the average precision is below a threshold, both low and high quality firms lose when precision increases. However, when the average precision exceeds a threshold, a high quality firm gains from high precision information. Results also indicate that when consumers are heterogeneous in their ability to evaluate the precision of information, educating consumers might not be always beneficial for the firm. A high quality firm does not have incentive to educate consumers unless the fraction of consumers who are highly capable of assessing the information precision is large, a condition which is typically satisfied when a market is mature. In sum, in the early stages of a category, neither educating consumers nor increasing average information precision makes a firm better off, independent of the firm's quality. However, when the market is mature, the high quality firm's incentives are in favor of increasing the average precision and educating consumers, and a low quality firm's incentives are the opposite.

3 - The Effects of Re-targeting on Purchase Incidence, Channel Choice and Purchase Quantity

Tritha Dhar, University of Guelph, Guelph, ON, Canada, Tanya Mark

Marketers are faced with the daunting challenge of identifying insights and delivering the right combination of online and offline tactics to engage consumers at various stages along the consumer journey. In this paper, we assess the relative effectiveness of six marketing activities on the consumer journey. Unique to this study is the use of re-targeting to influence buying behaviors across multiple retail channels. Specifically, our research questions are: (1) Under what conditions is re-targeting effective at influencing customers along the different stages of the consumer journey across multiple channels? and (2) How is re-targeting associated with online and offline touchpoints? To answer these questions, we use a three-stage system of equations on a dataset consisting of individual level transaction data across telephone, web, and store channels, combined with website visits and marketing activities (i.e. re-targeting, email, paid search, affiliate marketing, and catalog). We collected a random sample of 10,000 unique customers over two years from a large North American multichannel retailer of a premium brand. For this retailer, we find re-targeting is an effective advertising activity to influence purchase incidence but only when combined with some marketing activities. While catalogs and emails have positive synergies with re-targeting, website visits have a negative synergy on a consumer's decision to make a purchase. One possible explanation to the negative synergistic effect is consumers may perceive re-targeting as intrusive (Tucker, 2012; van Doorn & Hoekstra, 2013) or raises concerns about privacy (Bleier & Eisenbeiss, 2015) when browsing online. Rather than nudging consumers along the consumer journey some combinations of advertising activities may deter customers from engaging with a firm.

4 - Long Tail in the Work Place? How Employees' Social Media Presence Influences their Performance Distribution

Hendrik Halbe, University of Lausanne, Lausanne, Switzerland

Employees with external visibility, i.e. whose job performance and reputation are observable outside of the organization (Call, Nyberg, & Thatcher, 2015), have increasingly created a social media presence. This presence can further enhance their external visibility (Kane, Fichman, Gallaugher, & Glaser, 2009). A higher external visibility may increase employees' opportunities for alternative employment and their leverage to gain organizational resources. Employees' social media presence can have a positive effect on their performance because the higher external visibility may lead to a better access to organizational resources. However, a social media presence can be created by all employees independently of their previous external visibility and performance. In this paper, we examine the effect of employees' social media presence on the performance distribution within an occupational group. Employees' performance in an occupational group seems to be concentrated, i.e. a relatively small number of employees have a high performance whereas most employees show an average or a low performance (Kehoe, Lepak, & Bentley, 2018). The performance distribution can be described as a power law with superstars and a long tail. This study analyzes how the existence of university professors' Twitter accounts influences their academic performance, measured by the h-index of their publications. We assume that Twitter accounts enhance the performance of professors in the long tail because those professors can attract audience interested in niche topics. On the other hand, Twitter accounts of superstar professors could increase the interest of less scientific audiences and eventually market centralization.

■ FA10

Aula 10

Machine Learning 5

Contributed Session

Chair: Chenshuo Sun, New York University, New York, NY, 10011, United States

1 - Dynamics of Musical Success: A Bayesian Nonparametric Approach

Khaled Boughanmi, PhD Student, Columbia University, New York, NY, United States, Asim Ansari, Rajeev Kohli

We model the dynamics of musical success of albums over the last half century with a view towards constructing musically well-balanced playlists. We develop a novel nonparametric Bayesian modeling framework that combines data of different modalities (e.g. metadata, acoustic and textual data) to infer the correlates of album success. We then show how artists, music platforms, and label houses can use the model estimates to compile new albums and playlists. Our empirical investigation uses a unique dataset which we collected using different online sources. The modeling framework integrates different types of nonparametrics. One component uses a supervised hierarchical Dirichlet process to summarize the perceptual information in crowd-sourced textual tags and another time-varying component uses dynamic penalized splines to capture how different acoustical features of music have shaped album success over the years. Our results illuminate the broad patterns in the rise and decline of different musical genres, and in the emergence of new forms of music. They also characterize how various subjective and objective acoustic measures have waxed and waned in importance over the years. We uncover a number of themes that categorize albums in terms of sub-genres, consumption contexts, emotions, nostalgia and other aspects of the musical experience. We show how the parameters of our model can be used to construct music compilations and playlists that are likely to appeal to listeners with different preferences and requirements.

2 - Beyond a Money Maker: The Study of How the Usage of Store Credit Influences Consumer's Purchase Behaviors

Zelin Zhang, Associate Professor, Renmin University of China, Beijing, China, Jianbo Cheng, Chunyu Lan, Peter T. Popkowski Leszczyc, Feiqiong Wei, Nanbo Peng

Currently, leading retailers such Amazon, JD and Taobao all launched their consumption finance service to their consumers. To be differentiated with the credit service offered by banks, we name this new kind of credit service as "Store Credit". In this study, we aim to answer whether and how the consumers' purchase behaviors are influenced by using store credit. With a data set from JD.com which is the second largest online retailer in China, we conduct three PSM-DID analyses to answer our focal questions. We deliberately match treatment and control groups for the difference-in-difference studies with respect to consumers' demographics, purchase record and individual store credit policy (credit limit) information to mitigate self-selection bias stemming from consumers' store credit usage decisions. Our results show a consistent pattern that after initially using store credit, consumers will visit the store's website more frequently, make more purchase transactions with higher spending in each transaction. Specifically, those shifts in consumers' purchase pattern become stronger if the store credit balances are paid via periodic payment compared to lump-sum payment, and if the payment is manually paid compared to automatically paid. Some new insights are drawn from our study. First, different from the credit card which can only benefit banks through interest and overdue payment, store credit can also provide indirect benefit to issuers through its influences on consumers' purchase behaviors. Second, sellers may want to strategically motivate their store credit users to use periodic payment and manual payment methods rather than lump-sum and automatic payment.

3 - Image Portfolio and Demand in the Sharing Economy

Shane Wang, Ivey Business School, Western University, London, ON, Canada, Jiaxiu He, Rajdeep Grewal

"The rapid growth of peer-to-peer marketplaces and the so-called "sharing economy" has reshaped many industries, including travel and hospitality. The non-standardized nature of Airbnb properties, compared to traditional chain hotels, can result in superior value for customers, but also introduces more uncertainty. Information that property owners provide, where substantial piece of information is visual, seeks to reduce this uncertainty. The authors conceptualize visual information and investigate its causal effects on demand for Airbnb properties. The authors propose a composite image portfolio that consists of a proxy measure of the amount of visual information, technical features of images, and information from images. From a substantive perspective, the authors contribute to emerging literature on the sharing economy that focuses on guest reviews, aesthetic measures of images, and other property and host characteristics by studying the image portfolio and contents of images. From a methodological perspective, the authors implement a unique identification strategy, where they match Airbnb listings in focal city with those in other cities and obtain instruments by distance and propensity score. Specifically, they use the idea of "inverse distance weighting" to generate instrumental variables with "individualized" values for each focal listing.

4 - Can AI Detect Fashion Revivals? A Trial Examining the Qualitative Aspects of Fashion

Keiko Yamaguchi, Associate Professor, Nagoya University, Nagoya, Japan, Satoshi Takahashi, Asuka Watanabe

Consumer-generated fashion plays an important role in the apparel industry and it makes recent fashion trends too complicated to predict in a traditional manner for the production side. However, apparel companies need to forecast their sales very precisely and control inventory to reduce the amount of wasted clothes. Under the current circumstances, developing methodologies to study fashion trends objectively and understanding consumer-generated fashion are important objectives for the industry. With the aim of addressing this research issue, this study demonstrates a novel approach to measuring fashion phenomena objectively with artificial intelligence and street snaps mirroring consumer-generated fashion. Fashion revival, where styles with similar aesthetics come into fashion at different times, has been examined qualitatively by fashion experts. The amplitude of fashion revivals varies from the concrete level such as items, to the abstract level such as coordinating tastes, and there is no unified framework to detect the occurrence of fashion revival. Our study adopted the VGG-16 model, which is a type of deep learning models with pre-trained weights, and fine-tuned it with street snaps, taken in Tokyo, Japan from 1970 to 2018. After this learning process, we validated our model by examining whether it identified some pairs of snaps that fashion experts identified as fashion revivals. With the help of some techniques to explain which parts of deep learning models weighed heavily for image recognition, this study demonstrated how fashion revivals were detected by the artificial intelligence.

5 - How Does Offline Travel Regulate Online Browsing? Evidence from Online-Offline Behavioral Data

Chenshuo Sun, NYU Stern School of Business, New York, NY, United States, Anindya Ghose, Xueming Luo

This research examines how offline travel pattern regulates what people browse online. It relies on rich field data from a major telecom company that records the offline geographical trajectory and online browsing history of 1,269 mobile phone users for two months. Both aggregate- and category-level metrics (namely, count, Gini coefficient, entropy, and Herfindahl index) are harnessed to measure the diversity and dispersion, as well as the browsing share and duration of people's online interests. A three-fold identification and estimation strategy, comprising instrumental variable, exogenous shock, and propensity score matching, is deployed to assess the effects. There are four major findings. First, longer travel time results in significantly narrower and less cosmopolitan online browsing interests. Second, an inverted U-shape exists after incorporating the quadratic term, reflecting that diversity and dispersion of consumers' daily online browsing interests hits a maximum at around 2.5 hours of offline travel. Third, the diversity and dispersion of consumer's online interests are greater on weekdays than on weekends. Heterogeneity across demographics does exist, that men and younger people browse broader and more cosmopolitan things, compared to women and older people. Interestingly, passing by a shopping zone offline significantly weakens the negative linear relationship, and gives rise to additional 5.82 minutes and 2.16 minutes spent on shopping and payment websites.

■ FA11

Aula 11

CRM 5

Contributed Session

Chair: Hsiu-Yu Hung, University of Warwick

1 - Effect of Customer Engagement on Marketing Outcomes: An Empirical Investigation

Siddharth S. Singh, Associate Professor of Marketing, Indian School of Business, Mohali, India

Customer engagement has been linked to superior firm performance and has prompted significant investments by firms in specific activities to engage customers, including the creation of brand specific communities. Such specific activities, however, are costly and are usually outside the firms' core competence. We consider, instead, routine engagement manifestations such as customer's verbal feedback and instances of order cancellations to assess the impact on key outcomes that marketing is interested in, viz. frequency of purchase, and propensity to upgrade. We also assess the impact of such customer engagement on the customer lifetime, a measure of longer-term impact of customer engagement. We leverage a unique dataset consisting of 29 months of taxi services booking and use by over 330,000 customers to empirically estimate the impact. We conduct sentiment analysis of the verbal feedback to go beyond feedback counts and consider the customer emotion in the engagement. We contribute to the engagement literature by estimating the impact of routine customer interactions on important marketing outcomes, including customer lifetime. We also contribute by considering the impact of cancellations on not only customer lifetime, but also on purchase frequency and upgrade propensity. Finally, our work informs managers about the potential of customer engagement in the form of routine interactions.

2 - Let Them Go! Money for Customer Winback Incentives is Better Spent on Current Customers

Christian Schulze, Associate Professor of Marketing, Frankfurt School of Finance & Management, Frankfurt am Main, Germany, Irina Dyshko

"We want you back, here is a 20% discount code" - financial incentives intended to reactivate customers are a common sight. Ubiquitous CRM systems coupled with low communication cost for reaching out to consumers have led to a proliferation of discounted winback offers, as both researchers (e.g., Kumar, Bhagwat, and Zhang 2015, Thomas, Blattberg, and Fox 2004) and practitioners (Furgison 2016, Sandilands 2017) seem to agree on their benefits. Because ex-customers have previously demonstrated interest and are familiar with the company, they should be attractive targets with high ROI (Kumar, Bhagwat, and Zhang 2016). But are they? Budgets spent on winback incentives are not available elsewhere and comprehensive evidence on the effectiveness of discounted winback offers vis-à-vis offers for new and current customers is currently lacking. In this research, we use field data on 59,000 bank customers observed over 60 months to investigate the effect of acquisition incentives on ex-customers, current customers, and new customers. Our results suggest that money spent on large, attractive winback incentives is better spent on current customers. Winback customers lose 61% of their profitability in the promoted category and see a 46% drop in cross-buying likelihood, if acquired with a large (vs. small) incentive. Large incentives attract highly price sensitive customers and the effect is particularly pronounced among ex-customers who have previously shown their willingness to leave the company for better offers elsewhere. Among the three customer groups, current customers without prior experience in the promoted category show the least negative reactions to large incentives. Their profitability in the promoted category only drops slightly and their cross-buying behavior is unaffected by large incentives. Companies might want to reconsider their use of winback incentives, as the financial implications are substantial: For the bank in our study, taking its winback budget and using it to offer incentives to current customers instead would lead to a 28% increase in CLV.

3 - Increasing Donor Retention with Feedback on Donation Use

Besarta Veseli, University of Hamburg, Hamburg, Germany, Edlira Shehu, Michel Clement, Karen Page Winterich

Increasing competition makes donor retention an essential strategy for non-profit organizations. This research investigates the impact of a retention strategy where donors are informed about their past donation use. We theorize this feedback increases the service value donors receive from the organization, thereby increasing redonation. Two field studies (N = 28,222 and 11,166) with Red Cross Blood Donation Services reveal the effectiveness of appeals based on past donation use relative to a best-practice appeal, which acknowledges past donations. The results show that past donation use appeals increase redonation rates relative to other organizational messages acknowledging past donation. Two controlled studies replicate this effect and demonstrate that donors perceive greater service value from the nonprofit organization when they receive information regarding past donation use. We also show that service value can be increased by providing general donation use information in appeals, which provides an opportunity to improve donor retention even when past donation use information is not available. In addition to the practical implications, we contribute to the donor retention and value co-creation literatures.

4 - Capturing the Dynamics of Consumer Trust Evolution Using a Hidden Markov Model

Hsiu-Yu Hung, University of Warwick, Coventry, United Kingdom, Yansong Hu, Nick Lee

Trust is a fundamental building block of business relationships. It is essential to successful online relationship development, and drives consumers' patronage, loyalty, and thus company profitability. We propose a consumer trust framework which depicts an individual's dynamic trust journey, shaped by the individual's mental schema and contextual factors. The framework depicts consumer migration across distinct trust states, which are comprised of different levels and combinations of mental resources, including cognitive, affective and conative inputs. We further propose that the dynamic influences of intrinsic and extrinsic factors, combine to determine the current trust state, and trigger the migration of the consumer between trust states throughout an ongoing consumption journey with a supplier. Using a Hidden Markov Model (HMM), we empirically investigate these consumer trust dynamics, and uncover the most effective trust building strategies. We use consumer review data from a popular travel platform, comprising those consumers who visited the same place at least 6 times. The HMM analysis identifies four latent consumer trust states, which relate to each consumer's level of cognitive, affective and conative inputs. Further, we capture the maintenance of, or transition between, different trust states, as driven by intrinsic and extrinsic mechanisms. Our results can help firms to understand the relationship between consumers' trust states and core consequences such as re-patronage and positive WOM, as well as how to influence consumers' trust states.

■ FA12

Aula 12

Marketing Strategy 2

Contributed Session

Chair: Francisco Villarroel Ordenes, University of Massachusetts, Amherst, MA, 01002, United States

1 - Collaboration to Coopetition: When Servitization Shifts Partner Roles in an Innovation Ecosystem

Anand Krishnamoorthy, University of Central Florida, Orlando, FL, United States, Phillip C. Anderson, Raj Echambadi

Shrinking margins are forcing many product-centric firms within innovation ecosystems to contemplate the possible benefits of a servitization strategy. In the context of external stakeholders within alliance-partner networks and ecosystems, the effects of servitization have been proposed as an important — and underresearched — topic. We address this research gap by modeling how the servitizing product firm creates unintended competitive tensions with its existing collaborative service-partner ecosystem, leading to coopetition. This phenomenon between ecosystem partners has largely been unexplored in the extant service-infusion and servitization literature. Our results highlight the conditions under which the product firm's one-stop-shop advantage creates a successful servitization move, leads to an unfavorable service paradox, or hastens the process of deservitization. Our analysis also indicates that even a modest servitization strategy can cause erosion in the firm's service-partner ecosystem, thereby creating a feedback effect with negative consequences for the core product business. We conclude by discussing the implications for firms operating in evolving, interconnected product-service ecosystems.

2 - When the Whole is Greater than the Sum of Its Parts: Chunking Versus Slicing Product Recalls

Ljubomir Pupovac, University of Technology-Sydney, Ultimo, Australia, François Carrillat, David Michayluk, Nastasja Stamenkovi

The growing number of product recalls represents an ongoing challenge for managers. Existing studies on the impact of product-harm crises strictly focused on the consequences of recalls but little attention has been paid to how the firm implements the recall. Our goal is to fill this gap by looking at two different recall strategies: announcing one large recall (chunking recalls) versus announcing several smaller recalls caused by the same product-harm crisis (slicing recalls). We draw on the behavioral theory of the firm to hypothesize that firms adopt either a chunking or a slicing strategy as a function of recall size and severity. Furthermore, based on signaling theory, we argue that slicing has a detrimental effect on the firm's value unless the firm is facing an extremely large recall. Using the National Highway Traffic Safety Administration (NHTSA) data from 2006 to 2017, we find that managers are more likely to use a slicing strategy when they face large and severe recalls. Using the event study methodology we also find that, on average, it is advantageous to use a chunking strategy. The exception is extremely large recalls, for which the slicing strategy proved less detrimental to recalling firms' market value. In addition to making theoretical and managerial contributions to the product-harm crisis literature, our study also offers practical guidance to managers on how to announce negative corporate news to the public.

3 - Implications of Board Structure for CSR and Firm Performance: the Role of Advertising and Generational Cohort

Atanas Nik Nikolov, Assistant Professor, Appalachian State University, Boone, NC, United States

The composition and structure of U.S. public company boards of directors has been understudied in the marketing field. Boards have the ultimate responsibility for the actions of the corporation in their advisory role to top executives. The ability of the board to provide strategic advice to company management depends, among other things, on individual director attributes, such as gender, education, experience, and ethnicity/nationality. In this study we extend this line of inquiry and examine the effects of board characteristics on corporate social responsibility (CSR) and firm performance. Namely, we focus on board members' generational affiliation (e.g. generation-X) to build and empirically test a model of the impact of board of directors' characteristics on CSR investments and firm performance. A key attribute of a generational cohort is that its members share common beliefs and behavior. Socioemotional selectivity theory further suggests that differences in individuals' perceptions of time leads them to attend to different information and pursue different social goals. Younger individuals may be expected to value environmental awareness and knowledge more than previous generations. Their actions may also be focused on educational behaviors that may increase their environmental knowledge. Furthermore, because future-oriented goals might be more salient to younger individuals, as younger individuals show more concern for the detrimental effects of their environmental actions for their own futures, since they are likely to suffer from negative consequences of unsustainable economic activities for a longer period of time. While controlling for a comprehensive list of board and CEO characteristics such as age, tenure, independence, size, and gender, we find that CSR, advertising, and increasing percentage of board members belonging to the Gen-X cohort positively impact firm performance. We use an instrumental variables approach and further control for selection bias within a fixed effect system of equations with firm, industry, and time effects.

4 - How does Product Line Breadth Affect Advertising and Word-of-Mouth Effectiveness? Evidence from the Automobile Industry

Qi Sun, Shanghai University of Finance and Economics, Shanghai, China, Yong Liu, Biao Luo

Advertising and Word-of-Mouth (WOM) are the primary information sources through which consumers learn about products and services. This paper examines how the effects of advertising and WOM on product sales are influenced by the breath of a firm's product line. Although extant research has studied various effects of advertising and WOM, we know little about how their impact on sales may vary for multiple-product firms that have different number of items in the product line. Yet, understanding these effects have important implications for firms' product line strategies, advertising decision and managing WOM communication among consumers. Our empirical analysis uses a detailed dataset of the automobile industry. We provide strong evidence that while advertising and WOM at the brand level generate sales for a vehicle model, their effectiveness depends on how wide the product line is. While the impact of WOM on vehicle-model sales is enhanced when the product line is wider, the effectiveness of advertising is reduced. We test these effects with various empirical specifications, and provide the reasons behind the results. Implications for product line, advertising and WOM strategies are discussed.

5 - A Longitudinal Analysis of Frontline Experiences and their Implications for Customer Satisfaction

Francisco Villarroel Ordenes, Assistant Professor of Marketing, University of Massachusetts Amherst, Amherst, MA, United States, Detelina Marinova

Frontline employees (FLE) are critical for organizations' competitiveness and among the most significant actors in shaping customer experience and satisfaction (Forbes 2017; McKinsey 2016). Yet, despite universal agreement regarding FLE importance in the service process, FLEs experience higher job dissatisfaction on average compared to other less visible job positions in the organization (CNBC 2017). While research increasingly acknowledges the importance of FLE in services (Singh et al. 2017), there is a lack of clarity regarding the differential experiences amongst frontline functions (e.g., sales vs. customer service), compared with other positions in the organization (e.g., back office), and across industries (Ostrom et. al 2015; Rafaeli et al. 2017). Using a dataset of over 600,000 employee reviews across 450 S&P 500 brands from 2009 to 2017, and customer satisfaction scores from YouGov BrandIndex, this study addresses the aforementioned gaps. First, we use Latent Dirichlet Allocation (LDA) to discover hidden topics in employee written reviews reflecting their job experiences (e.g., flexibility, career development, etc.), and assess their impact on employee satisfaction across different employee positions within the organization. This research offers several contributions. First, it extends the understanding of the frontline job positions and experiences in comparison to other functions within the organization. Second, it contributes to the literature on FLE management by unveiling frontline practices with a greater impact on frontline employee satisfaction across industries. Third, it strengthens researchers' understanding of the influence of different facets of employee experiences on company performance by using a longitudinal quantitative analysis.

■ FA13

Aula 14

Choice Models 1

Contributed Session

Chair: Ossama Elshiewy, University of Goettingen, Platz der Goettinger Sieben 3, Goettingen, Germany

1 - Seasonal Budget Expansions and Implications for Competitive Pricing in the Whisky Category

Max Pachali, Goethe University Frankfurt, House of Finance, Frankfurt, 60323, Germany, Thomas Otter

We model household purchases in the Whisky category. This category features a large number of both vertically and horizontally differentiated brands, and experiences strong sales increases around Christmas in the geographical market we investigate. We propose to model this seasonal demand expansion through a change in households' category budgets which we estimate as part of our demand model. This contrasts with approaches that assume changes in price sensitivity or brand preferences. We find that category budgets tend to increase during Christmas which is in line with the expansion of premium Whisky sales observed in the data during this time. We then investigate the implications for optimal pricing from the perspective of manufacturers. We find that the proposed model is consistent with the price decreases we observe for some brands during Christmas. In contrast, models that motivate the seasonal demand expansion from changes in price sensitivity or changes in brand preferences imply that optimal prices should increase. We conclude by discussing how our findings complement the existing literature.

2 - Demand Estimation and Forecasting using Neuroeconomic Models of Consumer Choice

Nan Chen, National University of Singapore-Singapore, Singapore, John Clithero, Ming Hsu

A foundational problem in marketing and economics involves accurately predicting purchase decisions at both individual and aggregate levels. Building on recent advances in neuroeconomic models of decision making, we investigate the possibility of improving upon the prediction accuracy of popular existing approaches based on the multinomial logit model (MNL). Specifically, using a neuroeconomic model that incorporates response times in addition to choice data, we compare the out-of-sample prediction accuracy of both approaches using a series of consumer choice experiments. We show that our neuroeconomic model robustly outperformed the standard MNL approach in providing accurate forecasts on diverse measures including revenue, market share, and market cannibalization. Finally, we develop a generalizable framework to assess the relative strengths and weaknesses of our neuroeconomic approach compared to current modeling techniques.

3 - Errors in Measuring Minor Attributes Using Choice Modeling

Suneal Bedi, Doctoral Student, The Wharton School, University of Pennsylvania, Philadelphia, PA, United States, David Reibstein

Conjoint analysis and choice models are widely used today. Using choice based methods to understand preferences of major attributes is generally an easy task. However, there are many cases in which valuing minor attributes is of interest to researchers and policy makers, in particular for patent infringement. To estimate the willingness to pay for minor attributes, most conjoint analysis seeks to omit some major attributes and attempt to hold them constant throughout the choice task. We show that when omitting major attributes, the willingness to pay estimations of included attributes are biased upwards. This effect is particularity pronounced for minor attributes. We use three CBC simulations to show the conditions under which omitting major attributes cause an inflation in the valuations of minor attributes. We then validate these simulations using empirical data from a sample of 800 M-Turk respondents and choices of automobile features. In our analysis, we use Hierarchical Bayes estimation to show that certain minor features of automobiles seem to have a higher WTP when major features are absent. The implications are that one should not use a conjoint for estimating demand or WTP for a minor attribute if major attributes are missing from the study. This strategy has been used extensively in patent infringement and false advertising claims, leading to damages that are grossly over exaggerated.

4 - Learned Complementarity

Adam Smith, University College London, London, United Kingdom, Daniel Ershov

We study the demand for goods that consumers use as inputs for completing a project. In this setting, the way in which consumers substitute between goods depends on the complexity of the project. For example, two types of wood may be substitutes for a simple project like building a small box, but complements for a complex project like a multi-level deck. We propose a demand model in which consumers learn about the nature of product complementarity by completing different projects over time. Rather than assuming complementarity is confined to exist among essential product groups (e.g., nails and wood), our model allows us to discover non-obvious complementarity, even within product groups. We apply the model to data from a specialty retailer and discuss targeting and segmentation strategies based on a consumer's evolution of learned complementarity.

5 - Internal and External Reference Price Response in Brand Choice Models

Ossama Elshiewy, University of Goettingen, Goettingen, Germany, Anne O. Peschel

Analyzing reference price (RP) response in brand choice models has a long tradition in marketing and consumer research. Here, the modeler assumes that choice is driven by deviations between observed prices and consumers' RP. In most previous studies, a clear distinction was made between so-called internal and external RP response. Other previous research attempted to allow both response types simultaneously or to profile consumers regarding their RP response. However, none of these studies did fully account for asymmetric RP response (e.g., loss aversion) as well as complete consumer heterogeneity in both types of RP response. Hence, we propose a brand choice model that simultaneously allows for individual-level response to internal and external RP. We employ a multinomial logit model using a semi-parametric hierarchical Bayesian approach. First, a simulation study shows that our proposed model can recover both types of RP response simultaneously. Second, results from real purchase data show that both response types are identified in one model and allow additional insights in terms of individual-level RP response. We observe that consumers in our sample can be profiled into all possible combinations of internal and external RP response. For example, we find many consumers, which are loss-averse for internal RP while gain-seeking for external RP. Taken together, our results show that ignoring one type of RP response can lead to biased parameter estimates. Consequently, our approach reduces bias in asymmetric RP response for both internal and external RP and can therefore inform pricing strategies more effectively.

■ FA14

Aula 15

Advertising 4

Contributed Session

Chair: Ming Cheng, Suffolk University, Boston, MA, 02108, United States

1 - Do Health Claims in Functional Food Ads Change Consumers' Wellness Consciousness and Purchase Behaviors?

Hiroshi Onishi, Associate Professor of Marketing, Tokyo University of Science, Tokyo, Japan

The deregulation of advertising health claims of food products was in force on April 2015 in Japan. Since then many food manufacturers have added healthy claims (such as, to regulate the functions of the intestines, and to reduce fat stored around internal organs) in their advertisements, even though ingredients and functions of their products were not changed. This research investigates the effectiveness of the additional health claims in advertisements to consumers' purchase behaviors, for example some people buy more or switch to the products by merely being exposed ads. On the other hand, this study also examines characteristics of consumers who are vulnerable to the health claims by using not only the consumers' purchase history but also the consumers online-search history from panel data of more than one hundred thousand subjects. We focus on functional yogurt products which are one of the most popular categories advertising with various health claims. We apply the Hidden Markov Model with Latent Dirichlet Allocation (HMM-LDA), which is an extension of the topic model to estimate consumers' wellness-conscious orientation from topic distributions of their online-search keywords. We find the positive impacts of the ads with health claims both to consumers' wellness consciousness and to their purchase behaviors of the health claimed products. We then discuss managerial implications for functional food manufacturers.

2 - All for a Good Cause- Studying the Placement of Cause Advertisements in Online Consumer Purchase Cycle

Arpita Pandey, Indian Institute of Management Ahmedabad, Ahmedabad, India, Rajeev Batra, Abhishek Abhishek, Arnab K. Laha, Sanjay Verma

Cause Related Marketing (CRM) advertising connects products with causes. It increases the effectiveness of marketing by inducing consumer altruism, reducing skepticism and increasing satisfaction with purchase decisions. Consumers purchasing online may encounter CRM advertisements at different stages of their decision journey: at the beginning; while evaluating products, or at the end during the payment stage. Given that consumer needs (emotional and informational), motivations, and expectations change across the stages of the online decision journey, variations in the stage at which CRM advertisements are presented to consumers might induce divergent consumer behavior. In this research we use experiments to study the impact of CRM advertisements placed at different stages of decision journey on consumer attitude towards the brands and the cause. We suggest that the altruistic element (cause) associated with a CRM advertisement, effectively nudges the customer decision making process if effectively placed in a customer purchase cycle. Further, using Motivation-Opportunity-Ability framework (Rothschild 1999, Binney et al 2003) and Attribution theory framework (Weiner, 1972) we suggest that cause claims acts as an executional element that influences the advertisement viewers' motivation to process information in an advertisement, their product involvement, trust in the firm and online process and satisfaction from the transaction when encountered at different position in a consumer purchase cycle (Berger et al, 1999). We identify the moderators (involvement) and mediator (consumer skepticism, cause affinity) for the relationship. Our study determines how CRM online advertising strategies can be socially and commercially effective and has implications for ecommerce and public policy.

3 - Measuring the Effect of Competitors' Store Flyers on EDLP and HiLo Store Performance: GPS Data Approach

Ryo Kato, Kobe University, Kobe, Japan, Takahiro Hoshino

Since a store flyer can promote many products simultaneously, it plays an important role for retailers, who can use it to attract more customers. In spite of the importance of understanding the store flyer effect, no research has considered the existence of competitors' flyers. In this study, we obtained store traffic information using global positioning system (GPS) data from shoppers' smartphones, as well as the flyer information of 80 retail chain stores located in different trading areas. We carried out an analysis of flyer effects considering the impact of competitors' flyers. We found that although own-store flyers have a positive effect on the store's performance, competitors' flyers have negative effects on performance; these negative effects are of a magnitude that should not be ignored. If competitors' flyers are excluded from the study, the effect of own-store flyers is overestimated by 19%. Furthermore, we found that promotional-pricing (HiLo) shoppers are more sensitive to competitors' flyers than are customers who purchase at everyday low prices (EDLP). The results can help EDLP chains stop the practice of designating a loss leader brand.

4 - Consumer Privacy, Informed Consent, and Advertising Effectiveness: Experimental Evidence from a Consent Management Platform

Alexander Eiting, TU Braunschweig, Braunschweig, Germany

A central element of privacy is the ability to control the dissemination of personally identifiable data to private parties. There are many calls for strong governmental intervention to restrict the use of personally identifiable data. However, there are also calls simply to establish appropriate property rights to information on the grounds that market forces will then lead to efficient privacy levels. Against this background, 'Notice and Choice' has been a mainstay of policies designed to safeguard consumer privacy (e.g., the US Privacy Act of 1974). In Europe, the General Data Protection Regulation (GDPR) enforces tighter requirements for obtaining valid consent to the processing of personal data. In this sprit, the California Consumer Privacy Act (CCPA) broadly expands the rights of consumers and requires companies to be significantly more transparent about how they collect, use, and disclose personal information. In reaction to this, obtaining consent has developed along two strikingly distinct paths: On the one hand, firms seem to obscure tracking technologies and opt-out options, exploiting the legal limbo to keep up tracking. On the other hand, firms have implemented Consent Management Platforms (CMP) to inform users about how they track and use their data, obtaining valid informed choices. This paper explores how well these divergent strategies work for online retailers and contributes to this debate by providing empirical evidence from a randomized experiment conducted in cooperation with a major fashion and sporting goods retailer. We experimentally vary the format of the CMP, the extent to which tracking technologies are disclosed as well as the type of targeted advertising, and track their browsing behavior including onsite (e.g., sales) and offsite behavior (e.g., ad clicks). First, we show that retailers' actions to assure transparency do give rise to higher opt-out rates. Second, results indicate that to the extent of consumer self-selection by expected benefit, retailers should provide opt-out facilities to increase the effectiveness of the targeted ads.

5 - Advertising Processing in Social Media: From FGC, Consumer Online Engagement to Offline Purchase

Ming Cheng, Assistant Professor, Suffolk University, Boston, MA, United States, Jiaqi Liu, Jiayin Qi, Fang Wan

With the advertising paradigm shifting from paid to earned media, social media advertising has become a predominant approach that firms apply in various domains. Building upon the advertising processing theory, in this study, we focus on examining the relationships among firm-generated content (FGC), consumer online engagement, and offline purchase decisions. We empirically test these relationships using a unique disaggregate product-level dataset collected from a leading Chinese social media. We find that the level and types of consumer online engagement (liking, commenting, and sharing) are heavily contingent upon the types of firm advertising appeals. In particular, informative FGC engages consumers at lower level (e.g., liking), whereas emotional FGC facilitates consumer engagement at higher level (e.g., sharing). Moreover, we identify a "value inequality" issue generated from the mediation effect played by consumer online engagement to the relationship between FGC and consumer offline purchase behavior, which only takes place when consumer online engagement reaches beyond "liking". Our empirical findings provide practical solutions to firm FGC ads design as well as social media advertising tactics development.

■ FA15

Aula 16

Channels 5

Contributed Session

Chair: Cheng He, Georgia Institutes of Technology, 800 W Peachtree Street, Atlanta, GA, 30380, United States

1 - The Effect of Product Subscription on Consumer Purchases in Omni-channel Retailing

Yilong Liang, University of Minnesota, Minneapolis, MN, United States, Qian Yue

Subscription pricing has become more and more popular for not just service but also tangible products. The authors study the effect of the adoption of subscription plan on customers' purchase behavior under a grocery retailing's setting. Although there are plenty of previous researches about subscription/flat-rate pricing, those researches focus on the causes and consequences of the subscription of the focal product/service. In this paper, the authors extend concern to other products within and in different categories to understand the effect of subscription in an omni-channel retailing environment. They find that after subscribing to a product, customers purchase more products and spend more with the retailer. Such increases happen in both store and non-store channels. For the customer who subscribes a product, there is a higher chance of purchasing other products close to the time when the subscribed product is delivered. Such evidences indicate that subscription of products increases other products' consumption by reminding the customers of the brand.

2 - The Impact of Adding a Brick-and-Mortar Direct Channel on Incumbent Retail Channels and Firm Performance

Michiel Van Crombrugge, Erasmus University Rotterdam, Rotterdam, Netherlands, Els Breugelmans, Christian W. Scheiner, Florian Breiner

Brand manufacturers are constantly exploring new ways to reach more consumers and generate higher sales. To that extent, manufacturers often have a direct selling strategy, where they use their own online channel, combined with an indirect selling strategy, where products are sold via traditional independent retail channels. A recent phenomenon in manufacturers' direct selling strategies is the addition of own brick-and-mortar brand stores to the existing sales network. In this essay, we investigate the cross-channel impact of a manufacturer brick-and-mortar direct channel on the sales performance of the incumbent traditional retail channels and own online direct channel. We also incorporate the brand store sales and costs to study the entry effects on the manufacturer's total top- and bottom-line performance. Using the entry of ten brand stores of a CPG manufacturer in a before-and-after-with-control-group analysis, we find no significant evidence of between-firm impact on indirect retail sales, but show significant within-firm cannibalization on own direct online sales. A split between online sales from repeat and first-time customers reveals that this loss in sales is mostly driven by a decrease in sales from customers who bought online before. Despite these losses in incumbent sales in the vicinity of the store, the physical brand store generates an influx of new sales that compensates for lost sales. Nevertheless, taking into account the operational costs of the brand store, reveals that top-line growth not always suffices to preserve the bottom line. Our findings add a deeper insight to the brand store literature by looking at the impact on not only own, but independent sales channels as well, in the underresearched setting of CPG.

3 - Do Local Offline Channel Exits Affect Consumers' Online Search?

Cheng He, Georgia Institutes of Technology, Atlanta, GA, United States, O. Cem Ozturk, Pradeep Chintagunta, Sriram Venkataraman

In the past decade, a substantial number of brick-and-mortar retail stores have been closed in the U.S. These store closings span a wide range of industries, including automobile retail, consumer electronics, department stores, pharmaceutical, fast food, clothing and footwear, household goods, and luxury fashion, among others. Despite the prevalence of such local offline channel exits by firms, little is known about how consumers respond to these exits. Especially, as multichannel environments where consumers have multiple touch points with firms across different channels have become the norm, physical channel exits potentially have important implications on how consumers search for information in the online channel. In this paper, we empirically study the effect of physical store closings on online consumer search. Specifically, we examine how online search patterns change following Chrysler dealership closures in the U.S. auto industry. We also explore potential underlying mechanisms. Our paper aims to inform managers about the competitive effects of offline channel exits on online consumer behavior.

■ FA16

Aula 17

Consumer Behavior 5

Behavioral Track

Chair: Seung Min Lee, Korea University

1 - Made in God's Image: How God Salience Affects the Desire for Self-Improvement Products

Lauren Grewal, Assistant Professor of Business Administration, Dartmouth College, Hanover, NH, United States, Eugenia Wu, Keisha Cutright

Religion is an important aspect to life for over 80% of the population. However, despite religion's role in the lives of many consumers, there is little research that examines religion's role on non-religious behavior. To address this gap, in our research, across both real world field data and lab experiments measuring hypothetical and real behaviors, we examine how religion influences' consumer's interest in self-improvement products. Specifically, we find that when concepts such as religion and God are salient, consumers are less interested in products framed as relevant for improving the self (generally and compared to similarly attractive alternative control products). This effect occurs as thoughts of God and religion cause consumers to feel more content with their core traits, minimizing the desire to improve the self. Our findings are consistent with prior literature showing that religion and God prompt feelings of gratitude and value in a consumer's life. We find these effects occur across a multitude of products (e.g., groceries, teas, fitness apps, sleep aids), are unique to God salience (vs. other types of primes), and occur only when God is believed to be kind and merciful (vs. cruel and vengeful).

2 - Observing Similar vs. Dissimilar Others Receive Preferential Treatment

Woojung Chang, University of Seoul, Seoul, Korea, Republic of, Ji Hee Song, Sungho Lee

Preferential treatment refers to a firm's practice of giving selected customers enhanced tangible or intangible benefits. Beyond early research focusing on its beneficial effects on target customers who receive preferential treatment, recent work has found adverse bystander effects such as lower patronage intentions of untargeted customers who observe but do not receive the same preferential treatment. However, the question still remains whether observing similar (e.g., colleague) or dissimilar (e.g., stranger) others receive preferential treatment leads to differential reactions to others' preferential treatment. Drawing upon social comparison theory, we specifically explore whether the level of similarity between targeted and untargeted customers interplays with the level of attainability (i.e., how easily the untargeted customer receives the same preferential treatment). We conducted a 2 x 2 between-subjects design in a hotel context. Respondents read a scenario in which they observed that either a colleague (high similarity) or a visitor (low similarity) received a free room upgrade and were informed that 3 (high attainability) or 20 nights (low attainability) more were needed within the next year to receive the same free room upgrade. A total of 228 respondents using Amazon MTurk were randomly assigned to one of the four scenarios. The results of ANCOVA with the respondents' average number of nights staying in hotels per year as a covariate show a significant interaction between similarity and attainability on their loyalty toward the hotel. When respondents observed preferential treatment of a dissimilar other, no difference emerged in their loyalty between the low-attainability and high-attainability conditions. In contrast, when respondents observed preferential treatment of a similar other, the high-attainability condition evoked higher loyalty than the low-attainability condition. The findings provide implications for contrasting bystander effects based on the interplay between similarity and attainability.

3 - Managerial Overconfidence and Business Performance

Markus Christen, Professor of Marketing, University of Lausanne, Lausanne, Switzerland, INSEAD, Fontainbleau, France, David A. Soberman

Overconfidence is the mother of all biases (Bazerman & Moore 2013). It is ubiquitous and very resistant to interventions and debiasing efforts. When people are too certain, they fail to protect themselves from risks, to obtain more information, or to listen to divergent opinions. They underestimate competitive influences and overestimate their control over a situation (Moore, Tenney & Haran 2015). Marketing planning is an important context where overconfidence of managers could have a significant impact on the success of a proposed strategy. The goal of this paper is to analyze whether this is the case and, if present, whether and how it is related to business profitability.Using Markstrat, a competitive marketing simulation, we collected profit forecasts, confidence intervals for profits, and estimates of the relative standing in the market with every decision to evaluate the three forms of overconfidence - overestimation, overplacement and overprecision (Moore & Healy 2008). We find the usual persistent presence of all three forms of overconfidence. Regarding their impact on profits, we find no main effect of overestimation, but a strong inverse-u shaped effect of overprecision, and an interaction effect of these two forms of overconfidence - overestimation increases the negative effect of overprecision. Finally, we find that with a formal marketing planning process to determine the forecasts, the accuracy of the forecasts increases but the width of confidence intervals decreases. Managers underestimate the degree of market uncertainty, which reduces the incentive for analysis (i.e., learning) and reinforces the 'illusion of control'. Additional analyses confirm this argument. For example, teams with consistently small confidence intervals acquire significantly less market research.

4 - Fixed and Growth Mindset Effects on International Marketing Decisions

Christina Papadopoulou, Leeds Beckett University, Leeds, United Kingdom, Aristeidis Theotokis, Magnus Hultman

The role of managerial judgement and decision-making ability is crucial in the international marketing and business research and does not rely any more solely on purely normative assessments. Grounded in implicit theory, the authors develop a conceptual model that examines how and under what conditions fixed and growth mindsets affect the managerial decision-making process with regards to adaptation and entry mode strategic outcomes. The study's hypotheses were tested by a scenario-based experiment with four experimental conditions. Two hundred and fifty-one international marketing managers from firms based in Greece were recruited to take part in the study. In particular, a 2 (fixed vs. growth mindset) by 2 (psychic distance: low vs. high) between subject design was employed. Results revealed that perceived distance between the home and host market moderates the effect of mindset on adaptation intentions and entry mode choice. More specifically, the effect of mindset on adaptation is positive for low psychic distance, but the same effect weakens for high psychic distance, meaning that both growth and fixed mindsets are willing to adapt their strategies when they perceive high distance between the home and host markets. Moreover, in high psychic distance, growth mindset managers, compared to fixed, opt for lower levels of involvement. These findings are consistent with a stream of literature which suggests that managers who seek flexibility in uncertain situations will opt for lower equity entry modes and highlight the conditions where the two different mindset types have similar behavioural outcomes. Finally, interesting moderation and mediation findings are discussed, while practical implications and future research suggestions are offered.

5 - Cross-National Determinants that Affect Customer's Perception toward Corporate Social Responsibility

Seungmin Lee, Korea University, Seoul, Korea, Republic of, Triza Mudita

As companies expand the reach of their CSR (Corporate Social Responsibility) activities to the global market, identifying cross-national differences in consumer behavior is becoming a necessity for market analysis. The aim of this research is to investigate how different the consumers in two countries (i.e. Korea and Indonesia) react towards CSR activities. This study uses 2 (country: Korea vs. Indonesia) x 2 (color priming: Black vs. White) x 2 (perceived Sincerity: High vs. Low) between-subject design. The results show that Indonesians have image-promotional motive than Koreans when exposed to CSR activities. Since Korea, as a developed country, have consumers that are more skeptic towards CSR activities due to high exposure of marketing activities. Second, when simple effects of level of perceived sincerity were examined at each nationality, the analysis showed that level of perceived sincerity was significant in both Korea and in Indonesia. However, Indonesian participants showed more magnitude in the difference. This can be due to their differences in the different knowledge level regarding CSR. Lastly, Koreans are more affected by external cues (e.g. colors that represents morality) when perceiving image than Indonesian. These findings highlight important managerial implications for international marketing practitioners to develop strategy for CSR communication.

■ FA17

Aula 18

Luxury and Status Marketing

Behavioral Track

Chair: Nara Youn, Hongik University, Seoul, 04066, Korea, Republic of

1 - Fake Luxury Products as Deceptive Status Signals: An Evolutionary Informed Analysis

George Baltas, AUEB, Athens, Greece, Vassia Kontopoulou, Flora Kokkinaki

From an evolutionary standpoint, consumption of luxury brands may function as a costly signal of an individual's fitness value. Individuals may use such brands as a means of displaying wealth and status. In particular, individuals may purchase counterfeit luxury products for their ability to confer status at a much lower cost. But what happens when observers are in a position to know or infer the truth about the fake product? The purpose of this empirical study is to examine how other people view consumers of counterfeit luxury products. More specifically, we examine perceptions of status, motivation to affiliate, and desirability as a romantic partner. To that end, we develop and test a set of research hypotheses drawing mainly on evolutionary psychology perspectives. It is demonstrated that there is no difference in perception of status between consumers who own a fake luxury brand and those that own an original low-status brand. We also find that people have a stronger motivation to affiliate with consumers who own a low-status brand. Furthermore, men's choice of counterfeit luxury brands can negatively influence their desirability as a romantic partner, since women express greater upset than men about being deceived about a partner's status and economic resources.

2 - The Ugly Luxury Premium: When Distinctiveness Pays Off

Ludovica Cesareo, Assistant Professor of Marketing, Lehigh University, Bethlehem, PA, United, Claudia Townsend, Zijun Shi

Long-standing wisdom and academic research agree that consumers like and choose goods that are attractive, particularly when publicly displayed. Counter to this, ugly luxury - with its unflattering shapes, odd color combinations, and outrageous patterns - is currently in fashion and selling. This research identifies a distinctive ugly luxury premium: consumers perceive ugly products as more valuable than their attractive counter-parts, but only when they are from a luxury brand. Ugliness offers a valuable signal of luxuriousness that beauty does not offer. Importantly this effect occurs only with distinctive products; mundane ugliness offers no premium. In five lab studies involving a variety of products, brands, aesthetics manipulations, and audiences, when products are described as from a non-luxury brand, consumers are more likely to select the attractive option. However, when described as from a luxury brand, there is no benefit to attractiveness and, in fact, consumers rate unattractive products as more valuable, more likely from the luxury brand, and more fashion-forward (which mediates the former effects). Studies reveal this is specific to distinctively ugly products; mundane ugliness does not signal luxuriousness. Also, brand prominence (logo visibility) serves as a boundary condition, offering further evidence that ugliness is a signal much like a luxury logo. Finally, observational online purchase data confirms these effects, revealing that consumers buy more attractive products among non-luxury brands. However, among luxury brands, ugly products are more likely to be selected as long as they are distinctive, given other product attributes controlled. Finally, we discuss implications for luxury and non-luxury brands.

3 - Slow Wins the Status Race: Longer Response Times Signal High Status

Ignazio Ziano, Grenoble Ecole de Management, Grenoble, France

How does response speed affect perceptions of status? Through nine total experiments (total N= 3,301), we show that slower respondents are perceived of higher status. This effect is mediated by self-orientation perceptions: slower response speed also signals higher self-orientation- a feature that observers connect with higher status. Observers only infer status from response speed when they do not have other information to draw upon. When consumers have the chance of reflecting on a company's social status, they are more likely to choose a slower delivery. We connect parallel research streams in status signalling and response speed, by showing that slower respondents are perceived of higher status. We identify a status cue - response speed - that decouples status and competence impressions, while previous research has typically found that competence and status perceptions go hand in hand. Finally, while other literature showed negative consequences of slower response speed, we demonstrate a positive aspect of slower response speed. This work has implications for consumer welfare, impression management, and the framing and presentation of shipping times.

4 - How Insecure Narcissists Become Cultural Omnivores: Consuming Highbrow Culture for Status Seeking and Lowbrow Culture for Integrity Signaling

Nara Youn, Hongik University, Seoul, Korea, Republic of, Hanna Shin

Today, we observe various forms of cultural omnivorousness such as consumers' mix-matching luxury brands with casual streetwear labels, music playlists of no distinct but eclectic hodgepodge of taste on iPod, and enjoying both graffiti art and classical art at art galleries. In addition, the ways of appreciating art and culture have changed by the development of information technology and social media. Recent research has shown that one of the prominent observations in these social networking sites has been an increase in the levels of narcissism among millennials, projecting positive images of themselves through their SNS posts. In light of recent prevalence of the cultural omnivores and consumer narcissism together with the connection between insecure narcissism and attention seeking shown by previous research, this research shows that when individuals with high narcissism have a sense of insecurity—i.e., low self-esteem or low self-perceived authenticity, they tend to become cultural omnivores preferring both highbrow and lowbrow culture. Two experiments provided support for our insecure narcissist hypothesis by showing that the interactive effect of narcissism by psychological insecurity on preference for highbrow culture is driven by status seeking as a way of distinction, and the interactive effect on preference for lowbrow culture is explained by integrity signaling as another way of distinction. While prior research in cultural omnivore has focused on examining how the socio-economical mechanisms influence preference for highbrow versus lowbrow culture, this research contributes to the literature by investigating how individual personality traits, such as narcissism and psychological insecurity, affect cultural consumption.

■ FA18

Aula 19

Social Network

Behavioral Track

Chair: Mayomi Haga, Osaka University of Economics, Department of Business Administration, Osaka, Japan

1 - Improving Personality-Mining Algorithms Used for Psychological Targeting with a Psychometric Scale for Susceptibility to Social Influence

Sabrina Stöckli, Dr. (Postdoc), University of Bern, Bern, Switzerland, Bettina Höchli, Michael Dorn, Claude Messner

This research shows that susceptibility to social influence as a personality trait predicts consumer behavior in Online Social Networks (OSNs), such as Facebook. We suggest that a psychometric scale for susceptibility to social influence improves psychological targeting in OSNs. Social influence drives the diffusion of content in OSNs. To leverage social influence in OSNs, marketers try to identify users who are susceptible to social influence, e.g., regarding consumer decisions. In view of this, it surprises that psychological targeting in OSNs by means of personality mining does not consider susceptibility to social influence. In fact, present personality-mining algorithms focus on the Big 5 personality traits, identifying digital footprints that correlate with traits such as extraversion or openness. Knowing which digital footprints are indicative for the Big 5 help to match ads to users' personalities. Facebook advertising's targeting option, for instance, allows marketers to show only relevant ads, to users with certain Facebook Likes. If, for example, extraverted users should be addressed, marketers show their ad to users that have liked "socializing" as this is indicative for extraversion (Matz et al., 2017). This research examines the relation between susceptibility to social influence as a personality trait and behavior in OSNs. Data from an online survey reveal that an existing psychometric scale capturing susceptibility to social influence (Bearden, Netemeyer, & Teel, 1989) predicts diverse Facebook-liking behaviors. This thus interests marketers, as many of these behaviors are consumer related, such as viewing other users' posts on products, brands, or political opinions. Further, our data suggest that susceptibility to social influence is a more powerful predictor for OSN behavior than the Big 5. This research therefore proposes that a psychometric scale for susceptibility to social influence can improve personality-mining algorithms for psychological targeting in OSNs. This, in turn, allows marketers to more effectively target customers in OSNs.

2 - Why Close Friends Publicly Share Provocative Content Online

Daniel He, Assistant Professor, National University of Singapore, Singapore, Ran Kivetz

A social network is more than just the group of people it encompasses. Unlike a group, which is simply a collection of two or more members, a social network contains an underlying structure of ties that connect those people (Van den Bulte and Wuyts 2007). Given its importance in network research, ties have been studied extensively often with a focus on their properties, such as their strength (Granovetter 1973), symmetry (Gouldner 1960), multiplexity (Mitchell 1969), and homophily (McPherson, Smith-Lovin, and Cook 2001). At the level of the network, ties are typically abstracted as links which connect nodes or as channels through which information flow. However, lost in this network perspective is the notion that ties are more than just connections between people. Ties represent relationships, and these relationships - be it parent and child, teacher and student, or friend and friend - represent more than the characteristics of the individuals or the interactions and exchanges between these nodes. Although much of the literature on self-presentation and impression management (for a review, see Baym 2010) has focused on individuals signaling self-relevant information, less work has been done on signaling information related to one’s ties. We propose that consumers not only signal information about themselves, but that they also signal information about their ties on social media. We focus on a potentially socially costly behavior - bantering and teasing - to identify instances when the content is more revealing of information about a tie than about the individuals’ characteristics. In support of this proposition, we report three studies showing that (1) close friends are more likely to signal their ties when their interaction is publicly observable than when they are private; (2) people are able to disambiguate between signals of the self and signals of one’s ties; and (3) the phenomenon is partly driven by people’s desire to maintain their strong ties with close friends.

3 - Preference Similarity Effects on Consumer Advice Taking: A Bayesian Perspective

Hang Shen, IÉSEG School of Management, Paris, France, Ye Li

Consumers have access to a wealth of information when making purchase decisions, thanks to a proliferation of consumer-oriented websites and apps. One potential benefit of these apps is that consumers can learn about reviewers’ tastes and preferences and evaluate how similar those preferences are to their own. However, little is known about how WOM advice utilization depends on how advisers rated other products. This article examines how consumers use such preference similarity information when considering WOM. By operationalizing preference similarity as the degree to which two consumers both like or both dislike the same products in a domain, we can compare consumers’ advice taking to a Bayesian normative standard. We find that consumers perceive greater preference similarity and are more influenced by WOM when the anonymous adviser showed greater overlap on ratings of other products in the category, although they inflate how different their preferences are from highly similar advisers, especially for disliking the same products. On the other hand, consumers are surprisingly Bayesian on average when taking advice based on their subjective preference similarities. Our findings suggest that consumers use more WOM from advisers with more similar preferences but should take even more advice, and that recommendation services can strategically provide preference similarity information.

4 - Understanding the Effects of WOM Tie Strength on Analytical Thinking and Opinion Leadership in Terms of Self-confidence

Xin Feng, Keio University, Tokyo, Japan

Previous WOM studies found the importance of information valence: positive WOM promotes purchase, on the contrary, negative WOM hinder purchase seriously. However, positive and negative dichotomy neglects language style in WOM. That is to say, WOMs with same valence could be conveyed in different language styles, which are likely to affect recipients’ perception. In this study, I try to understand how tie strength influences the language styles of WOM. A theoretical framework takes into account two kinds of language styles: analytical thinking and opinion leadership in terms of self-confidence. Furthermore, I consider the mediating effect of altruistic and egoistic motivation and the moderating effect of product novelty. Then, developed hypotheses were tested through an online experiment. I found consumers are likely to share WOM analytically with the one they feel close to and share WOM intuitively with the one they feel distant from. Moreover, consumers are also likely to share WOM more confidently with the one they feel close to than with the one they feel distant from. The findings suggest that marketers could measure the tie strength between WOM senders and recipients to anticipate WOM diffusion of their target market.

5 - Visualization and Evaluation of Moderator’s Role in Marketing Research Online Communities (MROCs)

Mayomi Haga, Associate Professor, Osaka University of Economics, Osaka, Japan

MROCs is a term coined in 2008 to describe “dedicated online communities for qualitative market research purposes”. More than 80% of marketing research suppliers and clients use or plan to use MROCs (GreenBook 2014), because the research tool leverages social dynamics among consumers to generate actionable insights for firms (Bortner et al. 2008).MROCs moderators have to support the community generate more organic networks over time compared to other qualitative survey such as focus group interview and depth interview. Because MROCs has different characteristics from other surveys that generally lasts more than two weeks, thus generates many dropouts. However, since MROCs is a new method, there are few academic knowledges on how to interact with the community and how to evaluate moderators.The initial purpose of this study is to visualize the role of moderator’s network construction based on Graph Theory and to develop a method to measure their capabilities. The second purpose is to clarify how moderators should behave in the community using this method. We analyzed response data collected using MROCs which experimentally designed response style and quantity of moderator by this method. The results indicate that the question style response increases the participant’s network density, on the other hand the repetitive responses does not proceed the network construction especially if the number of responses is large. The obtained results show that the new moderator capability index is sufficient for evaluation whether the community is operated efficiently.

■ FA19

Aula 20

Pricing 5

Contributed Session

Chair: Christopher Amaral, Queens, Kingston, ON, K7K 0G6, Canada

1 - Category Pricing Optimization Using Data Driven Constraints

Luis Aburto, University of Chile, Santiago, Chile, Marcel Goic

Multiproduct pricing is an important decision in retail management but presents several challenges. To capture cross-elasticities, demand systems tend to be highly parameterized and potential endogeneity of prices might lead to parameters with signs different than expected. Additionally, when solving for optimal prices, first-order conditions frequently suggest extreme solutions which are beyond of what managers consider reasonable. In this research we analyze transactional data to identify what business rules have been consistently applied before and evaluate which ones are associated to better business performance. Based on these pricing rules, we build a data-driven set of feasible prices and combine it with standard price optimization routines to understand how this information can complement the traditional econometric analysis of the demand. When combining our methodology with different approaches to estimate customer responses to price changes, we found that simple demand models such that the double log model are very sensitive to the definition of the feasible set. More sophisticated models such as the LASSO or the Hierarchical Bayesian model, are less sensitive to the addition of more linear constraints, but still are affected by the definition of the feasible set. Adding more constraints to the feasible set can only lead to smaller values of the profit function. Interestingly, our numerical results indicate that the methodology does not only leads to more realistic price solutions, but they are also more robust to data variations. This novel approach for pricing optimization is easy to implement and not only provide managers with a reliable automatic mechanism to decide about prices of multiple products, but also more consistent decisions.

2 - Asymmetric Price Adjustment “In the Small”: New Evidence of Strategic Intent

Xiao Ling, McMaster University, Hamilton, ON, Canada, Sourav Ray

Asymmetric pricing patterns refer to the phenomenon where there are more positive price changes than negative ones. We analyze a large point of sale dataset for evidence of asymmetric pricing patterns in retail industry. The data covers 124 product modules, 90 retailers and a 10-year period. We find robust evidence that even controlling for inflation, asymmetric pricing “in the small” — more small price increases, than small price decreases— exists among a vast majority of products. Specifically, we find: (1) the average threshold of positive price asymmetry ranges from 2 to 10 cents; the asymmetry disappearing for larger (more than 50 cents) price changes; (2) the practice of such asymmetric pricing in the small seems to be associated with lower retail menu costs; (3) retailers with higher profitability are less likely to engage in such asymmetric pricing; and (4) HiLo retailers are more likely to exhibit such pricing patterns than EDLP retailers. This study contributes to the price rigidity literature by providing evidence that the phenomenon of asymmetric price adjustments “in the small” is generalizable across different datasets, retailers and time periods. Further, it builds on the “rational inattention” line of work by demonstrating that asymmetric pricing patterns are systematically influenced by retailer costs, margin and positioning strategies, and thus is part of the retailer’s portfolio of strategic pricing practices. Finally, it provides a benchmark of “best practice” of asymmetric pricing for price setters.

3 - Ultra-low Prices and Prosocial Premiums

Ranjit M Christopher, Asst. Professor, University of Missouri - Kansas City, Kansas City, MO, United States,
Fernando Sobral Machado

In this research we examine a pricing mechanism where sellers agree to exchange a digital product for any price above a preset low minimum price in a bid to encourage potential pirates with low-WTP to buy the legal version and simultaneously elicit a freely chosen premium payment from high-WTP consumers. We propose a theoretical model of consumer utility that incorporates both consumers' cost of piracy and their prosocial preferences to derive conditions under which consumers will (1) default to the minimum, (2) opt-out, or (3) make a freely chosen payment above the minimum. First, we show that while participation rate increases with lower minimum price, it has a revenue depressing effect both directly and indirectly by influencing the valuation of the product and thereby the freely chosen payments above the minimum i.e., the magnitude of the set minimum price serves as an anchor to determine the fair-value of the product. Second, we develop an estimable version of our proposed model to estimate the effect of the level of minimum prices on profitability given contextual variables that influence the prosocial preferences of consumers. For example, we show how the bundling of the product with a charitable donation or the availability of an explicit price recommendation influences consumers' payments above the minimum. Finally, we discuss the determination of optimal minimum prices given marginal costs, WTP distribution, and a set of relevant contextual variables.

4 - When do Salespeople Change Prices? Delayed Pass-through in a Business Market

Hernan Bruno, University of Cologne, Koln, Germany,
Shantanu Dutta

We study when and to what extent salespeople selling industrial products change prices in response to a cost change. In our setting—common to many salesforce-mediated industrial markets—salespeople price discriminate across customers. However, unit prices for a given customer only change in about 40% of the transactions. We develop a two-stage model of price-setting that can (i) reveal differences across salespeople in their price setting behavior and (ii) allow for incomplete pass-through in the short-term after a cost change, but account for further adjustments in later transactions. In agreement with the existing literature, we find that the response to a cost change is asymmetric, particularly when observed at the level of the salesperson. In most cases and in contrast to the results found in consumer markets, salespeople are more likely to lower price after a cost decrease that increase the price after a cost increase of the same magnitude. However, the magnitude of this asymmetry depends on the salesperson. The covariate with the strongest influence on the probability of a cost change is the time elapsed since the customer last purchased the product, indicating that the decision to change the price or not depends on the recent customer purchase experience. Finally, we link our results to the literature on short- and long-term pass-through using a simulation study. Although prices are more likely than not to remain unchanged after a cost change, they are also likely to change in subsequent transactions in a way that suggest that salespeople push prices to an customer-specific long-term margin.

5 - The Impact of Varying Consumer Credit Pricing by Consumer Risk: An Empirical Investigation using Indirect Lending

Christopher Amaral, Queen's University, Kingston, ON, Canada,
Ceren Kolsarici, Mikhail Nediak

Consumer credit, which refers to loans and lines extended to individual consumers (Phillips 2013), is an important part of the global economy. This form of credit is unique since pricing is often disperse, enabling lenders to customize pricing by consumer. One of the pricing strategies that has emerged within consumer credit is risk-based pricing, which involves the classification of borrowers into consumer risk segments that are each priced differently (Magri 2015). Lenders implement risk-based pricing either directly or through an agent (i.e. indirect lending). The latter scenario often involves use of a rate sheet, which is a menu of prices and agent incentives that are provided to agents by lenders. In this paper, we investigate the profit implications of risk-based pricing in the context of indirect lending. Using individual-level loan data, we build a three-stage model of choice that accounts for the (1) lender's decision to approve a loan application (2) agent's decision to select a loan rate to offer the customer from the rate sheet (3) the customer's decision to accept a loan offer. Given the estimation results, we run two optimizations to assess (1) the impact of directly implementing risk-based pricing by optimizing the loan rate and agent incentive for each risk segment and (2) the impact of implementing risk-based pricing indirectly by optimizing agent incentives given the predetermined set of price points on the rate sheet. The results suggest that direct implementation of risk-based pricing leads to increases in the financial institution's profits. Moreover, indirect implementation of risk-based pricing is also profitable, albeit to a lesser extent. Although consumer credit pricing is a promising area of research, the subject has not received much attention in the academic literature, especially with respect to the examination of the potential for prices to vary by borrower (Edelberg 2006). While some studies explore the effects of varying price by borrower, to the best of our knowledge, our study is the first to simultaneously account for the three stakeholders in the process.

Friday, 11:00AM - 12:30PM

■ FB01

Aula 01

Modeling CB 1

Contributed Session

Chair: Yegyu Han, Virginia Tech, 2057 Pamplin Hall, Blacksburg, VA, 24061, United States

1 - The Interactive Effect of Food Variety and Simulation of Eating on Consumers' Calorie Estimation

Fengyan Cai, Associate Professor, Shanghai Jiao Tong University, Shanghai, China, Liang Shen, Robert S. Wyer

Given the inconsistent findings about the relationship between food variety and calorie estimates, this paper proposes simulation of eating as one factor that moderates the impact of variety on calorie estimates. When simulation of eating is (not) stimulated, food variety decreases (increases) consumers' calorie estimates. This paper further suggests that the proposed effects depend in part on how the implications of the items are processed in different conditions (simulation vs. no simulation). Specifically, in the no simulation conditions, consumers use a global processing strategy, and thus they are likely to rely on heuristic criteria and make higher estimates when the items are varied than when they are identical. When consumers mentally simulate their consumption of the items, however, they imagine eating each items in turn and imagine becoming satiated more quickly when the items are identical, leading them to estimate a larger number of calories than they do when the items are varied. Three studies confirm the interactive effects, reveal their underlying processes, and demonstrate their generalizability over other relevant judgment domains.

2 - Measuring Evidence for Causal Mediation When the Mediator is Not Directly Observed

Arash Laghaie, Goethe University Frankfurt, Frankfurt am Main, Germany, Thomas Otter

Mediation analysis is widely used as a tool to corroborate hypotheses about the causal process by which the experimental treatment brings about its effect on the dependent variable. Structural models and statistical analyses aim at testing the hypothesis that mediating variables (M) channel the effect from the experimental manipulation (X) to the dependent variable (Y). The goal is to measure the indirect causal path from X via M to Y. Historically, researchers have relied on a procedure popularized by Baron Kenny (1986), which essentially consists of a series of linear regression analyses to test the indirect effect of X on Y through M as well as the direct effect of X on Y. A result where both the indirect and direct effects are statistically significantly different from zero is consistent with partial mediation. A result where the indirect effect of X on Y is statistically significantly different from zero, but the direct effect is statistically insignificant points to full mediation. More recently, researchers have focused on improved statistical testing of the indirect effect (e.g. Preacher and Hayes, 2004). The distinction between partial and full has received less emphasis. The goal of this paper is to (1) rekindle the interest in this distinction, (2) provide tools that account for two common reasons for spuriously rejecting full mediation, i.e., classical measurement error in the mediator and categorized measurements of continuous mediators. In addition, the proposed tools correct for biases in the indirect effect that result from measurement error in the mediator and categorized measurements of continuous mediators, or both. Finally, we show how to use Bayes Factors to consistently measure the degree of empirical evidence in favor of full mediation.

3 - Understanding the Adoption of Smart Devices and the Moderating Effect of Culture: A Meta-analytic Approach

Bipul Kumar, Assistant Professor, Indian Institute of Management Indore, Indore, India, Ajay K. Manrai

This study explores the factors that help in adoption of smart devices by consumers. It also explores the moderating role of culture affecting such adoptions. Under the theoretical underpinning of technology acceptance model and theory of planned behavior, this study first develops a comprehensive model that includes factors behind adoption of smart devices and then explores the moderating role of culture using Hofstede's cultural dimensions. We reviewed and tested this framework using meta-analytic approach. Meta-analysis helps in estimating the true population effect size by providing an integrative view on inconsistencies in previous findings. After an extensive literature search based on multiple selection criteria, we used data from 38 independent research studies to meta-analytically test the framework. The findings of the study suggest that the various dimensions of culture, such as Individualism-Collectivism dimension, have moderating effect on the relationship between factors such as perceived ease of use and intention to adopt smart devices. The study also suggests that in individualistic culture, there is higher likelihood of adoption of smart devices compared to collectivistic culture. Such findings point towards preference of consumers belonging to individualistic cultures for independence and achievement orientation. This study adds to the stock of knowledge on the adoption of smart devices by consumers, thus contributing to the literature. It also provides some important implications for marketers such as understanding the adoption behavior for smart devices under varying cultural settings.

4 - Negative Impact of Music Listening Through Earphones While Shopping on Purchase Outcomes

Takeshi Moriguchi, Professor, Waseda University, Tokyo, Japan, Mayuko Nishii, Tatsuki Inoue, Shohei Iwasaki, Shu Masamori, Aoi Yoshida

As smartphones become more common, listening to music through earphones while shopping is becoming a common activity, especially among the young. There are a lot of existing studies focusing on the impact of in-store BGM on shopping outcomes. However, to the best of our knowledge, there are no studies investigating the influence of listening to music using smartphones and earphones while shopping upon purchase outcomes. Thus, clarifying the effect of such music listening on shopping behavior is of great academic and practical significance. This study is the first to have focused on this unexplored topic. Based on previous studies, as well as a pre-survey, we hypothesized that the use of earphones would divert attention toward music, causing dual-task interference, and, as a result, have a negative effect on purchase outcomes. The three studies conducted in this research provide the evidence for these negative effects of using earphones in stores. For instance, the average shopping time of the customers listening to music on their earphones while shopping is about 27.4% shorter than the customers who do not use earphones. Similarly, the average purchase amount of the customers using earphones while shopping is about 28.6% smaller than no-earphone csutomers. In the same way, music listening through earphones while shopping will suppress unplanned purchases and reduce the purchase quantities. Relatedly, we validated that listening to music on earphones will lead to inattentional blindness. Consumers who are listening to music through their earphones are less likely to notice enexpected visual stimuli.

5 - Voice and Intimacy as Drivers of Trust in Smart Agents

Yegyu Han, Virginia Tech, Blacksburg, VA, United States, Dipankar Chakravarti

As devices such as Amazon's Echo or Google Assistant enter U.S. households, consumers are gaining familiarity with voice-controlled digital devices. With advances in speech and voice recognition software, these so-called "smart agents" allow more natural interaction than devices relying on typed input. In this rapidly evolving IoT world, consumers "talk" and "communicate" with machines that possess the skills to manage diverse aspects of daily life and can provide advice and input pertaining to a variety of decisions. However, our understanding of how people perceive and interact with such smart agents is still at a nascent stage and more research is needed to support smart agent design. The present research examines how vocal features designed into such devices influence consumer trust, receptivity, and persuasion to a given input (recommendations) from such devices and the extent to which the intimacy level between the consumer and the smart agent moderates these outcomes. We report the results of an experiment manipulating voice features (rational vs. emotional) and intimacy level (high vs. low). With low intimacy, we argue that persuasion rests on the extent to which the consumer perceives the agent as knowledgeable and competent (i.e., cognitive trust). This is facilitated when the smart agent speaks in a rational voice. However, when intimacy is high, the effect reverses because trust is then driven by caring and sincerity (i.e., emotional trust). This is facilitated when the smart agent's voice embeds emotion. Our measures allow examination of the extent to which anthropomorphic attributions underlie these effects.

■ FB03

Aula 03

Machine Learning and Causal Inference

Special Session

Chair: Tong Guo, Duke University, Durham, NC, 27708, United States

1 - The Effect of Information Disclosure on Industry Payments to Physicians

Tong Guo, Duke University, Durham, NC, 27708, United States, S. Sriram, Puneet Manchanda

U.S. pharmaceutical companies paid $2.6 billion to physicians in the form of gifts to promote their medicine in 2015. The practice of offering financial incentives has raised concerns about potential conflict of interest. To curb such inappropriate financial relationships between healthcare providers and firms, several states have instituted disclosure laws wherein firms were required to publicly declare the payments that they made to physicians. In 2013, this law was rolled out to all 50 states as part of the Affordable Care Act. We investigate the causal impact of this increased transparency on subsequent payments between firms and physicians by exploiting the phased rollout of the disclosure laws across states. In essence, we use a quasi-experimental difference-in-difference research design to find control ``clones" for every physician-product pair in the states with and without prior disclosure laws, facilitated by recent advances in machine learning methods. The novel algorithm (Wager and Athey 2017) is computationally efficient and robust to model mis-specifications, while preserving consistency and asymptotic normality. Using a 29-month national panel covering $100 million in payments between 16 anti-diabetics brands and 50,000 physicians, we find that the monthly payments declined by 2% on average due to disclosure. However, there is considerable heterogeneity in the treatment effects. The decline in payment is smaller among drugs with larger marketing expenditure, and among physicians who were paid more heavily pre-disclosure and prescribed more heavily. We further explore potential mechanisms that are consistent with the data pattern.

2 - Targeting When the Experiment is Small: Using Transfer Learning to Combine Historical and Experimental Data

Artem Timoshenko, MIT, Boston, MA, United States, Marat Ibragimov, Duncan Simester

Using machine learning to target customers in a non-digital setting requires overcoming an important data challenge. Targeting policies segment households based upon causal responsiveness to firm actions. Estimating causal responsiveness requires experimental data; without experimental data, most machine learning methods can identify correlations but cannot establish causation. However, in non-digital channels, experiments are expensive to run at large scale, while machine learning methods generally require large amounts of training data. This makes using machine learning for targeting difficult in non-digital settings: we need experiments to ensure causality but we typically cannot reach sufficient scale with experiments alone. We propose the use of transfer learning to combine rich historical data with data from small-scale experiments. We first train a deep neural network to fit a predictive modeling problem (source problem) for which there is an abundance of data and which is relevant to the problem of interest (focal problem). We then update the trained network to fit the focal problem. Intuitively, the pre-trained network transfers learning from the source to the focal problem. We empirically evaluate the proposed approach in a context of a large financial services company. We demonstrate that transfer learning helps to improve targeting decisions, and we study how the performance of the method depends on the similarity and the size of the source and the focal problem data.

3 - Stereotypes and Prejudice in Online Labor Marketplaces

Isamar Troncoso, University of Southern California, Los Angeles, CA, United States, Lan Luo

Freelancing websites have gained tremendous popularity in the last years, connecting millions of business and independent professionals or freelancers all around the globe. We collect data from the world's largest freelancing website, Freelancer.com, to investigate whether appearance-based inferences from profile pictures induce possible bias in employers' decisions. We use Deep Learning techniques to classify each applicant's profile picture into several variables relevant to employers' decisions, such as perceived competence, professionalism, fit with the job, among others. We then train a conditional logit model to predict the probability of being hired as a function of traditional factors (freelancer's demographics, reviews and ratings, offered price, etc.), and our proposed appearance-based variables, to determine to which extend each of the two sources of information influence employers' decisions. To reinforce the causal interpretation of our results, i.e., the impact of appearance-based variables (from profile pictures) on the probability of being hired, we implement a matching strategy to narrow the analysis among those applicants with similar observable variables other than profile pictures. We also plan to supplement our observational data with lab experiments to control for potential supply-side bias. We plan to use eye-tracking devices to examine consumers' information processing strategies and manipulate variations of platform design. Our results, therefore, can provide significant insights into how to reduce potential bias caused by platform design and directly impact the income distribution of millions of workers who participate on these platforms.

4 - Alexa Shopping: The Effect of Voice Assistants on Consumer Purchase and Search Behavior

Xiao Liu, New York University, Stern School of Business, New York, NY, 10013, United States, Chenshuo Sun, Zijun Shi, Anindya Ghose

A voice assistant, such as Amazon's Alexa, is a wireless device with artificial intelligence that can be activated by voice command. Increasingly, consumers are using voice assistants for shopping. However, little is known about the effect of voice assistants on consumer purchase and search behaviors. We collaborate with one of the largest online retailers in the world and run a field experiment to answer the following three research questions: 1) How does a voice assistant (VA) affect search and purchase behavior? 2) Does a VA lead to a category expansion effect or a store switching effect? and 3) Does a VA affect search breadth or search depth? We combine a machine learning method and a causal inference method to deal with the two-sided non-compliance issue in the experiment and estimate heterogeneous treatment effects. We find that a voice assistant can increase consumer purchase and search on the associated e-commerce site. The increase in purchase comes from both the category expansion effect in the smart home category and the store switching effect in the repeatedly-purchased FMCG category. A voice assistant leads to a larger increase in search breadth than in search depth. These insights can help online retailers with category planning decisions and help brands with voice search engine optimization strategies.

5 - Active Learning for Sequentially Targeted Interventions for Product Recalls: An Application to the Flint Water Crisis

Eric Schwartz, University of Michigan, Ross School of Business, Ann Arbor, MI, 48109-1234, United States, Jacob Abernethy

Managers often confront product recall crises when uncertainty is high, resources are limited, and inaction prolongs financial loss or danger. But they must identify the underlying risk patterns and take swift corrective action. In some cases, complete product recalls are not always immediately possible; instead, for many complex systems — like infrastructure, energy, water, or health care — interventions must be targeted. This research addresses such situations by developing an approach that leverages active learning methods to design a randomized targeted-sampling algorithm to minimize cumulative expected loss over the long term. We applied this approach on the ground during the Flint Water Crisis recovery. We provided city officials with predictions of which homes had lead pipes and recommended homes to inspect to optimize information gain. Using natural variation due to policy changes, we evaluate the impact of the active learning approach. The paper's simulation experiments provide evidence that potential cost savings of the approach are $11 million, enough to rid lead pipes from 2,000 extra homes. While the method applies to infrastructure elsewhere, it also applies to a class of analogous problems where a decision maker must quickly allocate both testing and treatment procedures to learn about and address the underlying patterns or risk on a limited budget.

■ FB04

Aula 04

Mobile, Algorithm, and Artificial Intelligence (AI) Session 2: Machine Learning and Deep Learning

Special Session

Chair: Xueming Luo, Temple University, Philadelphia, PA, 19122, United States

Co-Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - Discrepancy between Descriptions and Reviews in the Sharing Economy

Wenyu Jiao, Temple University, PhD Program, Philadelphia, PA, 95021, United States, Xueming Luo, Shuang Ma

The sharing economy has rapidly emerged in recent years, especially in hospitality and tourism industry. A key challenge for peer-to-peer platforms is to facilitate consumers to evaluate product quality, mitigate the uncertainty and build trust with strangers. However, the descriptions provided by the hosts and online reviews published by the customers, the two main sources of information for consumers to discover, evaluate, and compare products and services on the platforms, can be inconsistent. Our research aims to investigate how the discrepancy of information (including text and image), impacts customer booking, reviewing and rating behaviors. Using the data from a p2p property sharing platform in China, we find that the detailed description of properties and high quality photos provided by the hosts lead the guests give higher ratings. The trust mentioned in the guest reviews also correlate with higher ratings. However, the trust revealed in the reviews has negative moderating effects on both the impacts of text description and high quality photos on ratings.

2 - Quantifying Persuasive Dialogue via Belief Hierarchies

Emaad Ahmed Manzoor, Carnegie Mellon University, Pittsburgh, PA, 15206, United States, Dokyun Lee, Alan Montgomery, George Chen

Persuasive argumentation forms the grease of human decision-making machinery, complementing hard scientific evidence in reaching consensus and making progress in several legal, political and corporate decision-making institutions. However, not every persuasive discussion leads to consensus and progress: several result in deadlock, with neither party deviating from their initial position. In this work, we introduce a computational method grounded in the Ancient Greek philosophical theories of argumentation to quantify and explain the success or failure of persuasive dialogue. Our proposed method (1) parses argumentative text to infer a "belief hierarchy": a network of beliefs organized as a directed acyclic graph, (2) maps claims in persuasive dialogue to beliefs in the hierarchy, and (3) formalizes persuasion strategies via graph-theoretic properties of these nodes. We evaluate our method on a large-scale dataset of debates on several pressing issues (such as immigration and gun control) that contains ground-truth labels scoring the persuasiveness of each argument. With our graph-theoretic formalization, we uncover several insights on the efficacy of different persuasion strategies, diagnose stalled discussions to reveal the likely causes of failure, and reveal new persuasion strategies that may potentially succeed in practice.

3 - Modeling the Effects of Verbal and Visual Marketing Content in Social Media – A Deep Learning Approach

Lei Liu, Central University of Economics and Finance, Beijing, 10081, China, Shaohui Wu, Yingfei Wang

Due to the relentless pace of developments in social media and information technology, firms increasingly rely on a combination of verbal and visual elements to communicate with consumers. The present research investigates the impacts of text-image information on customer engagement and corporate value. Based on a large scale data on Sina Weibo, we employ a Natural Language Processing algorithm to characterize text contents as function-oriented (information that is helpful for increasing consumer knowledge about the product, brand, or company) and social-bond oriented (i.e., information conveyed on a social level, to create connections with customers) types. Further, using Deep Learning techniques, we respectively calculate each message's relevancy and expectancy levels between text and images, which are the two dimensions of incongruency. The results indicate that compared to function-oriented text, social bond-oriented copy that aims to connect with consumers emotionally exerts a larger effect on the corporate value measured by abnormal returns (AR). Text-image expectancy has a marginally significant effect on AR. More interestingly, we find that forwarding, Comment and Like are virtually different in influence. Specifically, there exist inverted-U relationships between expectancy and the number of forwardings and comments while there is a negative linear relationship between relevancy and the number of likes. Further, besides direct effect, text type and relevancy also exert indirect effects on AR through the number of likes, which further indicates the value of "Like".

4 - Leveraging Deep-learning Algorithms and Field Experiment Response Heterogeneity to Enhance Customer Targeting Effectiveness

Kunpeng Zhang, University of Maryland, College Park, MD, 20742, United States, Xueming Luo

Firms seek to better understand heterogeneity in the customer response to marketing campaigns for enhancing campaign targeting effectiveness. This paper presents a framework that leverages deep-learning algorithms and field experiment response heterogeneity to achieve this goal. Our empirical analysis supports that optimal deep-learning models can identify higher-value customer targets and lead to better sales performance of marketing campaigns, compared to industry common practices of targeting, as well as traditional predictive approaches. We demonstrate that companies may achieve sub-optimal campaign targeting not because they offer inferior campaign incentives, but they leverage worse targeting rules and select low-value customer targets.

■ FB05

Aula 05

Improving Loyalty Programs

Special Session

Chair: Song Yao, University of Minnesota, Minneapolis, MN, 55455, United States

1 - Can Non-Tiered Frequency Reward Programs be Profitable?

Raphael Thomadsen, Washington University in St Louis, Olin Business School, St. Louis, MO, 63130, United States, Arun Gopalakrishnan, Zhenling Jiang, Yulia Nevskaya

We examine the effectiveness of a customer loyalty program with a non-tiered reward structure. These programs are often thought to have low rates of return. We use a unique data set consisting of all transactions at a chain of hair salons from both before and after the implementation of the loyalty program, which allows us to control for selection effects about which customers become members. We quantify three components of customer behaviors change with loyalty program: spending, frequency of visit and retention. Overall the loyalty program leads to an approximately 16 - 18% increase in customer lifetime value, even after accounting for the cost of the program, meaning that the program has a significant net benefit to the firm. The increase in customer lifetime value comes largely from reducing the attrition rate, which decreases by 15 - 17%, compared to the 3 - 5% increase in frequency and the very small change in spending. Our findings on frequency and spending are consistent with those in the previous literature, which generally has focused on those two measures, but because we also account for retention, our estimated total value of the non-tiered loyalty program is much larger than that found in the previous literature.

2 - Reaching for Gold: Frequent-Flyer Status Incentives and Moral Hazard

A. Yesim Orhun, University of Michigan, Ross School of Business, Ann Arbor, MI, 48109-1234, United States, Tong Guo

We study whether and how frequent-flyer program members change their purchase behaviors as they progress towards achieving elite status. We find that as travelers stretch to attain status with the airline, they become more likely to choose it even when it is less appealing than its competitors. They also become more willing to pay higher prices than they otherwise would. Consumers are sophisticated about when to make such tradeoffs. If their progress falls significantly behind the pace required to attain status by the end of the year, such that their chances of attaining status seem low, they are less likely to sacrifice current utility. If their progress is substantially ahead of the target pace, they are also less likely to sacrifice utility. We document a stronger willingness to pay response among business travelers than among leisure travelers. Moral hazard explains a substantial part of the response differences between business and leisure travelers. Across all members, it accounts for one-third of the increase in willingness to pay in response to making progress towards attaining status. We estimate that companies would save at least 7% on their travel costs if their employees did not exhibit moral hazard. Overall, our results suggest a significant role of moral hazard in the success of frequent-flyer status incentives.

3 - Forward-looking Behaviour and Goal Progress in Loyalty Programs

Oeystein Daljord, University of Chicago, Booth School of Business, Chicago, IL, 60637, United States, Carl Mela, Jim Sprigg, Song Yao

This paper considers how consumers value future incentives as they progress towards goal in ``do X steps, get Y reward” style loyalty programs, and the consequential impact of these goals and incentives in program design. Common empirical models of dynamic choices consider consumer time preferences to be time consistent, but the behavioral literature such as goal gradient and costly goal pursuit suggests intertemporal substitution varies with the distance to the goal. Using a large scale field experiment in the hotel industry, wherein subjects are randomly assigned a do X get Y loyalty program offer, we estimate intertemporal substitution that varies with the steps to the program goal. We then use these estimates as input to create more productive reward programs. The data, provided by the InterContinental Hotels Group (IHG), comprise transaction-level customer panel data, where the experimental treatment cells vary the loyalty program design characteristics. The use of the experiment enables us to remove person and time confounds (such as targeting and seasonality) when measuring the effect of these programs on hotel stays. We next fit two categories of behavioral models to the data. One category is a standard model of forward looking behavior. The other category allows for more flexible time preferences. Specifically, we compare the goal gradient theories to the standard dynamic choice model. We conclude by discussing the implications for loyalty program design under the different theories.

■ FB06

Aula 06

Digitization 5: Machine Learning

Special Session

Chair: Pinar Yildirim, University of Pennsylvania, Philadelphia, PA, 19104, United States

Co-Chair: Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States

1 - The State of Inclusive Marketing

Shawndra Hill, Microsoft, New York, NY, 10023, United States, David Rothschild, Kevin Gao

vertising experts acknowledge that it is important to be representative in advertising. This is especially true for brands that have customers spanning different ethnicities, ages and genders. Using state of the art video breakdown and image recognition software, we demonstrate how inclusiveness can be quantified. We summarize inclusivity in advertising for thousands of brands spanning 14 different industries.

2 - Believe in Your Selfie: How Consumer-Generated Brand Images Influence Social Media Engagement

Jochen Hartmann, University Hamburg, Hamburg, 20148, Germany, Mark Heitmann, Oded Netzer, Christina Schamp

Smartphones have made sharing images of branded experiences on social media nearly effortless. Tracking and understanding how brands appear on social media is of interest for companies both as an indicator of social media brand interest, and to incentivize consumers to share certain types of brand images. This research explores the posting of consumer-generated brand images. It identifies three primary types of posts: consumer selfies, i.e., images featuring both brand logos and consumers’ faces, brand selfies, i.e., invisible consumers holding a branded product, and packshots, i.e., standalone product images. Data on hundreds of thousands of Twitter brand images across categories and several thousand Instagram images prompted by a Starbucks campaign demonstrate that the different types of brand images generate different levels of engagement among receivers. Specifically, the authors train deep neural networks to classify the three types of brand images and find that consumer selfies generate more attention in organic settings. However, brand selfies generate more brand engagement and perform best in campaign settings. A controlled lab experiment replicates these findings and provides indications on the psychological mechanism.

3 - Targeted Marketing, Machine Learning and Measurement of Causal Effects: Comparing Quasi Experimental Regression Discontinuity Designs versus Field Experimentation

Sridhar Narayanan, Stanford University, Stanford, CA, 94305, United States, Kirthi Kalyanam

In recent years, the availability of behavioral and other data on consumers and advances in machine learning (ML) methods have enabled fine grained targeting of consumers in a variety of domains, from pricing to advertising to recommendation systems. Typically, such targeting involves first training an ML algorithm on a training dataset, using the ML algorithm to score every customer or potential customer and selecting customers for treatment when the score crosses a threshold. Enabling the causal validation of such ML algorithms remain an important area for research. In this paper, we investigate the opportunities for causal measurement of the effect of ML targeting algorithms using a quasi experimental regression discontinuity (RD) approach. A novel aspect of our investigation is that we conduct a field experiment in addition to a ML algorithm for selecting customers. The field experiment allows us to investigate the efficacy of the RD approach. The context of our investigation is the behavioral retargeting of advertising. The advertiser serves personalised ads to the consumer based on a targeting rule that depends on whether an ML score crosses a threshold. In the experiment, the personalised ads are randomly assigned for a set of experimental consumers. We apply the RD approach to measure the effects of retargeting, and also have experimental validation through the field experiment. We compare the costs and benefits of the quasi-experimental regression discontinuity approach to those for the experiment, and explore heterogeneity in effects.

4 - “Un”Fair Machine Learning Algorithms

Runshan Fu, Carnegie Mellon University, Pittsburgh, PA, 15217, United States, Manmohan Aseri, Param Vir Singh, Kannan Srinivasan

Arising with the popularity of using machine learning algorithms in decision making is the concern about the hidden bias against certain demographic groups (e.g. minorities, females). Current law of treatment parity, also referred to as equal treatment, prohibits using sensitive demographic features in decision making. However, empirical evidence suggests that algorithm-based decisions that satisfy treatment parity often lead to unintentional disparate impact — certain groups are more adversely affected than others. In response to this issue, several new fairness notions have been proposed, and there is a push towards modifying the law to account for impact (dis)parity measured by these notions. In this paper, we analytically model a data driven decision making process. First, a firm learns about the mapping from input features to the outcome of interest through data and algorithms, and make predictions for the candidates awaiting decisions. It chooses the level of learning effort based on the cost of learning and the benefit of prediction accuracy determined by that learning effort. Second, the firm chooses a threshold — candidates with better prediction scores are selected and all others are rejected. We compare optimal decisions for the firm under different fairness constraints, including the current law of equal treatment and two other popular notions, equal opportunity and demographic parity. We show that, equal opportunity and demographic parity, despite being conceptually appealing, can make everyone worse off, including the very group they aim to protect. This is because under these new fairness constraints, the firm would choose lower levels of learning effort and therefore be more conservative in selecting candidates. Our results highlight the importance of understanding the causes of bias in machine learning algorithms and considering strategic behaviors in response to fairness policies.

■ FB07

Aula 07

Marketing Insights through Machine Learning: Text, Image, and Multimodal

Special Session

Chair: Dokyun Lee, Carnegie Mellon University, Pittsburgh, PA, 15213, United States

Co-Chair: Renana Peres, Hebrew University of Jerusalem, Mount Scopus Campus, 91905, Israel

Co-Chair: Yaniv Dover, Hebrew University, Modiin, 71703, Israel

1 - Focused Concept Miner (FCM): An Interpretable Deep Learning for Text Exploration

Dokyun Lee, Carnegie Mellon University, Tepper School of Business, Pittsburgh, PA, 15213, United States, Emaad Ahmed Manzoor, Zhaoqi Cheng

We introduce the Focused Concept Miner (FCM), an interpretable deep learning text mining algorithm to (1) automatically extract interpretable “concepts” from text data, (2) “focus” the mined concepts to explain any existing user-specified business outcomes, such as purchase conversion (linked to reviews read) or crowdfunding success (linked to project descriptions), and (3) quantify the correlational relative importance of each mined concept for business outcomes, along with their relative importance to other user-specified explanatory variables. Compared to existing methods that partially achieve FCM’s goals, FCM achieves higher interpretability and predictive performance. Relative importance of discovered concepts provide managers easy ways to gauge potential impact and to inform hypotheses development. We present FCM as a complimentary technique to explore and understand unstructured textual data before applying standard causal inference techniques. Applications can be found in any settings with text and structured data tied to a business outcome. We evaluate FCM’s performance on a comprehensive dataset that tracks individual-level review reading, searching, and conversion in addition to another crowdfunding data.

2 - Using Artificial Intelligence to Automate Online-Offline Data Merger for Integrated Marketing

Xiao Liu, New York University, Stern School of Business, New York, NY, 10013, United States, Chenshuo Sun, Anindya Ghose

Merging online and offline behavioral data to better understand customers is increasingly piquing the interests of both practitioners and researchers. In this paper, we propose an automated data merging scheme leveraging the latest advances of two artificial intelligence methods: embedding learning and multi-view learning. We apply the method to a unique dataset, where the online-app-install behavior and offline-location-visit behavior are used as inputs to be merged to predict the app engagement behavior. Two application scenarios are provided: similar user detection and engagement prediction. Our main findings emphasize that the proposed complementary-based data merger, in the context of leveraging independent online and offline behavioral data to paint a holistic representation of consumer behavior, significantly outperforms using a single aspect of behavior and other alternatives data mergers. The mechanism is that when online data are sparse, exploiting the proposed method prompts offline behavior to complement the online counterpart. Moreover, we also conclude that in choosing the optimal data merging method, one should incorporate the characteristic of context and data into the equation; without considering these factors, improperly combining multiple data sources may not be able to generate additional values, sometimes even backfire. On the substantive front, our paper quantifies conventional wisdom that capitalizing on consumers' omni-channel behavioral data can generate perks, in that it helps business data owners to achieve better user segmentation and engagement prediction.

3 - Letting Logos Speak: A Machine Learning Approach to Data-Driven Logo Design

Ryan Dew, University of Pennsylvania, Asim Ansari, Olivier Toubia

Logos serve a fundamental role in branding as the visual figurehead of the brand. Yet, due to the difficulty of using unstructured image data, prior research on logo design has been largely limited to non-quantitative studies. In this work, we explore logo design from a data-driven perspective. In particular, we aim to answer several key questions: first, to what degree can logos represent a brand's personality? Second, what are the key visual elements in logos that elicit brand and firm relevant associations, such as brand personality traits? Finally, given text describing a firm's brand or function, can we suggest features of a logo that elicit the firm's desired image? To answer these questions, we develop a novel logo feature extraction algorithm, that uses modern image processing tools to decompose unstructured pixel-level image data into meaningful visual features. We then analyze the links between firm identity and the features of its logo, through both predictive modelling and a deep, multiview generative model, which links visual features of logos with textual descriptions of firms and consumer ratings of brand personality by learning representations of brand identity. We apply our modeling framework on a dataset of hundreds of logos, textual descriptions from firms' websites, third party descriptions of firms, and consumer evaluations of brand personality to explore these questions.

■ FB08

Aula 08

Digital Marketing 6

Contributed Session

Chair: Wenbo Wang, Hong Kong University of Science and Technology, Dept. of Marketing, HKUST, Clear Water Bay, Kowloon, Hong Kong

1 - Social Media Advertising with Fake Followers

Prithwiraj Mukherjee, Assistant Professor, Indian Institute of Management Bangalore, Bangalore, India, Dutta Souvik, Abhinav Anand

Marketing promotions via paid social media influencers are now commonplace across the world. These influencers are minor celebrities with self-selected audiences based on their domains of interest, and often make thousands of dollars per sponsored post. However, this practice has led to the emergence of click farms - businesses that sell fake followers to such influencers to artificially inflate their follower counts, thus signaling higher reach and thus more fees from advertisers using their services. In this paper, we develop an optimal contract between an influencer and advertiser that maximizes advertiser profit given that the influencer can buy fake followers from click farms. We model two cases: (1) an ex ante rational influencer, i.e. a celebrity who does not yet have a social media account but may be incentivised to open one given a potential follower count and (2) an ex post rational influencer who privately knows her true follower count but may inflate the number to increase her fee for posting promotional content. In the former case, we show that the optimal contract involves the advertiser paying out a lump sum amount based on expected gains, and that there is no incentive for the influencer to buy fake followers. However, in the latter scenario, the optimal contract actually involves the influencer inflating her follower count, which the advertiser can take into account while deciding the payment. In both cases, the contract incorporates the influencer's outside option which we suggest must be determined by market research that is independent of the influencer's social media follower count.

2 - Geo-Influence: Modeling Location-Specific Effects of Social Influence on Brand Preferences

Hyunhwan (Aiden) Lee, PhD Candidate, University of Miami, Coral Gables, FL, United States, Joseph Johnson, Gerard J. Tellis

No brand is the market leader uniformly across geographic locations. Brands have strong and weak markets. Therefore, analysts need to track brand preferences by location. However, current methods of tracking geographic brand preferences (e.g., surveys, company sales, scanner panel data, Google Analytics, etc.) have limitations: limited sampling of brands, stores, and categories with time and region aggregation. We address these limitations through a spatial, nonparametric approach to track brand preferences at the micro-temporal and micro-geographic level using Twitter. Our approach inherits the intrinsic strengths of social media: micro-temporal, micro-geographic, faster than news media, higher frequency than sales, low cost, competitive monitoring, sentiment inclusion, and social network inclusion. A key feature of our approach is modeling the temporal geographic influence of social connections based on the followers of each post. We estimate our model for carbonated soft drinks brands. Our validation uses Pepsi sales, an apparel fashion brand, and the 2016 U.S. presidential election (a domain where marketing is critical). We find that geographic influence adds predictive power to micro-temporal and micro-geographic brand measures, leads online sales and predicts elections. Our study implies that the micro-temporal and micro-geographic social media measures provide actionable insights for marketing brands and political candidates.

3 - Increasing Consumer Engagement with Firm-Generated Social Media Content: The Role of Images and Words

Eugene Pavlov, University of Washington, Seattle, WA, United States, Natalie Mizik

As firms are embracing visual platforms in their marketing and branding efforts, little research exists on the relative effectiveness of visual versus text-based marketing efforts. We develop a quantitative framework to study how text and visual components of firm communications impact consumer engagement with firm-generated social media content. First, we quantify the emotional loading of text and imagery on Sentiment and Arousal/Motivation-to-act dimensions (Russel 1980, Model of Affect). We use existing NLP tools for text and use machine learning and computer vision to develop and train Sentiment and Arousal classification models for imagery. We use basic elements of design (color, texture, shape, lines, curves, corners, edges, orientation, etc.) as inputs to predict Sentiment and Arousal of an image. Our out-of-sample and lab-based validation of classification accuracy suggest agreement in the range of 75-80%. Next, we apply the procedure to empirical analysis of engagement (retweeting) with firm-generated content based on 1.4M tweets of 600+ brands from 11 categories, posted since 2006. Our findings suggest that over the years consumers have developed resistance to persuasion messaging using high motivation-to-act text. We don't find similar decline in effectiveness for high motivation-to-act imagery. We find significant heterogeneity of image effects by industry, with positive and high motivation-to-act imagery being most engaging for quick-service restaurants, and negative imagery being most engaging for charities/non-profits.

4 - In-Consumption Social Listening with Moment-to-Moment Unstructured Data: The Case of Movie Appreciation and Live Comments

Wenbo Wang, Associate Professor of Marketing, Hong Kong University of Science and Technology, Kowloon, Hong Kong, Qiang Zhang, Yuxin Chen

Consumption of entertainment products, such as movies, video games, and sports events, takes place over a nontrivial time period. During these experiences, consumers are likely to encounter temporal variations in the content of consumption, to which they may react in real time. Compared with existing in-consumption analysis (e.g., eye tracking, neural activity analysis), listening to in-consumption consumers' voices on social media has great potential. Our paper proposes a new approach for in-consumption social listening and demonstrates its value in the context of online movie watching wherein viewers can react to movie content with live comments. Specifically, we propose to listen to the live comments through a novel measure, moment-to-moment synchronicity (MTMS), to capture consumers' in-consumption engagement. MTMS refers to the synchronicity between temporal variations in the volume of live comments and those in movie content mined from unstructured video, audio, and text data from movies (i.e., camera motion, shot length, sound loudness, pitch, and spoken lines). We demonstrate that MTMS significantly predicts viewers' post-consumption appreciation of movies, and it can be evaluated at finer level to identify engaging content. Finally, we discuss the relation between MTMS and existing measures and the value of integrating supply-side content information into in-consumption analysis.

■ FB09

Aula 09

Digital Marketing 18

Contributed Session

Chair: Ye Cao, Tongji University, Jingan District, Shan, Shanghai, 200070, China

1 - Organizational Influence in Online Vocational Learning

Yiping Song, Fudan University, Shanghai, China, Lingling Zhang, Liye Ma

Online vocational training is gaining prominence in the workplace. Firms encourage employees to continue professional development using learning platforms, due to their flexibility and convenience. An employee's online learning is likely influenced by the learning behaviors of their peers and supervisors, referred as "organizational influence." Understanding the effect of organizational influence is crucial for creating user engagement in the learning, yet it is challenging, as data on the workplace relationships among users is typically unavailable. Collaborating with a leading accounting management training platform, we compile a unique dataset, containing each individual user's learning content and intensity along with the organizational structure among individuals, which allows us to identify the organizational relationship. Using a dynamic panel model, we identify the average effect for peer and supervisor influence. Various robustness analyses are conducted to ascertain the reliability of the results. We then perform moderation analyses on how the dynamics of influence is related to organizational heterogeneity, individual heterogeneity, and content heterogeneity. Furthermore, utilizing course popularity, we examine the underlying mechanisms of organizational influence, attributing the effect to informative communication and social pressure. Our study makes contributions on two aspects. First, it generates insights on the dynamics of social influence in the workplace. Understanding how to motivate employees to engage in online learning has direct implications on workplace efficiency as well as the career development of employees. Second, we contribute to the literature on online education in general, providing empirical evidence on how individuals participate in online learning and what workplace drivers influence this behavior. These findings also have implications for the course management and policy design on learning platforms.

2 - Feedback in Ideation Contests

Yu Wang, Associate Professor of Marketing, California State University, Long Beach, CA, United States, Juncai Jiang

Ideation contests are commonly used across public and private sectors to generate new ideas for solving problems, creating designs, and improving goods, services, or processes. In such a contest, a firm or an organization (the seeker) outsources an ideation task on the internet to a distributed population of independent agents (solvers) in the form of an open call. Solvers compete by exerting efforts and the one who submits the best solution wins a prize. Employing a data set from Zhubajie.com, a leading online ideation platform in China, we examine how feedback provided by the seeker impacts solvers' effort and the outcomes of ideation contests.

3 - How Social Networks Constrain Travel on High Speed Rail

Jayson S. Jia, Assistant Professor of Marketing, University of Hong Kong, Hong Kong, Jianmin Jia, Yiwei Li, Xianchi Dai, Nicholas Christakis

Technologies enhancing human mobility (e.g., steam engine, flight) have historically fostered greater social interaction, new business opportunities, and socio-economic integration between geographically distant locales. Although transportation technologies are built to reduce time-space gaps between locations, travel is often motivated by connections between people; consumers' physical mobility and social connections are thus deeply intertwined. Here, we disentangle this relationship and investigate the impact of people's social networks on their physical mobility by exploiting two exogenous datasets; individual-level mobile metadata from a major Chinese telecommunications carrier and individual-level railway travel data from the national railway system (final N = 1.5M). Prior research has argued that having more social connections should lead to more travel. However, using difference-in-difference and instrument variable models leveraging the quasi-experimental impact of China's high-speed railway construction, we show that people's social networks have a bidirectional impact on their mobility (frequency and/or distance travelled); local (distant) social capital has a negative (positive) impact on mobility. This relationship is moderated by socioeconomic status; the negative (positive) impact of local (distant) social capital is mitigated (enhanced) for people with higher socioeconomic status. Furthermore, implementing high-speed rail (a mobility-enhancing technology used by hundreds of millions) amplifies both the negative impact of local social capital and the positive effect of distant social capital on human mobility for the connected cities. Our research has implications for diverse fields including marketing strategy, travel planning, tourism, epidemiology, economic development, migration flows, displacement shocks, traffic prediction, and urban planning.

4 - Consumer Brand Perceptions: The Role of Networks in Branding

Pankhuri Malhotra, PhD Student, University of illiinois Chicago, Chicago, IL, United States, Siddhartha Bhattacharyya

Mining consumer perceptions of brands has been a dominant area of research in marketing. Consumer-brand perceptions typically collected through surveys or focus groups require interaction with a large set of participants; leading to cost and feasibility issues. The advent of web 2.0 opens the door to a wide range of data-centric approaches that can scale beyond the traditional methods used in marketing science. We address this knowledge area by exploiting brand communities on Twitter to generate a large-scale brand network, that implicitly captures consumer perceptions across a broad ecosystem of 535 brands. A brand network is one in which individual nodes represent brands, and a weighted link between two nodes represents the strength of consumer co-interest in these two brands. Brand network measures, in particular centrality, are used to create perceptual maps that capture the relative positioning of competing brands. With the objective of distinguishing mainstream brands from diverse ones, we examine brand-brand connections within and across industry separately. As a node's position in a network may carry strategic implications, we also examine the effect of brand centrality on performance and find significant association. As managers often struggle to quantify the impact of their branding efforts on consumers' perceptions and performance simultaneously, this approach effectively captures both in a single frame. To summarize, our approach conceptualizes brands as relationships, arising from common consumer co-interest, rather than as isolated objects; allowing brand managers to evaluate a brand's position within a broad brand ecosystem.

5 - The Influence of Positive and Negative Word of Mouth on Consumer Exit Barriers – Taking Chinese Carsharing Industry as an Example

Ye Cao, Tongji University, Jingan District, Shan, Shanghai, 200070, China

Purpose - This study is aimed to help company conducts customer retention through word of mouth. Nowadays, the car time-sharing service gradually enters our daily life. The car sharing participants vary from Zipcar in the US, Car2go in Germany to the EVCARD in China. However, carsharing services providers also encountered big challenges. Consumers have gradually complained about difficulty of finding cars, vehicle cleaning and parking space occupancy. At the same time, with the rapid development of the Internet, consumers are easy to share remarks with others. Internet word-of-mouth has become an important reference for consumers to make purchasing decisions because it reflects the true feelings of users to a certain extent. Under the influence of Internet word-of-mouth, it is important for carsharing service providers to retain old customers. Consumer exit barriers are any influential factors that make customers difficult to switch suppliers. There are many types of exit barriers - monetary exit barriers, social exit barriers, service loss exit barriers and convenience exit barriers. However, there is little research on the mechanism of the influence of negative word of mouth on the consumers' switching behavior. Methodology - The data for empirically addressing a set of hypotheses were collected from 352 consumers in Shanghai. Taking the research of carsharing industry users as an example, this paper studies the impact of positive and negative word-of-mouth on different types of exit barriers of consumers Findings - Positive online word-of-mouth has a positive impact on monetary exit barriers, social exit barriers, service loss exit barriers and convenience exit barriers. And negative online word-of-mouth has a negative impact on monetary exit barriers and convenience exit barriers.

■ FB10

Aula 10

Machine Learning 6

Contributed Session

Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - Exploring Consumer's Shopping Trip in a Mall

Morana Fuduric, Faculty of Economics & Business, Zagreb, Croatia, Vijay Vishwanathan, Khadija Ali Vakeel, Mototaka Sakashita

New technologies (e.g., smartphones) have not only changed the way consumers search for information and shop; they have also changed how companies use consumer-level data to inform their strategic decision-making (Lee, 2017). This has been especially evident in offline retail as many mall operators are now using mobile applications to help consumers plan and enhance their shopping trip in a mall. While there has been extensive research to describe consumer's shopping trips in terms of switching between retail outlets, regularity of shopping trips (e.g. Kahn and Schmittlein, 1989), and shopper purchases (Kamakura, 2012), research aimed at describing shopper behavior inside retail outlets remained scarce (Sorensen et al., 2017). Using big data from a mall operator in East Asia, this study uses Markov chain and cluster analysis to identify different segments of consumers by analyzing their shopping patterns. In addition to shopping metrics commonly used to describe shopping trips, we advance our model by introducing promotional and attitudinal variables. Preliminary findings indicate that consumer segments differ by time of shopping trip, category of first and last tenant they visit, their involvement with advertisements, and attitude towards the brand. Finally, we discuss the implications of the research for mall operators and tenants. Understanding the consumer's shopping patterns may help mall operators maintain profitable tenants and court new tenants, as their success is directly linked to the revenue of tenants in the mall.

2 - Synergy or Dysergy: Discovering Effect Modification from Customer Reviews

Kejia Yang, Herbmagic Lab Inc., Beijing, China, Zelin Zhang, Guoqing Guo, Jonathan Zhang, Robert Palmatier

As a new data source, online word-of-mouth provides a good proxy for measuring the evaluation process of products and services. Despite the promising properties, existing studies have not fully utilized the semantic information involved in a customer's text review due to the variety and volume of raw data. In the analysis of user generated content, it is often important to investigate how different issues mentioned in a review affect perceived quality and customer satisfaction. Based on recent advances in causal inference and machine learning, we introduce an analytical framework for discovering the effect of each topic and its modifiers from customer reviews. Researchers can use the optimized topic model to discover high-dimensional topics, estimate the heterogeneous effects on outcomes conditioning on high-dimensional covariates with causal forest and discover significant effect modifiers from those covariates using selective inference. The empirical application is with large-scale customers' reviews and ratings for hotels. We show that topics extracted from reviews are effective in tasks of prediction and explanation. We further show the ability of the framework in screening synergy and dysergy among co-occurrence topics. Among the pairs with significant interactions, synergy is less likely to occur in both positive and negative topics. Categories and frequencies of topics are factors influencing the likelihood of synergistic effects. The findings illustrate the importance of detailed semantic information in UGC analysis. Our work may help scholars sharpen their understandings of consumer opinions and apply those methods in confirmatory studies.

3 - Generating and Testing Product Design Aesthetics: A Human-Machine Hybrid Approach

Alex Burnap, Massachusetts Institute of Technology, Cambridge, MA, United States, John R. Hauser, Artem Timoshenko

Product aesthetics are a key driver of consumer demand across product categories. Successful product aesthetics are then critical to marketing strategy and firm performance. Firms currently generate and test product aesthetics by relying on human intuition and descriptive methods to incorporate consumer feedback. In contrast, prescriptive methods for aesthetics have not been available as realistic product representations (e.g., visual images) require an intractable number of dimensions for conventional marketing methods. We propose a prescriptive approach using deep learning to (1) predict how consumers rate product aesthetics based on visual images, and (2) generate new product designs to augment human designers. This approach works by compressing high-dimensional visual images into a low-dimensional embedding manageable for both prediction and generation. We evaluate the proposed approach on the U.S. market for sport-utility vehicles and crossovers (SUV/CUVs), using a survey of consumer aesthetics preferences and 200,000 vehicle images. Our results demonstrate the approach is able to predict aesthetic ratings of held-out products, as well as create new designs with high predicted appeal. This suggests the potential to augment human intuition with a prescriptive machine learning approach for testing and generating product aesthetics.

4 - How Language Shapes Bias Against Women: A Study of Implicit Gender Bias in 46 World Languages

David DeFranza, University of Utah, Salt Lake City, UT, United States, Arul Mishra, Himanshu Mishra

Language provides a window into people's mind, including the presence of stereotypic bias. Natural language processing methods are used extensively in marketing applications like the tuning of product recommendation systems, product classification, customer segmentation, and sentiment analysis. Research on linguistic relativity has suggested that grammatically gendered language is more likely to display gender biases than genderless languages. In this research, we extend work on linguistic relativity in the following ways: First, we measure implicit, rather than explicit, gender bias, by examining millions of words voluntarily generated by people across different contexts when they are not being queried about bias. Wikipedia and a corpus of web crawl data from over five billion web pages, known as the Common Crawl serve as our data source. Second, we examine 46 world languages, covering the majority of the world's nations, to test for gender bias across several gendered and genderless languages rather than just comparing between two languages. Third, instead of testing for gender bias through explicit attitudinal measures or through response time tests, we utilize a recent word embedding method to find the similarity between negative and positive attribute words with male and female words. Finally, it is important to know whether gender bias exists in certain languages but it is equally important to know whether the bias occurs because of a greater bias against women or a greater bias for men. Knowing the nature of the bias can help in developing successful interventions that can protect consumers from potential deception.

5 - Platform Protection Insurance and Sharing Economy Platform Growth

Siliang Tong, Temple University, Philadelphia, PA, United States, Xueming Luo, Zhijie Lin

This research examines how platform protection intervention (PPI) that safeguards end consumers promotes network externalities in the sharing economy. It addresses three key questions: 1) Can PPI drive the growth of buyers' expenditure and sellers' revenue? 2) If so, through what pathways it promotes platform growth, i.e. influences on buyers, sellers, and the marketplace? 3) How to identify the causal effect of PPI when the policy is applied to everyone? We exploit a rich field data on a natural quasi-experiment with an exogenous PPI in a food-sharing platform. We apply four different strategies to construct the causal inference of PPI. The results suggest that PPI can boost buyers' expenditure and sellers' revenue. Regarding the pathways to platform growth, we find that PPI boosts demand-side expenditure by encouraging customer variety-seeking behaviors with more purchases from different sellers. The demand side boost then enables the supply-side sellers to improve their customer retention and acquisition activities. This translates to a better matching of repeated pairs of buyers and sellers, along with improved rating reputation system.

■ FB11

Aula 11

CRM 6

Contributed Session

Chair: Dae-Hui Lee, Soonchunhyang University, Soonchunhyang-ro 22, Asan, Korea, Republic of

1 - Customer Knowledge Competence Scale Development. Face and Content Validation Procedure Proposition

Przemyslaw Tomczyk, Assistant Professor, Kozminski University, Warsaw, Poland

The term customer knowledge has been broadly used in marketing literature since the early 2000s. The literature recognizes three types of customer knowledge: knowledge about, for, and from the customer. The first relates to the knowledge the firm has about customers. The second includes knowledge transferred from the firm to customers. Finally, knowledge from the customer refers to the knowledge and skills the customers have about firms, and markets as well as the feedback and ideas customers transfer to the firms. The latter type includes knowledge, skills and creative potential and defines the phenomenon of customer knowledge competence (CKC). All three aspects of CKC can be measured with scales. However, most of the existing scales suffer from a lack of face and content validation, making them inappropriate. The research presents the results of the qualitative part of the scale creation procedure and covers literature items generation, items selection, items verification and final set construction based on the original research proposition, including literature review, individual in-depth interviews, Delphi interviews, and the expert panel with marketers. This procedure leads to face and content validity and prepares the set of items for the quantitative stage. The study makes two marketing contributions in terms of methodology and merit: the proposal of a face and content validity procedure and the qualitative operationalization of CKC. Such findings can help marketers and marketing scientists improve their scale proposition procedures as well as operationalize CKC.

2 - Keep or Fire? Cost of Customer Abandonment and Optimal Abandonment Decisions

Rutger van Oest, BI Norwegian Business School, Oslo, Norway, George Knox

Keeping unprofitable customers is costly, yet abandoning them can lead to bad word of mouth, which is also costly. Firms are typically operating in the dark, as they are uncertain about how profitable customers will be in the long run. We present an analytical model for optimal customer abandonment decisions. It incorporates the cost to abandon customers and two-sided abandonment, where the firm has an option to abandon customers but customers also have an option to abandon the firm if they drop out. Both aspects are new to the customer abandonment literature. We show that a myopic firm may wrongly abandon profitable customers, because the firm ignores that currently unprofitable customers may turn out to be profitable in the long run, and if not, the firm has the option to abandon them later. On the other hand, a myopic firm may also wrongly serve unprofitable customers, because it focuses too much on avoiding the immediate cost to abandon. We use comparative statics to relate the deviation in optimal serving-abandonment decisions of myopic and forward-looking firms to structural parameters: customers' average purchase and drop-out probabilities, and associated heterogeneity (i.e., uncertainty). In so doing, we show an interaction in the effects of customers' average purchase and drop-out probabilities. Furthermore, we show that increased heterogeneity in both customers' purchase and drop-out probabilities makes it more likely that a myopic firm will wrongly abandon customers who would be served by a forward-looking firm.

3 - Rewards-supply Timing Decision within a Coalition Loyalty Program

Mouna Sebri, Université de Sherbrooke, Sherbrooke, QC, Canada

Within a coalition loyalty program where an airline company is the major source of points accumulation for members as well as an attractive choice in terms of the program rewards, tracking every travel opportunity from the member perspective is crucial for both the airline company and the loyalty program sustainability. Determining flight-booking pattern in the travel industry is crucial to divert flight opportunities from competition and support the airline share of wallet in the loyalty program. The key challenge of such non-contractual setting, is how to differentiate those travelers who have ended their relationship with the airline company without informing them and without necessary expiring from the loyalty program from those who are simply in the midst of a long hiatus between travels. We develop a model to predict future traveling patterns for a customer base that can be described by these structural characteristics. A shared frailty model that accounts for member's specific unobserved factors is proposed to accurately predict the time to next travel with the airline company at the member level. Travel bookings at various future time windows are predicted to better adapt campaigns objectives and allow sufficient lead-time for marketing actions.

4 - The Moderating Effects of Exhibition Atmospherics on the Relationship between Experience and Satisfaction in the Decision-making Process

Dae-Hui Lee, Soonchunhyang University, Asan, Korea, Republic of

To strategically promote products and services in exhibitions, experience-oriented opportunities are considered important in the decision-making process. This study empirically examined the relationship between three experience dimensions (i.e., entertainment, esthetics, and education), general attendees' satisfaction, and purchase intentions in exhibitions. Moreover, the moderating role of exhibition atmospherics on the relationship between each factor was investigated. A confirmatory factor analysis was performed to confirm the measurement model. A structural equation modeling was also conducted to analyze the causal relationships between the factors. Lastly, the moderating effect of exhibition atmospherics was assessed using an invariance test. The empirical results indicated that entertainment, esthetics, and education significantly influenced general attendees' satisfaction, which in turn significantly affected purchase intentions. Moreover, the significant moderating effects of exhibition atmospherics were discovered on the relationship between experience and satisfaction. Specifically, the relationship with general attendees' satisfaction was revealed to be the strongest moderating effect of esthetics, followed by entertainment and education, respectively. Exhibition atmospherics were a significant moderator which strongly impacted the decision-making process of general attendees in exhibitions. Theoretical and empirical implications provide exhibition practitioner and organizers with a better understanding of the moderating effect of exhibition atmospherics.

■ FB12

Aula 12

Marketing Strategy 3

Contributed Session

Chair: Hossein Eslami, Lebanese American University, Lebanese American University, 13-5053 Chouran, Beirut, 11022801, Lebanon

1 - The Impact of Movie Titles on Box Office Success

Giwoong Bae, KAIST, Daejeon, Korea, Republic of, Hye-jin Kim

This study examines how an informative movie title, a movie title that contains information about its genre or storyline, affects box office performance. Specifically, this study shows that an informative title of movie has a positive impact on box office revenue for a less promoted (i.e., low budget) movie in the five-year period analysis of the Korean movie market. However, this impact decreases as prerelease promotional activities increase, and the results were robust across different settings. The title effect is stronger for ultra-low budget movies, and in this context, e-WOM appears to be non-influential. It implies that ultra-low budget movies cannot rely on consumer e-WOM, which is often used in marketing situations where resources are scarce, and studios should pay particular attention to naming. Such a mechanism contributes not only to the understanding of movies but also to literature in the entertainment industry as well as to literature on brand and firm name. From a managerial perspective, since the informative movie title positively affects revenues in less promoted movies, studios should create titles that reveal rich information to enhance the performance of movies.

2 - Lobbying and Automotive Recalls

Khimendra Singh, University of North Carolina, Chapel Hill, NC, United States, Rajdeep Grewal

Anecdotal evidence indicates an interaction between corporate lobbying and auto recalls. A 2010 congressional research report, examining the Toyota sudden acceleration case, highlighted an internal memo prepared by Toyota officials. In this memo, Toyota claimed a number of "wins" including persuading regulator National Highway Traffic Safety Administration (NHTSA) officials to impose lesser defect sanctions, and a negotiated recall that saved Toyota $100 million. In light of this document, lawmakers openly questioned whether Toyota lobbyists persuaded NHTSA officials not to order recalls in certain instances. This report raises an important question regarding the alleged influence of lobbying on recalls. NHTSA plays an important role in the recall process as it has the authority to recommends recalls if automakers do not act after analyzing consumers' complaints. NHTSA, however, functions in a politically active environment as committees overviewing NHTSA consists of the US Congress members. Therefore, firms, whose actions are under the purview of NHTSA, may use political connections to influence NHTSA, and affect recall process to gain undue benefits. For instance, due to the firm's political pressure, the regulator may decide not to investigate complaints. Such favorable treatment may lower the firm's tendency to initiate recalls. We empirically investigate this dimension with our research question - Does corporate lobbying influence auto recalls? Do firms with different lobbying levels show significant difference in their recall behavior? This system, however, suffers from simultaneity bias, as the recall decisions could also influence the firm's lobbying expenditure level. We address this issue with an instrumental variable approach. Using recalls and lobbying expenditure data, our results show that lobbying and voluntary recalls are negatively associated, meaning that firms with a higher level of lobbying are less likely to initiate a recall. This result indicates that lobbying is an important instrument for influence in the auto recalls context.

3 - Too Much of a Good Thing? The Boomerang Effect of Firms' Investments on Corporate Social Responsibility during Product Recalls

Angela Xia Liu, Tsinghua University, Beijing, China,
Alfred Zhu Liu, Rui Wang, Sean Xin Xu

Prior research shows that a good record of corporate social responsibility (CSR) has an insurance-like effect on shareholder value in negative events. We posit and provide empirical evidence that excessive CSR activities can also cause a boomerang effect during negative events. In the setting of product recalls, we show that overinvestment in CSR has a boomerang effect on shareholder value when a company with a superb CSR record announces a recall. Further analysis shows that the boomerang effect is exacerbated when customer awareness is high and when institutional ownership is low. Our study adds to the literature new insights on how CSR affects shareholder value during a reputation crisis.

4 - On the Optimal Width of the Product Mix and Length of the Product lines: Bridging of Strategic Marketing and Financial- Economics Approaches

Aharon Hibshoosh, Professor, San Jose State University and Lincoln University, Oakland, San Jose, CA, United States,
Haim Levy

We optimize the width, n, of the product mix and the length J(PL) of each of its product lines (PLs). Each PL is associated with a unique attribute space (AS) in which its products (brands) are positioned. Per our past modeling approaches, we conceive the firm's decision regarding each of its J(PL) as a spatial problem requiring direct comparison of (ideal, competing, and own) brands within the PL's AS, and consideration of alternative financial-economics objectives. Empirical and/ or theoretically based estimation of (actual or potential) brand and PL returns is made, and In turn J(PL) optimization follows by enumeration. However, with this kind of structure, optimizing n based on spatial methods of direct brand comparisons is an impossible task; we must rely instead on the estimated stochastic financial-economic performance of the returns of the PLs. We maximize firm's shareholder utility in Markowitz Mean Variance framework. Intrinsically, we assume capital budgeting, the firm's ability to borrow or lend a risk free asset, in addition to its product mix investment, and a barrier to entry in actualizing any PL. We do not assume that the PLs are financially securitized and tradable in any exchange. Our assumptions are thus very different from those of the regular CAPMs, and our conclusions support Economics' observation of a revealed preference for limited product diversity. Showing that the Sharpe-Lintner criterion holds, we present general operational solutions based on mixed integer programming, and a key theorem, providing an explicit formula for n* (the optimal number of PLs in the product mix) for the prime reference case, where the returns of the PLs are i.d. and correlated. A variety of insights follow.

5 - Investing in Corporate Social Responsibility, How Much and Where: An Empirical Study

Hossein Eslami, Lebanese American University, Beirut, Lebanon

Corporate Social Responsibility (CSR) is a common practice globally and most companies are involved in some form of CSR practices. Due to the public awareness and social pressure, this trend is increasing over time. While there have been studies on the impact of CSR on increasing sales and brand equity, there is a gap in the marketing literature as per how firms decide to invest in CSR. In this study we try to fill this gap in the literature by empirically investigating the investment decision in CSR both in terms of the size as well as the areas in which this investment is being carried out. The data used in this study is a panel of sustainability reports of 150 companies in the ASEAN region. We have developed a quantitative scale to compare the CSR practices of the firms in our panel. The results of this study would be of interest to the managers as well as policy makers in the sustainability field.

■ FB13

Aula 14

Choice Models 2

Contributed Session

Chair: I-Hsuan Chiu, University of Wisconsin-Milwaukee, Milwaukee, WI, 53202, United States

1 - Consumer Heterogeneity Analysis Considering the Stage of Purchase Decision Making and Product Heterogeneity

Keisuke Ishibashi, Distribution Economics Institute of Japan, Tokyo, Japan, Masataka Ban, Koken Ozaki

We propose a model that simultaneously estimates consumer heterogeneity and product heterogeneity. Specifically, it incorporates heterogeneity in sales ability of each product and purchasing power of each consumer. In this research, parameters of consumers and products are obtained by Bayesian estimation using scanner panel data. We also evaluate several models using the widely applicable information criterion (WAIC). The model incorporating two types of heterogeneity was superior in terms of WAIC compared to models incorporating only one type. Therefore, it can be said that consumer individual behavior can be accurately predicted by considering product heterogeneity. It can also be said that, considering consumer heterogeneity, it is possible to evaluate the sales ability of each product. Furthermore, in this research, we consider the stage of purchase decision making by dividing it into deciding whether to purchase and deciding how many products to purchase. For this purpose, we use a hurdle model that combines a binomial logit model and a Poisson regression model. The hurdle model is suitable for analyzing zero-inflated data. When we examine data as a combination of consumer and product, the number of purchases is often zero, making the hurdle model appropriate. In our analysis, we incorporate marketing variables in each model and compare which stage the marketing variables affect more. Results from the proposed model can be used for sales promotion activities targeted at individual consumers. Finally, we construct a model that incorporates all aspects of consumer heterogeneity, product heterogeneity, and purchasing decision making. We again compare models using WAIC and show that the proposed model incorporating everything is superior. This research has academic significance in the sense of suggesting a new model for analyzing consumer behavior, and additionally is useful for practitioners because the analysis results can be used for sales promotion activities.

2 - A Multiple Duration Choice Model for Service Data

Takuya Satomura, Keio University, Minato-ku Tokyo, Japan, Greg M. Allenby

The consumption of services often involves the presence of fixed costs that are shared among services when they are jointly consumed. Lawn care companies, for example, may offer a variety of yard work services (digging, weeding, fertilizing) at discounted rates if they can do the work during the same visit, and hair salons offer services that, when consumed together, allow consumers to minimize their cost of travel. Understanding the cost of access and consumption, therefore, requires models where purchase timing and choice are integrated into a common model of behavior, where the decision of when to purchase and what to purchase are driven by the same latent utilities. In this paper, the authors propose a competing risks model that simultaneously captures purchase timing and choice. The model assumes that consumers sequentially maximize utility and decide to make a purchase when the utility for one of the inside goods is greater than the utility of the outside, no-choice option. The results of the empirical analysis indicate that consumer utility for the goods not purchased continues to accumulate in value rather than resetting to zero, implying that latent, unmet demand is always present. Implications for maximizing service profitability are explored.

3 - Bias and Selection Effects in Retail and Services Platforms Experimentation

Alina Nastasoiu, Booking.com, Amsterdam, Netherlands

Retail and service platforms attract both high and low-frequency users. For experiments that start at random dates, high-frequency (heavy) users enter experiments sooner than low-frequency (light) users. Furthermore, the latter may also respond better to experiments that offer extra incentives (e.g., more favourable return policy or a monetary discount). This implies that different experiment runtimes will capture different mixtures of users. Even if an experiment is sufficiently powered, it may still fail to reveal material effects, if those effects are mainly driven by the long tail of light, infrequent users. This is the case because those light users are under-represented in an experiment that runs for a rather short period of time, compared to the time scale at which we want to generalise the results. The first objective of this study is to present simulations that assess the chances of experiments under-estimating effects that can only be achieved in the longer run (e.g., on a yearly basis). The second objective is to find the best way to re-weight the participants in this type of setups, to give an adequate power to the light users. The outcomes are of interest both to practitioners that routinely conduct A/B testing on their platforms, as well as to the academic literature on experimentation methodology.

4 - Modeling Reference Dependence Effect and Regulatory Orientation

I-Hsuan Chiu, University of Wisconsin, Milwaukee, WI, United States, Gary J. Russell

One major implication of the value function in prospect theory is loss aversion: losses loom larger than gains of the same size. The empirical examinations of loss aversion from consumer brand choice decisions, however, provide mixed results. For example, Bell and Lattin (2002) show that loss aversion is reduced or disappears when taking into account consumer heterogeneity. In this research, we show that regulatory focus theory can account for the heterogeneity in the reference dependent effect: consumers in a promotion-oriented mindset show a weaker response to loss aversion comparing to those in a prevention-oriented mindset. We consider a decision context where consumers rely on external reference points. To capture the reference dependence effect, we use the random regret minimization (RRM) model developed by Chorus (2012). The RRM model describes a decision process that compares attributes of an alternative to that of all other alternatives in the consideration set. RRM allows for flexibility in evaluating reference dependence effects across all attributes and alternatives, and provides a framework for incorporating regulatory orientations into the model specification. Using data from a choice experiment, we demonstrate that prospect theory describes the within-individual differences with respect to losses and gains, while regulatory focus theory describes the between-individual differences.

■ FB14

Aula 15

Advertising 5

Contributed Session

Chair: Sharon Horsky, Hebrew University at Jerusalem, School of Business Administration, Jerusalem, Israel

1 - Be Typical, but Typical of What? The Role of Ad Typicality During Sporting Events

Marc Mazodier, Associate Professor, Zayed University, Abu Dhabi, United Arab Emirates, François Carrillat

During major sporting events, many companies run massive advertising campaign to reach large audiences and improve their brand equity (Gijsenberg 2014). This research investigates whether, during such events, ads that are typical of the event, typical of the product category or typical of both maximize advertising effectiveness. Prior research (Elsen, Pieters, and Wedel 2016; Pieters and Wedel 2012) indicates that typical ads of the product category perform better than atypical ads after a brief exposure (< 2 seconds). Mazodier, Corsi and Quester (2018) find that ads typical of a sporting event improve brand image more than atypical ads. Therefore, we examine the interaction between product category typicality (high, low) and event typicality (high, low) in two experiments using 24 target ads across three product categories (cars, food and beverage, and skin care). Experiment 1 used a student sample under controlled conditions in the lab where ad exposure varied experimentally between 100 msec and 5 sec. Experiment 2 used a nationally representative sample under naturalistic conditions where participants self-paced through the ads at home. Both experiments suggest that ads atypical of both the event and of the product category are less effective than other ads after brief exposure (< 2 seconds). After longer exposure (> 2 seconds), ads typical of the event are more effective than other ads, including product typical ads. Importantly, ads typical of both the event and the product category are less effective than ads typical of the event or of the product category.

2 - Advertising Literacy and the Power of Education: A Study on Egyptian Youth

Sara Mahmoud Khater, Cairo University, Faculty of Mass Communication, Giza, Egypt

The field of advertising literacy has witnessed important developments where different researchers have highlighted the importance of possessing advertising literacy skills. Arabic research studies have long focused on many constructs related to advertising literacy such as advertising effects and attitudes towards advertising. However, there has been a noticeable lack in the use of the concept of "Advertising Literacy" itself in Arabic literature. The current study addresses this gap by exploring the advertising literacy skills of Egyptian young people through focusing on two advertising literacy dimensions as proposed by Malmelin (2010); Rhetorical and Promotional Literacy. The study also aims at discovering the influence of studying marketing/marketing communications/advertising on possessing rhetorical and promotional literacy skills as previous research have demonstrated the importance of education in the process of acquiring advertising literacy skills. An online survey was distributed over a sample of 135 Facebook users whose age range from 18 - 35 years old where a 5-point scale for measuring rhetorical and promotional literacy has been adapted for purposes of the current study from Abdullah & Salim (2017). Findings indicate that the majority of respondents possess rhetorical literacy skills, as well as promotional literacy skills. Also significant differences were found between respondents in both; their rhetorical and promotional literacy skills, according to whether they studied marketing/ marketing communications/ advertising or not. Future research should use qualitative methodologies to determine the main causes of high literacy levels and study the content of different curricula and how they directly affect advertising literacy skills. Keywords: advertising - youth - literacy

3 - The Relationship between the Effectiveness of Persuasive Messages and the Advertising Media

Yuya Katsurasako, Keio university, Tokyo, Japan

The purpose of this study is to indicate how persuasive messages on different advertising media affects the attitude changes of consumers. We assumed that the depth of processing, the extent to which a person carefully thinks about an argument, is determined by how much elaboration likelihood they have, as ELM(Elaboration Likelihood Model) modeled. In addition, according to CST(Consumer Search Theory), we also postulated that breath of sampling, the number of arguments that a person inspects in the completion of a search task, depends on consumers' heterogeneity. Then, we applied the combined model which is proposed by Ho and Bodoff(2014) to examine the media's differences. For model estimation, we used panel data, which consists of psychographic data and advertisements placement data. From the result of the model estimates, we find that persuasive message on different media influences differently attitude change of consumers. Furthermore, it is suggested that the role of conventional mass media just like TV and magazines are replaced by new media such as YouTube and SNS.

4 - Ad Agency Compensation Before and After the Digital Age

Sharon Horsky, Hebrew University at Jerusalem, Jerusalem, Israel

A crucial element in the relationship between the firm and its advertising agency is the design of an effective compensation plan for the advertising agency which aligns the incentives given to the agency with the overall objectives of the advertiser. With the increasing complexity in the media landscape we show that advertisers are changing their ad agency connections. In this paper we show changes in the type of agents chosen, the number of agencies used, and the way they are compensated. We also investigate trends in digital agency compensation given the rapid growth in the use of digital advertising. We compare whether the methods and trends in digital agency compensation are different from those in the "traditional" media.

5 - Is Digital Video Advertising More Effective than TV Advertising for Online Purchases? Evidence from a Field Experiment

Xu Zhang, Assistant Professor, London Business School, London, United Kingdom, Anja Lambrecht, Catherine Tucker

In this research, we investigate the effect of offline TV advertising and online Digital Video (DV) advertising on online travel purchases by examining how they influence consumer behavior along the marketing funnel. Using evidence from a field experiment conducted by a world's leading online travel company, we find that TV advertising drives traffic to the website that can convert into sales. By contrast, digital video advertising has, on average, a negative effect on how deeply users browse the website. We link this finding to consumers arriving on the website from a DV ad click but without the intention to browse deeply. Finally, our results highlight the heterogeneous effects across channels and the underlying mechanisms for our findings. We discuss the implications of our findings for advertising strategies.

■ FB15

Aula 16

Channels 6

Contributed Session

Chair: Rahul Govind, University of New South Wales, 3012 Quadrangle Building (Marketing), UNSW - Sydney, 2052

1 - Managing Touchpoints to Enhance Customer Engagement in B2B Markets

Orhan Bahadır Do an, Georgia State University, Atlanta, GA, United States

In today's data-driven era, consumers expect highly personalized experiences, which are tailored to their specific needs. Simultaneously, firms seek efficient methods to address these needs in a managerially feasible time frame. Although robust methods in literature have been proposed to account for these needs on an individual level, implementing a contact strategy for the entire portfolio of customers at different relationship lifecycle stages remains a challenge. Hence, empirically identifying unique customer segments with similarities in revenue growth trajectories and providing strategic recommendations for these customer segments are critical to managers. Notably, while the impact of firm-initiated contacts on purchasing decisions has been intensively studied in the B2B context, relatively little is known about how to design the firm's marketing messages and optimally reach distinct customer segments using different touchpoints (rich vs. standard modes) to maximize the future customer engagement level. Therefore, in this study, we propose to answer the following three research questions (1) What would be the optimal balance between modes of communication: standard mode (i.e., phone calls, emails) vs. rich mode (i.e., face-to-face) given the change in the relationship lifecycle? (2) Should the communication method change by the type of marketing messages (e.g., economic vs. relational)? (3) How do these effects of marketing touchpoints be moderated by the firm characteristics (e.g., maturity of the firm, firm size, industry type)? Using a finite mixture model in combination with a data transformation, we segment customers based on revenue growth trajectories to offer managers a solution to allocate their marketing efforts. We address these questions using a large data set from a Fortune 500 business-to-business service firm with over 100,000 customers and a robust econometric model. Our proposed model will provide guidance and convenience to marketers on how to interact and engage with customers continuously over the relationship lifespan.

2 - Dynamic Relationship Management with Spillovers in B2B Markets

Lu Huang, University of Connecticut, Storrs, CT, United States, Jian Ni, Hongju Liu

A company's relationships with its sales representatives are an important asset to the company. However, independent representatives can choose which companies they work for and firms cannot control them by hierarchy, nor can the firms ensure that they have full information about representatives' preferences and their other behaviors. This means firms can only use results to evaluate independent representatives and segment them based on outcomes. Identifying and maintaining great independent sales representatives is challenging and crucial to the success of firms. In this study, we propose a bivariate Tobit hidden Markov model to capture the dynamics of the unobserved relationship between financial advisors and an insurance company and examine the factors that affect the long-term and short-term performance of these advisors. We find that the relationship between financial advisors and the firm can be described by three latent states. Marketing contacts such as sales calls and face to face sales meetings can have both a contemporaneous effect on sales and a long-term effect by switching the relationship state between the company and financial advisors to a different level. Moreover, our model captures two spillover effects on sales: (1) the relationship management activities targeting other advisors working in the same branch of a broker-dealer firm have a negative impact on sales of the focal advisor while (2) sales performance of other advisors has a positive spillover. We discuss how our results can help managers allocate marketing resources to advisors and optimize returns in the long run.

3 - Customer Experience Spillovers across Product Categories: A Dynamic Perspective

Lily(Xuehui) Gao, University of Zaragoza, Zaragoza, Spain, Iguacel Melero, F. Javier Sese

While marketing scholars and practitioners acknowledge that customer experience should be viewed from a dynamic perspective, there is only limited research investigating the consequences of customers' perceptions about their experiences over time with the firm on central relationship outcomes such as customer retention and relationship expansion. Therefore, this study provides a dynamic analysis of the spillover effect of positive and negative customer experience on the same customer's defection decision (customer churn) in other service categories. To do so, grounding on the dynamic theory of exchange relationships, we propose a conceptual framework in order to provide significant insight into the drivers of customer experience and the impact of customer experience over time with one service category on the other related service categories in terms of switching decisions. Using longitudinal data which combines both transactional and perceptual information for a sample of 13,762 customers that is representative of the telecom market for two major telecommunication service categories: mobile and broadband, we tested empirically the proposed framework. The results demonstrate that the relationships between customer experience and customer churn are not static but vary over time. Most importantly, the study shows the existence of spillover effects of customer experience on customer churn across categories. Finally, this study can have important strategic implications to industries that offer continuously provided services as well as helpful advice for companies which tend to silo their customer service activities by category.

4 - Price Promotion Models for Every Day Low Pricing (EDLP) Retailers

Rahul Govind, Senior Lecturer of Marketing, University of New South Wales, UNSW Sydney, Australia, Ashish Sinha, David S. Lie, Sonika Singh

In the changing retail landscape, the shift of market power from Promotional (PROMO) to Every Day Low Pricing (EDLP) has been observed not only at the national level, but also internationally. However, the same change in practice is not observed in academic research as most price-promotional model in marketing literature has been largely developed for PROMO chains. This may be due to the fact that EDLP chains has lack of variability as prices in EDLP chains are bound to stay relatively similar every day. This may create a problem in analysis, particularly in model convergence. Hence, in this research, we propose to develop a price-promotion model specially for EDLP chains through a demand-group-market-share approach that allows us to estimate price elasticity for both primary and secondary demand. The first step is to identify the demand group, where we have incorporated the Random Forest technique to group all stock keeping units (SKUs) based on different characteristics, such as sales and product attributes. The second step is to estimate market-share to estimate price elasticity of primary and secondary demand for products in the EDLP chains. This method allows us to estimate the willingness to pay and the zone of indifference for all products in the category analyzed, meaning the price at which customers are indifferent between products in demand group. The results of the analyses will allow for a comparison with existing models that focus only on PROMO chains and the increase in pricing efficiency as a result of our proposed model.

■ FB16

Aula 17

Consumer Behavior 6

Behavioral Track

Chair: Shigeru Ono, Insight Factory, 6-18-5 Jingumae, Shibuya, Tokyo, 1500001, Japan

1 - The Healthcare Conundrum at the Bottom-of-the-Pyramid

Reetika Gupta, Associate Professor, ESSEC Business School, Singapore, Singapore, Yenee Kim, Malobi Mukherjee

Healthcare Conundrum at the Bottom-of-the-Pyramid (BOP) The need to examine health care issues have been continually emphasized in consumer research due to its significant consumer welfare and public policy implications (Menon et al., 2006). Recent research on health care in the BOP context have focused on the legitimacy and sustainability of health care practices (Agarwal et al., 2017; Bucher et al., 2016), but there has been scant research addressing the healthcare-seeking behavior of BOP consumers. Our research aims to extend this body of work by examining 1) how financial deprivation levels lead BOP consumers to focus on different aspects of health care, which subsequently influence their preferences toward different healthcare campaigns and 2) the mediational role of self-esteem. Employing the theories of financial deprivation and goal hierarchy, we posit that BOP consumers with low levels of financial deprivation will prefer health campaigns that are framed at a higher level (vs. a lower level) as it helps repair their self-esteem and eliminate self-discrepancy. However, we don't expect to find differences in sensitivity to framing of health campaigns amongst BOP consumers who experience a chronic high level of financial deprivation. The results from a field experiment (financial deprivation (high, low) X framing of healthcare campaign (higher-order goal, lower-order goal)) conducted in east India confirmed these predictions and illustrated that self-esteem mediated these effects. This research sheds light on the underlying motivations that guide BOP consumers' preferences toward healthcare campaigns. From a practical standpoint, this research upholds that the BOP consumers cannot be interpreted as a homogeneous group implying that differentiated segmentation strategies should be implemented when marketing healthcare to the BOP audience.

2 - Using the Cross-wise Item Response Method to Ask Sensitive Questions

Marco Gregori, Erasmus University, Rotterdam, Netherlands, Martijn G. de Jong, Rik Pieters

Researchers in business, economics, psychology, and social sciences are often interested in sensitive topics, e.g. online gambling services, pornography, alcohol, smoking during pregnancy, sexuality or ethnicity. Direct questions on such topics result in substantial underreporting: list experiments and randomized response techniques have therefore been developed to elicit truthful responses. However, list experiments do not fully protect respondents' privacy (if all responses are true), and randomized response methods are often mistrusted or misunderstood. This paper introduces a novel approach, called the Crosswise Item Response Model (CIRM) that does not have such drawbacks: CIRM fully protects respondents' privacy, is easy to understand, and minimizes the problem of noncompliance. By exploiting information collected elsewhere in the survey, it dispenses the need of collecting data from a separate group, which is necessary for list experiments, making CIRM a very efficient model. We also extend the method for polytomous variables, which is not possible with standard list experiments. We apply our method in a study about sensitive attitudes towards consumption and workplace behaviors. CIRM is estimated using MCMC techniques. In both applications, direct questions results in substantial underestimation: with very sensitive questions, the CIRM estimates can be four times as large than estimated by direct questioning. Further, only 9 % of the sample found the method difficult to understand and only 6 % felt that their privacy was not protected.

3 - Consumer Forecasting: A New Method of Predicting Consumers' Response

Shigeru Ono, Insight Factory, Inc, Tokyo, Japan, Mayomi Haga

Predicting consumers' responses is one of the key issues of marketing practices. Traditional approaches have been based on asking consumers on their attitudes or intentions. Though these methods have been widely utilized as an aid in marketing decision making, their severe limitation have also become apparent: consumers' intentions are not necessarily correlate their behaviors. In this study, we introduce a novel approach named "Consumer Forecasting", which originated from the area of political science. We show that it has a high ability to predict the actual market. We also present a model of consumer's prediction mechanism, developed with a multilevel structural equation modeling framework and with our online research dataset of Japanese consumers (n=3,872). The primary finding is that "Consumer Forecasting" has higher correlation of actual market responses than traditional methods. By asking consumers the popularity of products among other consumers, we can obtain a better prediction of the actual sales volume than by asking their own intention to purchase. In addition, through modelling the cognitive mechanism underlying the responses by participants, it is revealed that this high correlation is supported by participants' common knowledge of brands. The result from the analysis of individual-level data suggests that the utilized amount of the collective common information may influence the performance of prediction. The "Consumer Forecasting" methods efficiently extract consumers' implicit knowledge on consumers, and consequently has good performance of predicting consumers' responses. We discuss the potential value of this new approach for marketing research.

■ FB17

Aula 18

Pricing

Behavioral Track

Chair: Michal Maimaran, Northwestern University, Evanston, IL, 60201, United States

1 - Importance Given to Future Price

Nitin Soni, Indian Institute of Management-Raipur, Raipur, India, Jagrook Dawra

Consumers' judgments of prices and discounts have been explained by the concepts of acquisition value and transaction value, where the acquisition value reflects the judgment of quality obtained for the price paid, and the transaction value reflects the judgment of discounts or deals offered. Transaction value is a function of the internal reference price (IRP) minus the purchase price. The different internal reference price formation models (and hence transaction value) are based on the current price, the past price, and other non-price related information. However, consumers also form their expectations or predictions of future prices, and these expectations are incorporated into the current purchase decision. In this research work, we attempt to answer the question: what are the factors under which consumers give importance to the future price of any product/service. We answer our question by conceptualizing, developing and validating a scale to measure the individuals' perceived value associated with their future price expectations. We call this perceived value as expected future price value. The total value consumers derive from any purchase is a summation of acquisition value, transaction value, and expected future price value. We further answer our research question by identifying the individual differences (regulatory focus, the locus of control, consumer self-confidence and consumer decision making styles) which have a differential impact on the judgment of acquisition value, transaction value, and expected future price value. Literature has shown the impact of consumers' future price expectations on their response to price deals, the rate of adoption of new products, and the choice of retailers. These expectations also impact firms' pricing strategy and their profit margins. The scale developed in this can be used by marketers to measure consumers future price expectations. Hence, the results of this study can help marketers design marketplace offerings.

2 - Calorie Attentiveness; Price Framing, Self-Regulation, and Bundle Choice

Oladunni Omebere-Iyari, Doctoral Researcher, The University of Manchester, Manchester, United Kingdom, Panagiotis Sarantopoulos, Hongwei He

Obesity has been on the rise over the last decade in the developed world, and policymakers are interested in interventions that promote healthier lifestyles. The restaurant industry, however, continues to promote less healthy but more affordable meals by offering discounted meal deals. In these deals, discounts can be presented (or framed) either in integrated (i.e., lump sum reduction in bundle price) or in segregated (i.e., reduction to the individually priced bundle constituents) formats. Prior research suggests that these pricing strategies are particularly successful amongst low-income consumers, who are more likely to compromise their goal to eat healthily for immediate savings from a less healthy choice. Our study seeks to contribute to the literature on bundle pricing by investigating how the interplay of bundle price framing (i.e., integrated vs. segregated) and calorie attentiveness (i.e., the tendency to display higher levels of self-regulation with regards to calorie intake) can result in conflicting goals. Four hundred members of an online panel participated in the Study for nominal payment (Mage = 23.48, 63.2% female). We applied a between-subjects manipulation of discount framing (integrated vs. segregated) using a meal bundle context for cinema snacks. Participants were asked to complete a brief survey indicating their preference for the meal bundle, calorie attentiveness levels, self-regulation orientations, and socio-economic characteristics. In line with our predictions, the results reveal that calorie attentive consumers are more likely to forgo the meal deal compared to calorie inattentive consumers. However, this effect is attenuated when price discounts are presented in an integrated format and, in particular, for consumers with a promotion-focus regulatory orientation. Keywords: meal bundles, price framing, calorie attentiveness, self-regulation

3 - Why Does Card Payment Increase Unhealthy Shopping? Inattention to Health Risks

Joowon Park, Assistant Professor, City University of Hong Kong, Hong Kong, Clarence Lee, Manoj Thomas

In the last three decades, the form of payment has undergone a major transformation. Now a majority of retail transactions are carried out through card payments instead of cash which had been the dominant form of payment for several centuries. Although sellers and buyers both have welcomed the cashless economic environment, an emerging stream of research has identified an unintended consequence of cashless payments: shoppers are more likely to spend money on unhealthy food items when they pay for their grocery purchases using plastic cards compared to when they pay in cash. Despite the seeming robustness of the effect, the psychological mechanism underlying this effect is not clear. We ran two studies including a skin conductance study to examine why mode of payment influences unhealthy shopping in grocery stores. Results suggest that the influence of mode of payment on consumer behavior is more pernicious than previously assumed. Mode of payment can influence psychological arousal, which in turn can bias shoppers' attentional orientation to negative product attributes. The negative arousal caused by cash payments increases attention not only to negative monetary attributes such as price, but also to negative non-monetary attributes such as health risks of products. In contrast, paying by card reduces this negative arousal, which in turn, reduces attention to health risk of products. Thus, paying by cards (vs. cash) can increase purchases of unhealthy grocery products through an autonomous shift in shoppers' attention to health risks of products without their awareness.

4 - Customer Power in Pricing & How to Tame the Beast

Petra Tipaldi, University of Zurich, Zurich, Switzerland, Martin Natter

Participative price mechanisms are popular amongst customers, as they allow them to influence their own price and reduce their pre-purchase risk. However, sellers are hesitant to give the full price setting power away in fear of buyers misusing their power and subsequent negative financial consequences. Classifying existing price mechanisms along the dimension of buyer's price empowerment and price formation type (default vs. no default), the authors identify and test new participative pricing alternatives against established approaches. Using an incentive aligned experiment comparing seven different pricing mechanisms, the authors identify buyer's price empowerment as the relevant dimension for attracting customers to purchase. When it comes to payment, they find that having a default in place and having customers to ask for money back to determine the final price is the more profitable price formation type as compared to determining the price directly without a default since a considerable amount of customers refrains from asking for money back and pays the default price. One of the newly identified pricing mechanisms which the authors name Get-Back-What-You-Want (GBWYW) combines exactly those two beneficial properties, i.e., full pricing power used together with a default price and asking for money back. GBWYW offers full pricing power to reduce the purchase risk and for full market penetration. However, only when customers do not accept the default price after consumption, they can ask for any amount of their purchase back. By reclaiming money from a default price instead of directly determining the price, GBWYW is shown to outperform alternative ways of customer empowerment in terms of revenues and profitability.

5 - Children are Price Sensitive Too: Using Price Promotions to Increase Children's Consumption of Healthy Food

Michal Maimaran, Northwestern University, Evanston, IL, United States, Szu-chi Huang

In this research, we examine whether using price promotions, one of the most classic tools in marketing, can encourage children to eat healthier food. We choose to use price promotion as other methods, such as restricting advertisements of unhealthy products to children (McGinnis, Gootman, & Kraak 2006) or motivating children directly by rewarding for eating healthy food (Cooke et al. 2011) have produced mixed results. We collaborated with UNICEF to launch three field experiments at three elementary schools in Panamá (total N=2,417), distributing coupons that presented different economic incentives for children to purchase healthy food at their schools' kiosks. We varied the complexity of the messages the coupons entailed, such that simple messages clearly stated the discounted price whereas the complex messages required children to derive the discounted price. We tracked sales and redemption rates of these coupons at schools' kiosks for two months. We found that (1) price promotions temporarily increased purchase of healthy food among children; (2) simple messages were more effective among younger children (ages 6-7), whereas complex messages were more effective among older children (ages 8-11); (3) there was a temporally dynamic effect, such that when the coupons were distributed the second time around, younger children engaged with the complex (vs. simple) message more whereas older children disengaged from both types of messages. This work contributes to theories in price promotions, health behavior, and children developmental theory, by documenting how price promotions influence children's purchase of healthy food in the noisy real world.

■ FB18

Aula 19

Technology I

Behavioral Track

Chair: Andrea Bonezzi, Northeastern University, Boston, MA, United States

1 - When to be Silent—Key to Success for Virtual Museums Agents

Yu Chen, State University of New York-Farmingdale, Farmingdale, NY, United States

The marketing literature is dense with contributions on salesperson performance and customer relationship management. Despite this, there has been comparatively little investigation into the performance and value of virtual assistants, especially in the art field. Some research illustrates that website virtual agents prompt feelings of social presence (Lunardo et al. 2016). These feelings lead to increased perceived social support, trust, and patronage intention for the online store (Chattaraman, Kwon and Gilbert 2012); and they also enhance perceptions of agent expertise, information credibility, website trust, and purchase intention (Liew and Tan 2017). Moreover, giving individuals the ability to customize a persuasive source may empower them and affect their perceptions of the persuasive message (Hanus and Fox 2015). For virtual museum agent development, visitors' unique desires should be considered. Such desires were deciphered as imagination and surprise, peacefulness and intellectuality (Chen 2009). As such, virtual museum agents' interaction must be only partially active and must leave moments of silence for the purpose of satisfying such desires. The current research designs Bayesian models based on the results of qualitative study with online museum visitors and tests the best fit between interaction and peacefulness (silence) and consequent visitor satisfaction with the virtual agents. The research includes six experiments of different combinations of duration between active interactions and silence for Bayesian virtual agents.

2 - Artificially Yours: Algorithmic Prediction and Psychological Distance

Alex Kaju, University of Toronto, Toronto, ON, Canada

The present research examines how judgments of psychological distance (space, time, social distance, and likelihood) are affected by whether the information being judged is provided by computational algorithms or human recommenders. For example, do we feel socially closer to a brand recommended to us by a human or by an algorithm? We also examine how information and beliefs about algorithms affect these judgments. For example, does it matter what data the algorithm uses, how it computes that data, or what type of recommendation it is providing? Research on algorithms has shown both aversion and appreciation of their predictions. This research has examined preferences for human or machine prediction, but not how the source of those predictions affects judgments about the predictions themselves. Across six studies, we find that judgments of psychological distance are influenced by the source of the prediction and that these differences are influenced by beliefs about the nature of the algorithms. Participants judged machine recommendations to be spatially and temporally closer as well as more likely to occur (Studies 1, 2, and 3), but felt socially closer to human recommendations (Study 4). We also find that these differences are influenced by the type of data used to make predictions (Study 5) and the perceived computational power or complexity in calculating predictions (Study 6). Implications for the framing and presentation of algorithmic predictions in marketing and consumer behaviour, as well as in human-machine interaction, are discussed.

3 - Consumer Preferences for Artificial Intelligence: The Use of Robots in Education

Chenming Peng, University of Groningen, Groningen, Netherlands, Jenny Van Doorn, Felix Eggers, Jaap Wieringa

Artificial intelligence (AI), which enables machines to mimic human intelligence, is increasingly applied to serve consumers and automate many parts of our lives. However, service provided by AI is not always satisfying. For example, the Japanese Henn-na hotel removed half of their robot staff after receiving customers complaints. In this paper we answer the call for research on analyzing consumers' acceptance of AI from the consumer's perspective and examine for which kinds of services consumers would be more willing to accept AI. We draw on social cognition theory that posits that both warmth and competence of employees would drive consumers' emotion and behavior, and propose that these two dimensions also influence consumers' response to an AI-based service. The required level of competence and warmth can vary across different tasks within one service job. Drawing from the literature on human-computer interaction, we predict that the higher the perceived warmth that a task requires, the less consumers accept AI operators, and, in turn, the higher the perceived competence that a task requires, the more consumers accept AI operators. We explore the variation in consumers' preferences for AI across core service tasks in the education industry using a choice-based conjoint experiment. The results support that the warmth required for a task is pivotal for AI acceptance in services, yet countering our expectations, required competence is not. This research has direct implications on how firms should develop AI-based services.

4 - Understanding Consumers Preference for Artificial Intelligence

Uzma Khan, Associate Professor, University of Miami, Coral Gables, FL, United States, May Yuan

21st century consumers have an unparalleled opportunity to use artificial intelligence to improve their decisions in various industries including automobile, finance, entertainment, healthcare, and education. Success of AI in consumer markets, however, depends on how consumers perceive AI. Limited research on the topic has produced mixed results. Some findings show that consumers are AI averse while others show the opposite pattern. Given the importance of the topic, it is critical to investigate what makes consumers more or less receptive to AI. We argue that consumers askew AI because of the uncertainty involved in such technologies. Moreover, we propose two factors that affect evaluation of AI by affecting uncertainty associated with it. First, we posit that preference for AI is affected by response modes: evaluating AI jointly with a non-AI option can heighten uncertainty associated with AI and therefore hurt its desirability. Second, AI aversion depends on the nature of uncertainty: AI aversion is less likely to arise under epistemic uncertainty (arising from consumer's own lack of knowledge) than under aleatory uncertainty (arising due to randomness). For example, AI aversion is likely to decrease if consumers believe that their knowledge about AI is limited, whereas AI aversion is likely to increase if they believe that the state-of-art of AI is low. Our research is theoretically and managerially important. Theoretically, we reconcile extant inconsistent findings. Managerially, our work answers a very timely and important question, namely how companies and policy-makers can encourage consumers to adopt AI tools.

5 - Consumer Receptivity to Medical AI

Andrea Bonezzi, Northeastern University, Boston, MA, United States, Chiara Longoni, Carey Morewedge

Artificial Intelligence (AI) is revolutionizing healthcare. Medical AI applications are manifold and pervasive. IBM's Watson diagnoses heart disease (Hutson 2017), chatbots dispense medical advice for the United Kingdom's National Health Service (O'Hear 2017), and smartphone apps detect skin cancer with expert accuracy (Esteva et al. 2017). Medical AI is forecasted to become a $10 billion market in the United States by 2025 (Bresnick 2017), pervade 90% of hospitals (Das 2016), and replace as much as 80% of what doctors currently do (Khosla 2012). This revolution is predicated on the premise that AI can outperform human healthcare providers (Gallagher 2017; Leachman and Merlino 2017) and deliver cost-effective healthcare at scale (Esteva et al. 2017). Yet, despite the hype and excitement in the healthcare industry, it is unclear how consumers react to applications of AI to the medical field. Will consumers embrace AI as their provider of medical care? This research aims to answer this question by investigating consumer reactions to medical AI and exploring what psychological mechanisms drive such reactions. In a first set of four experiments, we select existing applications of AI in the health care domain and investigate consumer willingness to use such medical AI applications instead of human providers (i.e., doctors). In both real and hypothetical choices, using both joint and separate evaluations, we show that consumers exhibit a generalized reluctance toward automated care providers. In a second set of four experiments, we show that reluctance toward medical AI manifests because consumers erroneously believe that AI providers are not able to account for a person's uniqueness (e.g., characteristics and circumstances) as well as human providers are. Thus, consumers believe that a person's condition will be forcefully fit to match some standardized profile, without accounting for their uniqueness. We refer to this belief as uniqueness neglect.

■ FB19

Aula 20

Pricing 6

Contributed Session

Chair: Praveen K. Kopalle, Dartmouth College, 100 Tuck Hall, Tuck School of Business, Hanover, NH, 03755, United States

1 - The Relationship between Consumer Internal Reference Pricing and Price Willingness to Pay in the Context of Vertical Line Extensions

Jean Boisvert, American University of Sharjah, Sharjah, United Arab Emirates, Alexander J. Buoye

Our study has identified that based on the Prospect Theory and Transaction Utility Theory; little is known in terms of the dynamics between Internal Reference Price (IRP) and Willingness to Pay (WTP) across vertical product line extensions, once consumers have selected their preferred options. The goal of our research was to investigate this important gap in the literature. The following hypotheses were tested: H1: IRP (price paid for current vehicle) significantly impacts WTP (price willingness to pay for a new vehicle). H2: vertical line extensions moderate the effect of price paid for current vehicle on the incremental price one is willing to pay (WTP) for her next ideal vehicle. H3: the self-selection of product options for ideal vehicle influences WTP. Based on a survey sample of 2474 participants, regressions and latent class analyses, findings show that consumers' IRP originates from price information a consumer gained on past purchase, which in return significantly influences how much they are willing to pay (WTP) for the same product based on how much they paid on previous purchases. We hypothesized that inducing consumers to select the product options of their next vehicle would trigger a transaction-utility mechanism, whereby focusing the attention on the choice levels of features following enticed attention to IRP would maximize WTP. Our quantitative model shows that significant difference exist across vertical product line extensions when consumers are conveyed to custom-select options before expressing how much they are willing to pay for their next vehicle. The contribution of this study to the literature is important because it extends prior knowledge put forward in the area of consumer pricing decisions by better understanding how consumers of vertical product line extensions vary in their pricing perceptions and choice after being allowed to selecting product options. Theoretical and managerial implications are provided.

2 - The Social Consumer – A Myth? Impact of Individualism on Price Increase Fairness

Doreén Pick, Professor, University of Applied Sciences Merseburg, Merseburg, Germany, Stephan Zielke

Marketing research habitually claims that customers are willing to pay a price premium for fair-trade products, for environmental-friendly production and other environmental or social matters. However, several researchers began to question this paradigm while asking for research on contextual variables such as consumer characteristics. Therefore, our study aims to identify under which circumstances consumers perceive price increases that are caused by social reasons as more or less fair. In particular, we examine the role of individualism as a key trait of individuals influencing their price fairness perception. Our empirical study (n>400, Germany) shows that the three subdimensions of individualism differently impact the consumers' perceptions of price increase fairness. In particular, we show that consumer competition decreases fairness perception for all social price increase reasons (e.g., price increases due to higher payments for employees or suppliers). Thus, in cultures where consumer competition is high, price increases from social reasons even backfire by generating a lower fairness evaluation. This can increase switching intentions. More, perceived consumers' uniqueness increases fairness perception caused by environmental-friendly production. We discuss the findings for marketing theory and customer relationship marketing.

3 - Reference Price Effects in Vacation Rental Markets

Shrabastee Banerjee, Boston University, Boston, MA, United States, Anita Rao, Georgios Zervas

Do consumers respond to prices irrelevant to the purchase price? A large literature on reference prices has shown this to be true in lab experiments. However, measuring the effect of reference prices in the field is challenging because consumers' internal reference prices are not observable. We solve this problem by exploiting the fact that travel websites often advertise a"minimum" price ("Starting from..." price) for each property. The minimum price can plausibly serve as a reference price for consumers. Moreover, minimum prices have no direct bearing on the price paid by the consumer. Using a panel dataset from Airbnb covering approximately 17,000 hosts, we investigate whether consumers respond to minimum prices, and whether increases in minimum price result in more bookings. Our results indicate that demand is positively correlated with minimum price, suggesting that consumers use minimum prices as anchors in their decision making process. We try to further investigate this effect on a Europe-based travel aggregator. Preliminary findings with clickstream data covering roughly 3,000 Italian cities(and ~1 million apartments) over a period of 5 months in 2018 show that consumers are more likely to click on apartments with higher displayed minimum prices, all else equal. We are currently in the process of running large-scale field experiments to further understand the mechanisms governing reference price effects.

4 - Overconfidence in Tariff Choice

Katharina Dowling, Ludwig-Maximilians-University, Munich, Germany, Martin Spann, Lucas Stich

Digitalization has changed existing business models and enabled new ones. This development was accompanied by the emergence of new pricing options and the possibility of applying established pricing models in new domains. In many situations today, consumers can, for example, pay for accessing a product instead of buying it. In these situations, consumers usually have the choice between a flat rate and a pay-per-use option. Prior work demonstrated that consumers' tariff choices are often systematically biased. Overconfidence was identified as one of the key drivers of such suboptimal tariff choice decisions. Yet, previous research focuses primarily on the so-called flat-rate "bias" and is non-experimental. In this paper, we examine the effects of overconfidence on tariff choice experimentally and explain the mechanism behind these effects. Specifically, we empirically show that overconfident consumers overestimate their ability to predict their future consumption, which leads to an underestimation of their actual consumption, and eventually leads them to choose a pay-per-use (vs. a flat-rate) option more frequently. We observe the opposite effect for underconfident consumers. We provide implications for consumers, firms, and public policy.

5 - Experimental Evidence on the Effect of Information and Pricing on Residential Electricity Consumption

Praveen K. Kopalle, Signal Companies' Professor of Management, Dartmouth College, Hanover, NH, United States,
Kenneth Gillingham, Jesse Burkhardt

This study examines a field experiment in Texas that includes pricing and informational interventions to encourage energy conservation during summer peak load days when the social cost of generation is the highest. We estimate that our critical peak pricing intervention reduces electricity consumption by 14%. Using unique high frequency appliance-level data, we can attribute 74% of this response to air conditioning. In contrast, we find minimal response to active information provision and conservation appeals. A complementary experiment lowers off-peak nighttime prices during off-peak days, providing the first evidence of electric vehicle load-shifting in response to price.

■ FB20

Sala delle Lauree

Retailing 4

Contributed Session

Chair: Yupeng Chen, Nanyang Technological University

1 - Consumer Shopping Path and Buying Behavior at Grocery Store

Akira Shimizu, Keio University, Tokyo, Japan

Many new technologies are introduced to gather the data of consumer shopping path in the real stores. Quuppa is one of the new technology to get the location information, and it is already applied for Manufacturing, Logistics and so on. To compare with the location data gathering by RFID, it is known that the data through Quupa is more accuracy. In this research, I applied this system for the in-store shopping behavior at the grocery store, and gather 23556 individual shopping path data in 2 months. From this database, I can find some shopping path patterns of the shoppers, difference of weekday path pattern and weekend path pattern, influence of the feature promotion for shopping path, and the efficiency of the aisle and in-store promotions. Also, connecting these individual shopping path data with his (or her) receipt data, I can find relationship between length of the shopping path and money spending, the order of the decision (it means the order of putting the product in the shopping cart) in the store, and difference of the shopping path pattern between heavy user and light user. The primary contribution of this article is to clarify the relationship between consumer shopping path, retail store promotions, and buying behavior.

2 - Impact of Health Star Ratings on the Healthiness of Consumer Grocery Baskets

Satheesh Seenivasan, Monash University, Caulfield, Australia,
Dominic Thomas, Anish Nagpal, Gary Sacks

Obesity is a major public health concern in many developed countries, including Australia. As a policy tool to promote healthier diets, the Australian Government introduced a voluntary front-of-package Health Star Rating (HSR) system for packaged foods in June 2014. Nutrition summary indicators, such as HSR are designed to reduce consumers' information search and processing costs, and, thereby, help them identify and choose healthier products. In this study, we undertake a comprehensive evaluation of the outcome of the HSR initiative on the healthiness of consumer shopping baskets. We also analyse whether the effects of the HSR labelling initiative are equitably realized across consumers of different economic and socio-economic background. We use Nielsen Homescan panel dataset which tracks the purchases of about 10,000 Australian households across all food categories over a three year period. We obtain the HSR adoption details and nutrition content of food products from the FoodSwitch database. Using both objective and subjective measures, we evaluate the changes in overall basket healthiness of panel households before and after implementation of the HSR policy. To control for cross-sectional household heterogeneity, and study how the effects of HSR vary across different consumer segment groups, we include a rich set of demographic (e.g. age, gender, family size), socio-economic (income, education) and geographic (location - rural or urban) characteristics of panelists in the model. Findings from our study have significant implications for public policy and grocery retailing.

3 - Minimum Wage and Consumer Nutrition

Mike Palazzolo, University of California-Davis, Davis, CA, United States, Adithya Pattabhiramaiah

The impact of raising the minimum wage on consumer nutrition remains surprisingly underexplored even in an era of heightened consumer focus on healthy living. While a rich literature has focused on documenting the downstream impact of minimum wage revisions on firm strategy - as related to say pricing (Leung 2017), and corporate investments (Gustafson and Kotter 2017) - or on consumer decisions to seek employment (Dube et al 2010; Meer and West 2015; Jardim et al 2017) or manage debt and spending (Aaronson et al 2012), an empirical documentation of the downstream impact of minimum wage revisions on consumer nutrition is conspicuously absent. Understanding this relationship is likely of great interest to policy makers. We attempt to address this gap by leveraging detailed nutrition information for an extensive longitudinal panel of grocery purchases available in the Nielsen Homescan panel during the last decade, which saw several changes to both federal and state minimum wage schedules. In this research, we aim to study how revisions to the minimum wage schedule impact minimum wage consumers' nutritional consumption behaviors. Further, we delve deeper to examine heterogeneous responses among minimum wage households (e.g., those of households with and without kids) and document the dynamics in nutritional intake during the course of the month after receiving a paycheck. Our results uncover interesting asymmetries both across households and over time. We then aim to leverage the rich UPC level purchase data to offer conjectures on the mechanism underlying the impact of minimum wage revisions on consumer nutrition.

4 - (Surp)rise in Sales: Increasing Sales and Purchase Satisfaction through Offering Opaque Goods

Wiebke Klingemann, Doctoral Candidate, Karlsruhe Institute of Technology, Karlsruhe, Germany, Ju-Young Kim

Opaque goods are goods whose exact identity is concealed until after purchase. Our research suggests that by offering opaque goods, retailers may achieve additional sales while simultaneously increasing consumers' satisfaction with their purchase. Opaque goods have become increasingly popular in practice - examples ranging from blind hotel bookings to surprise subscription boxes or mystery restaurant dinners -, but current research has mainly focused on their use as a price discrimination tool, with the effects of undiscounted opaque goods remaining unexplored. Therefore, we aim to investigate the effects of undiscounted opaque goods on sales, customer satisfaction, and product evaluation. Data from our field experiment show that offering part of a product assortment opaquely can be an effective way to significantly increase sales, triggering new purchase motives. In an incentive-aligned laboratory experiment, we further find that consumers not only buy more when a product assortment is initially presented opaquely as opposed to transparently, but that they are also more satisfied with their purchase decision and their decision making process. Another laboratory experiment suggests that consumers evaluate opaque goods more positively and are happier about the opaque good compared to the same transparent good. Our findings carry important implications for both research and practice, as we address non-financial consumer benefits of opaque offers and challenge the current assumption that opaque goods need to imply a price advantage to attract consumers.

5 - Should Firms Reward Referring Customers Based on the Performance of Their Referred Customers? Evidence from a Field Experiment

Yupeng Chen, Assistant Professor of Marketing, Nanyang Technological University, Singapore, Singapore

Customer referral programs have been widely adopted by firms for new customer acquisition. In most referral programs, a referring customer is rewarded contingent only on the acquisition of his referred customers, while the "performance" of the referred customers (e.g., spending, usage) is not taken into account when rewarding the referring customer. Such an acquisition-based reward structure has raised concerns on whether referral programs are capable of acquiring high-value new customers in volume. In this research, we investigate whether a firm can increase the value brought in through its referral program by rewarding a referring customer based not only on the acquisition but also on the performance of his referred customers. To this end, we conducted a large-scale field experiment at a Chinese online financial services firm. In our 30-day experimental campaign, while customers in the control condition would receive a regular acquisition-based referral reward, those in the treatment conditions would additionally receive a performance-based referral reward that was a function of the amount of certain types of investments made by the referred customers during the campaign. Measuring the value of a referred customer based on her investment levels during an 18-month period, we find that customers in the treatment conditions on average brought in more value through the referral program than those in the control condition, which demonstrates the value of the performance-based referral reward. We explore the channels through which the performance-based referral reward operated, and discuss implications for managers.

Friday, 2:00PM - 3:30PM

■ FC01

Aula 01

Modeling CB 2

Contributed Session

Chair: Haoyu Liu, HKUST, Clear Water Bay, Kowloon, 999077, Hong Kong

1 - Exploring Motivations and Impacts of Consumer Internet of Things Appropriation: An advanced Partial Least Square - Structural Equation Modelling (PLS-SEM) approach

Zeling Zhong, LITEM, Université Evry, IMT-BS, University of Paris-Saclay, 91025, Evry, France, Christine Balague

As part of widespread IT consumerization, there has been an increasing interest in smart connected objects (SCO) in recent years. The consumer internet of things (CIoT) is presenting new opportunities for usage experience that have the potential to revolutionize our daily life. Nevertheless, CIoT appropriation has been given scant attention until today. Our study aims to understand this appropriation through an empirical study of 505 SCO users from a marketing perspective. The results show that CIoT appropriation is a higher order formative construct having knowledge, consciousness, self-adaptation, control, creation, psychological ownership as its first order reflective sub-dimensions. CIoT appropriation is directly positively influenced by the need for having a place, the need for efficacy and effectance, and the need for self-identity which is a higher order construct. Moreover, the study reveals the positive impact of CIoT appropriation on extra role behaviors, perceived value of SCO and satisfaction of life, as well as the mediating role of extra role behavior on the relationship between appropriation and perceived value of SCO. Our study presents several contributions. First, by conceptualizing CIoT appropriation and exploring individual motivations and its impacts, we advanced the technology appropriation literature that is low on theoretical and empirical insights at the individual level. Second, this work is one of the first quantitative studies on CIoT appropriation. Third, our study modeled CIoT appropriation as a higher order construct that is an advanced issue in PLS-SEM. Forth, considering consumers' active role in co-creation of their usage experience, our model could serve as a tool for a deeper understanding of the effective usage experience of CIoT.

2 - A Last Mile Intervention: How to Help Consumers to Use Calorie Information for Daily Calorie Intake Regulation

Ga-Eun (Grace) Oh, Open University of Hong Kong, Hong Kong, Young Eun Huh, Anirban Mukhopadhyay

The prevalence of obesity is rising worldwide, and many jurisdictions have implemented nutrition labeling regulations to curb excessive food consumption. These regulations have mainly aimed to improve awareness of nutrition information, and to educate consumers about the recommended daily calorie requirement. To date, however, there is no strong evidence that consumers' eating behaviors have improved in response to nutrition labeling. It is therefore important to understand why these regulations might not have worked as intended, and identify factors that might help consumers regulate their daily calorie intake. Given this objective, we propose a framework that identifies three factors that can facilitate consumers' calorie intake regulation at a day-level: literacy (daily calorie budgeting), motivation (calorie requirement at the time of consumption), and last mile intervention (reminder of cumulative prior calorie intake on that day). In a study conducted across five nations (Australia, Germany, Hong Kong in China, India, and UK), we showed the effectiveness of the last mile intervention when literacy and motivation conditions were met. Specifically, we found that around a quarter of consumers had advanced calorie literacy, as manifested by the behavior of setting daily calorie budgets. Furthermore, among these literate consumers, when they had high need for regulation, the intervention that reminded them of their prior cumulative calorie intake successfully reduced the amount they intended to eat. This research suggests that both improving literacy in calorie budgeting and nudging consumers with a calorie intake reminder can help them control their calorie intake. Our findings provide critical implications for nutrition labeling regulations and research.

3 - The Why, When and How of Interbrain-Endocrine Synchronicity

Willem Verbeke, Erasmus University, Rotterdam, Netherlands, Haoye Sun, Rumen Pozharliev

Recently a shift has been taken place from focusing on single person EEG to dual person EEG. The brain is not made to process information but it is made to interact with conspecifics in order to attain common goals such as friendships or building mutual wealth. This actually is the promise of the nascent field of social neuromarketing. Here we focus on EEG in social context, dual EEG and dual endocrinology. In the lecture I will present our work on how the social context modulates brain and endocrine functioning. First, by focusing on a marketing applications we will show that when females watch luxury goods (but not basic goods) in an alone versus a together condition a significant modulation of brain activation is observed. Second, in a resting state condition with an alone versus together condition, we show that anxious attached people but not the avoidant attached people show significant modulations in brain activation. Third, using dual EEG we show that in a trust game, framed as a trust versus a power game, that the interbrain synchronicity is lower in the trust game than in the power game. Finally, using endocrinology, using two different samples we show that in a trust game when the trustee but not the trustor share their endowments to the other party that trustees have significantly higher levels of testosterone. All these studies in short show social context matters and that it provides new insights about how people interact.

4 - Older and Weaker or Older and Wiser: Performance of Old vs. Young Adults in Experiential Learning

Eric M. Eisenstein, Associate Professor, Fox School of Business, Temple University, Philadelphia, PA, United States, Maureen Morrin, Ning Ye

As the population of developed countries rapidly ages, it is increasingly important to understand the effects of aging on learning and expertise. Although traditionally, the psychological literature on aging demonstrates substantial age-related declines in cognitive function that should interfere with learning, recent research hints at ways the elderly outperform younger people on cognitive tasks. One aspect in particular that has been highlighted is their tendency to learn from their mistakes, or exhibit "post-error slowing" (Fortenbaugh et al. 2015). Young and old consumers alike are faced with the task of making judgments in unfamiliar product categories that present complex tradeoffs among attributes and benefits. Such judgments improve if consumers can learn from their mistakes, and adjust their valuation strategies. This is precisely what we propose the elderly have a propensity to do in such situations, leading to superior performance. In this research, we investigate the effects of age on experiential learning in a simulated market (e.g., price estimation task). We find that although older consumers initially exhibit decreased performance that is consistent with popular conceptions of elderly cognitive decline, eventually the outperform their younger counterparts due to post-error slowing and a learning from their mistakes. New insights can be drawn from the superior performance of elderly consumers on prediction tasks under conditions of market change.

5 - Pay What You Want Pricing under Demand Learning

Haoyu Liu, HKUST, Kowloon, Hong Kong, Ying-Ju Chen

Motivated by the unprecedented attempt of a high-end capsule hotel in Hong Kong, we explore the possibility of adopting Pay What You Want (PWYW) pricing as a selling strategy when the consumers' valuation is unknown. Under PWYW, the consumers can pay any price they wish. We compare PWYW with two benchmarks where the firm uses either a fixed price or dynamic pricing. We identify the conditions under which PWYW achieves superior performance to other selling strategies. In particular, we show that when the consumers are myopic, PWYW always dominates the fixed price (FP) policy. More interestingly, when the consumers are strategic, PWYW dominates Pay As Asked (PAA) when the generosity level is above a threshold, and the threshold is decreasing in cost. We also discuss several potential directions for the firm to improve its profitability. First, when public guests are involved, the inherent threat boosts targeted consumers to pay more under PWYW. Second, introducing a minimum price or a suggested price may not benefit the firm, which differs from the existing literature.

6 - Examining the Antecedents and Consequences of Emotional Brand Attachment: For "Rosy Side" and "Blue Side"

Fulya AÇIKGÖZ, Istanbul Technical University, Istanbul, Turkey, Esra Arikan

Consumers' emotional attachment to brands has been a promising area for both academic researchers and marketing practitioners. Yet, until recently, most studies conducted in this field of research have focused on the positive emotions associated with brand attachment- "the rosy side", ignoring the possible negative emotions that can be in the form of separation distress, regret or sadness- "the blue side" (Hung and Lu, 2018). Building on the attachment theory and self-determination theory, this study considers both the positive and negative emotions associated with brand attachment and aims to investigate the motivational factors that trigger these emotions along with their consequential effects on consumers' not only positive (i.e. repurchase intention and word-of-mouth) but also negative behaviors such as trash-talking and schadenfreude, as suggested by Japutra et al. (2018). The results generally support the hypothesized relationships and highlight the importance of acknowledging both the positive and the negative sides of emotional brand attachment in order to better understand the motivational triggers that lead to these emotions and the resulting consequential behaviors. Thus, this study contributes to the current literature and provides practical implications for marketers, specifically with regard to managing consumer-brand relationships more effectively.

■ FC03

Aula 03

Special Session: Do Nutrition Labels Work?

Special Emerging Topic Session

Chair: Francesca Sotgiu, Vrije Universiteit Amsterdam, De Boelelaan 1105, Amsterdam, 1081HV, Netherlands

1 - The Short- and Long-Term Effects of Mandatory Warning Labels for Unhealthier Food Products on Household Purchases

Arjen van Lin, Tilburg University, Tilburg, Netherlands, Erica van Herpen

Front-of-pack nutrition labels on food products typically indicate healthier choices and are voluntary, but a new type of label indicates unhealthier choices and is mandatory. Taking form as a stop sign, these warning labels change the reference point for consumers: unhealthier products become the exception rather than the rule. As consumers have a tendency to avoid losses, these new labels have the potential to change consumer behavior. Using unique household panel data from Chile, where these warning labels were first enforced, we study the short- and long-term effects of these labels on household food purchases across three large product categories. Our model results show that labeling has a large and persistent effect on food purchases: households cut back on labeled products and increase their purchases of non-labeled products, not only in the period immediately after labeling, but also in the long term. At the same time, our results point to large household heterogeneity: lower middle-class households and households with younger children primarily change their shopping. Lower class households change their shopping to a smaller extent and upper middle-class households do not change their shopping. We discuss the implications for food manufacturers and policy makers.

2 - The Impact of Nutrition Claims on SKU Choice: An Investigation of the Effect of SKU and Category Characteristics

Kathleen Cleeren, KU Leuven, Antwerpen, Belgium, Niels Holtrop, Kelly Geyskens, Peter C. Verhoef

In the face of increasing emphasis on healthy lifestyles in the marketplace, manufacturers try to persuade consumers by using nutrition claims on their packaging. While experimental research suggests that such claims influence consumer behavior in a variety of ways, it remains unknown whether and to what extent such claims have an effect in actual grocery choice situations with a large variety of SKUs and large amounts of information to process. In this study, we investigate the effect of nutrition claims on the consumer s SKU choice using an attribute-based choice model calibrated on UK household scanner purchase data from 29 food product categories. Our results indicate that, on average, nutrition claims have a negative effect on SKU choice. Contrasting prior literature, our results suggest that negative claims are more effective. The results also indicate strong variability across SKUs and categories. Our moderation analysis identifies factors that function as indicators for the success or failure of nutrition claims on products. In particular, our results show that claims are more effective for strong brands, relatively healthier SKUs, and SKUs with low discounts, while they are also more effective in healthy categories, categories with a high advertising intensity and low-promotion intensity, and in low-involvement categories.

3 - Consumer Effects of Front-of-Package Nutrition Labeling: An Interdisciplinary Meta-Analysis

Francesca Sotgiu, VU, 1 Rue De La Liberation, Amsterdam, 78350, Netherlands, Iina Ikonen, Aylin Aydinli, Peeter Verlegh

As the world keeps struggling with issues related to obesity, front-of-package health and nutrition labels have appeared with the goal of bringing nutrition information to consumers in a more understandable format. The marketplace is filled with a variety of different front-of-package labels, but their true effects remain unclear, along with which front-of-package label works ‘best’. We address this question through an interdisciplinary meta-analysis, generalizing the findings of 97 articles studying the impact of front-of-package labels on outcomes like consumers’ ability to identify healthier options, product perceptions, purchase behavior and consumption. The results show that overall, front-of-package labels help consumers identify healthier products, though their influence on making healthier choices and especially consumption is more limited. We find most support for the implementation of evaluative summary indicator labels, like star ratings. Importantly, some labels may lead to halo-effects, positively influencing vice products as well as virtues.

4 - Do Informative Promotional Campaigns for On-Shelf Nutritional Labeling Work?

Bryan K. Bollinger, Duke Fuqua School of Business, 100 Fuqua Drive, Durham, NC, 27708, United States, David Hammond, Erin Hobin, Eli Liebman, Jocelyn Sacco

Front-of-package and on-shelf nutrition labelling systems in supermarkets, such as Guiding Stars, have been shown to lead to only modest increases in the purchase of more nutritious foods. Because only a small fraction of consumers report using these labels, informative promotional campaigns may increase their use. We study a large-scale, national promotion campaign for Guiding Stars conducted by a national grocery retailer in Canada who implemented the program. Using both transaction and survey data, we found only a small increase in the purchase of higher star-rated foods during the campaign, and 40-50% of the effect disappeared as the campaign concluded. To explain the limited response, surveys taken outside of stores before and after the campaign show that, although awareness and understanding of the nutrition labelling system increased marginally after the campaign, self-reported use did not. This casts doubt whether promotional campaigns can actually increase the effectiveness of on-shelf labelling.

■ FC04

Aula 04

Mobile, Algorithm, and Artificial Intelligence (AI) Session 3: Mobile Marketing Designs

Special Session

Chair: Xueming Luo, Temple University, Philadelphia, PA, 19122, United States

Co-Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - Close, But No Cigar? The Effect of Mobile Adoption on The Efficacy of Matrimonial Matching Platforms in India

Ananda Gopal, University of Maryland, Smith School of Business, College Park, MD, 20742, United States, Sabari Karmegam

The combination of mobile app adoption and matching platforms has fundamentally transformed many spheres of economic activity, building on the ubiquitous and personal nature of the mobile device. One such area that has been transformed is mobile app-based dating platforms, where research shows that mobile adoption leads to greater engagement with the platforms as well as a greater number of matches made through the platform. However, little work has addressed the more formal analog of these markets - the matrimonial matching market. Matrimonial matching sites are largely prevalent in Asian societies where arranged marriages are still a preferred route to finding a spouse. In this paper, we study how mobile adoption affects both the engagement and efficiency of matrimonial matching platforms using data from a leading matrimonial matching platform from India. Unlike dating, matrimonial matching is strongly influenced by institutional factors like gender, religion, kinship networks, language, and caste. Our analysis shows that in contrast to the dating context, the adoption of the mobile device does enhance engagement with the matching platform but does not necessarily lead to greater matches per se. While the transaction costs of the market are clearly eased by the ubiquity and personal nature of the mobile device in terms of engagement, institutional factors still affect the resulting matches, which are driven by multiple stake-holders like the extended family. Our work extends the study of the mobile ecosystem to social activities that have hitherto been unexplored in the matching and dating literature.

2 - The Perils of Incentivizing New Customer Acquisitions in Social Referral Programs: A Field Experiment

Han Chen, Temple University, Philadelphia, PA, United States, Hanbing Xue, Yongjun Li, Xueming Luo

Given the pivotal importance of new customers, many companies adopt social referral programs in the hopes of attracting new customers with higher retention rate and long-term value. However, the sales effectiveness of different incentives for new customer acquisitions in social referral programs remains poorly understood. This research examines: (1) Are new customers acquired from social referral programs more or less likely to churn? (2) Which type of incentives, monetary or non-monetary, in social referral programs is more effective? And (3) what is the underlying mechanism? We leverage a large-scale field experiment in a digital reading platform which randomly assigns old customers into a social referral group who have the opportunity to engage referral for new customer acquisitions and a control group without such opportunity. The data suggest that though effective for old customers, social referral programs attract new customers who tend to have a higher churn hazard and lower purchase rate. Such perils are mostly driven by the monetary incentives in the social referral programs. Exploring the underlying mechanisms suggests monetary incentives significantly reduce customer searching activities on the platform and hence engender more churns and lesser purchases. Fortunately, a non-monetary incentive with book contents that are interesting to new customers can reverse the negative effects. These findings reveal the double-edged sword nature of social referral programs, implicating that companies should use targeted product contents rather than monetary incentives to acquire new customers.

3 - Content Monetisation and Preview Design

Dai Yao, National University of Singapore, 15 Kent Ridge Drive, Singapore, 119245, Singapore, Kaiquan Xu

Content providers commonly deliver their content together with a preview, which allows consumers to simulate their consumption experience and lures them to digest the content. As pay-what-you-want (PWYW) pricing emerges as an important way to monetize content, content providers need to be cautious about having sensational previews, while offering high quality content. With the aid of supervised machine learning methods to measure sensationalism in textual (title) and visual (cover image) components of previews, our results indicate that following the launch of PWYW program in August 2015 in WeChat Media Platform, previews become less sensational. Furthermore, quality of articles improves.

■ FC05

Aula 05

Consumers and Brands – Issues in an Ever Changing World

Special Session

Chair: Renana Peres, Hebrew University of Jerusalem, Mount Scopus Campus, 91905, Israel

Co-Chair: Yaniv Dover, Hebrew University, Modiin, 71703, Israel

Co-Chair: Dokyun Lee, Carnegie Mellon University, Pittsburgh, PA, 15213, United States

1 - Visual Elicitation of Brand Perception

Renana Peres, Hebrew University of Jerusalem, School of Business Administration, Marketing, Mount Scopus Campus, 91905, Israel, Daria Dzyabura

Understanding how consumers perceive brands is at the core of effective brand management. In this paper, we develop an electronic platform called Brand Visual Elicitation Platform (B-VEP). The platform allows consumers to create collages of images that represent how they view a brand. Respondents select images for the collage from a searchable repository of hundreds of thousands of images. We implement an unsupervised machine-learning approach to analyze the collages and elicit the associations they describe. We demonstrate the platform's operation by collecting large, unaided, directly elicited data for 302 large US brands from 1,851 respondents. Using machine learning and image-processing approaches to extract from these images systematic content associations, we obtain a rich set of associations for each brand. We combine the collage-making task with well-established brand-perception measures, which allows us to map perceptual dimensions, such as brand personality and brand equity, into the space of visual elements.

2 - Crowdfunding and too Much Choice: A Recipe for Disaster

David A. Soberman, University of Toronto, Rotman School of Management, 105 St. George Street, Toronto, ON, M6S 3E6, Canada

In this study, we investigate the effects of reward options and their prices on crowdfunding success. Rational economics predicts that the more choice potential contributors have, the more likely it is that they find a reward option that stimulates participation. However, experiments in behavioral economics suggest that providing a person with excessive choice might adversely affect participation. Using data collected from a well-known crowd sourcing website, we demonstrate the positive effect of increasing choice and the negative effect of excessive choice. We also find evidence that the negative effect of overchoice is driven by the cognitive load of processing a high number of choices. With foreign-based crowd sourcing initiatives where language is an added constraint on the fluency of processing, the negative effect of overchoice occurs with a small number of options. In addition, we find that the price of these options is negatively correlated with the likelihood of crowdfunding success due to high uncertainty associated with crowdfunding (for example, whether the promised product is delivered at all, has the promised features, or is delivered within the promised time frame).

3 - Mobile Search Ad Effects Across Devices

Michelle Andrews, Emory University, 1300 Clifton Rd, Atlanta, GA, 30329, United States, Ting Li, Francesco Balocco

We investigate whether and how increasing the amount marketers spend on mobile search advertising affects search ad performance on tablets and desktops. We do so via a randomized field experiment in which we geo-split consumers into treatment and control groups, which enables us to detect lifts in impressions, clicks and conversions on mobiles, tablets and desktops in the treated regions. Our multi-period experimental evidence involves more than 3,000 search ad campaigns for multiple product categories, producing more than 70 million impressions, more than 2 million clicks, and more than 75,000 associated conversions across devices. We find that mobile search ad effects exist and spill over to tablets and desktops. When mobile ads received increased spend, impressions rose on all devices, implying mobile ads can stimulate search across devices. Clicks and conversions also rose across devices when spending on mobile search ads increased. These cross-device effects were stronger for high-funnel mobile keywords. Consumers' device migration may explain these results: consumers may move from smaller to larger devices as they travel down the purchase path due to differences in device capabilities. Our findings highlight how mobile search ads can shape consumers' online path to purchase.

4 - Does That Car Want to Give Me a Ride? Bio-Inspired Product Design

Lan Luo, University of Southern California, HOH 331, Los Angeles, CA, 90089, United States, Jingmin Huang, Bowei Chen

It is well established that aesthetics play an essential role in forming consumers' evaluations towards products. Automobiles rated high on aesthetics often perform better in the marketplace. The focus of this research is to explore bio-inspired product design. Built upon prior research on anthropomorphism in automobile design and schema congruity as a basis for product evaluation, we examine whether presenting cars as animals (e.g., cheetah that can run very fast) affect consumers' perception towards the car. We further investigate the possibility of incorporating desirable animal visual characteristics (e.g., fast running, streamlined body) into automobile design by using the state-of-art deep generative models. Lastly, we offer recommendations on how automakers can improve the visual appeal of their automobile products with bio-inspired features while still maintaining each brand's signature look. Our research belongs to an emerging stream of research in marketing that explores the use of deep generative models in product aesthetics design.

5 - Using Competitor Tracking to Improve Television Advertising Effectiveness

Sarah Gelper, Eindhoven University of Technology, De Rondom 70, Eindhoven, 5612 AP, Netherlands, Ivan Guitart, Guillaume Hervet

New digital technologies allow managers to track and react to competitors' television ads, almost in real time. However, it is not clear whether or how real-time tracking of competitor ads can improve ad placement decisions. By analyzing a dataset of more than 43,000 own-brand and 49,000 competitor ad insertions, the authors compare the effects of four real-time ad scheduling strategies on online conversions and demonstrate that tracking competitors can help managers to design more effective media schedules. The best strategy is to place ads in isolation, either when competitors are not advertising at all, or advertising on other stations; this avoidance strategy results in the greatest effectiveness of own-brand ads and delivers conversions from competitor ads. If an avoidance strategy is not possible, brands should advertise more heavily than their competitors. Doing so mitigates the substitution effect of competitive advertising, which occurs when competitor ads outnumber own-brand ads. The results imply that managers can improve ad schedule effectiveness by considering the relative placement of their ads with respect to competitor ads, and the impact that both own brand and competitor ads have on conversions.

■ FC06

Aula 06

Digitization 6: Consumer Search and Targeting

Special Session

Chair: Georgios Zervas, Boston University School of Management, Brookline, MA, 02445-7610, United States

Co-Chair: Pinar Yildirim, University of Pennsylvania, Philadelphia, PA, 19104, United States

1 - Content-based or Social Network-based Recommendation System? Evidence from a Natural Experiment on Knowledge Sharing Platform

Ziwei Cong, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, Jia Liu

Recommendation system (RS) is a critical part of most online websites/platforms and of consumer daily life, but very little is known about how different algorithms underlying the RS actually influence user online activity, such as consumption of online content and engagement with the platforms. In this research, we will provide insights into this research question, by leveraging a natural experiment on the biggest online knowledge sharing (or Q&A) platform in China, called Zhihu. In August 2016, Zhihu switched its RS from a content-based algorithm, in which each user is feed with content from the topics that the user has subscribed, to a social network-based algorithm, in which the feeds are the recent activities from the user's followees (i.e., very similar to the feed pages on social platforms like Twitter and Facebook). After analyzing the activities of all the registered users on Zhihu, we find that the intervention has a significantly positive effect on both user content contribution (measured by the number of questions/answers that users ask/provide) and platform engagement (measured by the number of topics/users that users subscribe/follow). Moreover, we find that the positive effect is more pronounced for central users (with more fans and also more followees) who are usually domain knowledge experts and hence are the key to the long-term success of content platforms. Our research findings provide valuable implications for content platforms to design effective RS in stimulating users' content contribution and engagement, and also for a growing number of e-commerce websites that try to incorporate social network attributes to the RS.

2 - Search Gaps

Raluca Ursu, New York University, New York, NY, United States, Qianyun Zhang

Models of costly sequential search generally describe consumers as inspecting products consecutively until they decide to stop searching, decision which occurs (at most) once before determining whether to purchase. In this paper, we use novel data on the entire browsing history of consumers searching for fashion products and show that the assumption of consecutive search with one stopping decision rarely holds. In particular, we find that consumers have frequent breaks in their search ("search gaps"), obtaining information on a number of products, stopping, and then restarting their search at a later time. In addition, we find that products searched before a search gap are generally sold by the same retailer. Ruling out multiple alternative hypotheses, we find evidence consistent with the existence of a retailer-specific switching cost that prevents consumers from searching another retailer before but not after a search gap. Such costs may arise when switching retailers requires multiple click-actions in order to arrive at suitable products to search. Using these empirical insights, we then develop a model of sequential search that allows for search gaps by proposing that the consumer decide not only whether to continue searching, but also whether to restart search before making a purchase decision. This model fits the data better than one that ignores search gaps and allows us quantify both retailer-specific switching costs and consumer search costs. Finally, we investigate through a counterfactual the managerial implication of search gaps for retailer prominence.

3 - The Customer Journey as a Source of Information

Nicolas Padilla, Columbia Business School, New York, NY, 10027, United States, Oded Netzer, Vicki Morwitz

In high involvement purchases such as: flights, insurance, and cars, firms often observe at most only a handful of past purchases to infer in every purchase occasion whether the customer will buy, and if so, what product will they buy. Fortunately, in these contexts, prior to a purchase, firms do have access to often rich information on the customer journey, over the course of which, customers reveal their preferences as they search and click on products prior to making a purchase. The objective of this paper, is to study how firms can use the customer journey path from search to transaction as a source of information to infer the customer's preferences and likelihood of buying. We build a nonparametric Bayesian model that links the customer clicks over the course of a journey, and across journeys, with the customer's history of purchases. The model accounts for what we call context heterogeneity, which are journey-specific preferences that depend on the context in which the journey is undertaken. To infer those preferences, our model leverages historical data from the customer previous journeys, information collected during the current journey as well rich information from other customers' with similar journeys.

We apply our model in the context of airline ticket purchases using data from one of the largest travel search websites. We show that our model is able to accurately infer preferences and predict choice in an environment characterized by very thin historical date. We also demonstrate the superior performance of our model relative to models that only use historical purchase data. The model that leverages the customer journey information can be used by firms for product recommendation in a dynamic environment where flights availability and prices frequently change.

4 - Optimizing Experimental Offline Targeting Policy: An Application to Proactive Churn Management at the Boston Globe

Dean Eckles, MIT, Cambridge, MA, United States, Jeremy Yang, Paramveer Dhillon, Sinan Aral

Targeting is at the heart of modern marketing. The conventional approach to evaluating targeting policies is to implement them in a series of field experiments and compare the outcomes of interest across different treatment conditions. We build on the offline policy evaluation and importance sampling literatures in statistics and computer science to extend our understanding of proactive churn management at a leading US news media company. Our approach allows us, in principle, to evaluate any arbitrary targeting policies using data from only a single field experiment implemented under a design policy. We first train gradient boosted trees (XGBoost) to predict subscribers' churn risk and target them based on a design policy which is a garbled version of the predicted risk score. Using the realized churn rate and implied revenue from a field experiment, we (1) compare different targeting policies and estimate the monetary value of alternative churn classification algorithms, (2) specific subscriber features in the dataset, and (3) compute an optimal targeting policy based on different estimates of the conditional average treatment effect (CATE).

■ FC07

Aula 07

JM/MSI-Special Session on Managerial Priorities in Marketing: Frameworks and Research Directions from MSI and the Journal of Marketing. Part 1 of 2.

Special Session

Chair: Harald Van Heerde, University of New South Wales, Sydney, 2052, Australia

Co-Chair: Christine Moorman, Duke University, Durham, NC, 27708-0120, United States

Co-Chair: Carl F. Mela, Duke University, Durham, NC, 27708-0120, United States

Co-Chair: John Deighton, Harvard Business School, Boston, MA, 02163, United States

1 - The Social Customer Journey

Rosellina Ferraro, University of Maryland, Ryan Hamilton, Kelly L. Haws, Anirban Mukhopadhyay

"Customer Journey" frameworks, which break down purchase decisions into a series of steps, are a popular approach for understanding complex consumer behaviors. Over time, customer journey depictions have become more complex and specialized, and more theoretically rich. However, these frameworks have tended to take the perspective of the individual decision maker in isolation. This article begins with the uncontroversial proposition that many customer decisions occur within a context of interpersonal relationships and societal concerns. Technology has also significantly altered the manner and extent to which purchases are influenced by others. We reevaluate the traditional, individual-focused customer journey framework from the perspective of social factors. We point to two ways that traditional customer journeys can be extended to better accommodate the social nature of customer decisions. First, we pluralize the journey from an individual journey to one with two or more customers who travel a "joint decision, joint consumption" journey together. This perspective highlights opportunities for additional research in areas such as conflicting motivations, pro-relationship behaviors, and asymmetrical information. Second, we embed the individual journey within a social context. We use the social distance between the individual consumer and others in the world to capture the various dimensions of social relationships and interactions (e.g., strength of the relationship, in-group versus out-group). This perspective highlights opportunities for additional research in areas such as information sources, motivational factors driving purchases, and the effects of social norms.

2 - Consumer AI: Dystopias and Counter-Mythic Strategies

Simona Botti, London Business School, Stefano Puntoni, Rebecca Reczek, Markus Giesler

The rapid influx of Artificial Intelligence into the domain of consumption raises important questions for marketers and public policy makers. We address some of these questions by systematizing existing knowledge and offering suggestions for future research. We set the stage for a domain still in its theoretical infancy by defining Consumer Artificial Intelligence (CAI) as an ecosystem comprising different elements—data collection and storage devices, statistical and computational techniques, and output systems—that delivers products and services displaying features of human intelligence. We then propose a framework that allows a systematic understanding of Artificial Intelligence from a consumer perspective. The framework focuses on four capabilities associated with the elements of the CAI ecosystem: Listening, Predicting, Producing, and Interacting. For each capability, the framework identifies potential dark sides at the individual level—Eavesdropping, Typecasting, Replacing and Pretending—and dystopias at the societal level—Always On, Unequal Opportunities, Human Irrelevance, and Fake Reality. A content analysis on cultural products measures the extent to which these dystopias shape the current discourse about CAI. In addition to diagnosing the dystopias, we discuss how to counter them via marketing strategies that both reassure consumers and reframe CAI capabilities. We therefore link micro (psychological) and macro (sociological and cultural) levels of analysis to approach the complex and fascinating relationship between AI and consumers.

3 - The Future of Ownership

Carey Morewedge, Boston University, School of Management, Boston, MA, 02215, United States, Ashwani Monga, Robert W. Palmatier, Suzanne Shu, Deborah Small

We propose that recent economic trends are challenging the traditional view of ownership. The fundamental notion of what is "mine" is evolving in consumers' minds. Consumers traditionally viewed ownership from a "have" perspective ("It is mine if I have it, if it is tangible, and if I have the right to control it as I want"). Consumers now view ownership from a "use" perspective ("It is mine if I can use it, even if others can too, even if it is intangible, and even if I only have the right to access it rather than control it"). We show how consumers are adopting this new view of ownership through their responses to three of the most prominent recent economic trends: growth in the sharing economy, digitization of goods and services, and expansion of the role of consumer data. The concept of ownership is broadening from individual possession of a unique object to collective ownership of experiential goods, from possession of tangible goods to the use of intangible goods and services stored in the cloud, and from controlling objects to controlling access to objects. Our theoretical framework makes predictions regarding the future of ownership, outlines numerous research opportunities, and provides insights for practioners seeking to sustain and create value in this rapidly developing area.

■ FC08

Aula 08

Digital Marketing 7

Contributed Session

Chair: Yiyuan Liu, PhD, Otterbein University, One South Grove St., Westerville, OH, 43081, United States

1 - Exploring the Impact of Online Reviews on Product Sales : The Role of Review Visibility

Miriam Alzate, Universidad Publica de Navarra, Pamplona, Spain, Marta Arce, Javier Cebollada

Online consumer reviews are considered one of the most trusted sources of information along the consumer decision-making journey (BrightLocal, 2017). In online environments, where consumers usually face information overload situations, decision aids, such as sorting and filtering, help consumers over the decision-making process by reducing the cognitive effort of managing such volume of information (Häubl & Trifts, 2000; Pang & Qiu, 2016). These aids affect the information presentation format of the online retailer by changing, for example, the rank in which products and online reviews are presented to consumers. A study by brightlocal.com (2017) revealed that 86 percent of consumers read a maximum of 10 reviews before trusting a business and 66 percent a maximum of 6 reviews. This research aims to explore how review visibility moderates the effect of online reviews on product sales, since this moderation effect has not previously been considered in literature. Apart from traditional review characteristics, such as review rating and volume, this research incorporates review content features (extracted from review text) and reviewer variables. Online reviews from a cosmetics category were collected in a weekly basis from a US cosmetics website between December 2016 and February 2017 (around 65,000 online reviews were gathered each week). The final research database consists of a panel of 145 products and 9 weeks, in which product and review information is recorded. Panel data analysis is being used to explore the effect of online reviews on product sales.

2 - Between Click and Purchase: Predicting Purchase Decisions Using Clickstream Data

Boshuo Guo, The University of Leeds, Leeds, United Kingdom, Imperial College London, London, United Kingdom, Catarina I. Sismeiro

Today, websites use a multitude of tools to monitor the details of customers' navigation paths (Montgomery, 2001). These navigation paths allow researchers to uncover rich information about each individual customer, such as goals (Pirolli & Card, 1999) and purchase tendency (Moe, 2003). This paper aims to improve current approaches of using path data to predict purchases by overcoming two disadvantages in existing approaches that use sequence of page categories. These two disadvantages are (1) inflexibility in adaption to different websites, and (2) missing relevant information of what exactly customers are doing when they are shown the webpages, especially in terms of search strategies. To achieve this aim, we conduct multiple studies using clickstream data collected from an online travel agency. We first develop a new approach of describing customers' navigation paths. We find that customers' paths within the studied website can be described with sequences of four types of viewing behaviours: repeated viewing, filtering, search for a different route and search for a different date. We find that the viewing behaviour of "repeated viewing" indicates the strongest tendency to make a purchase, while the behaviour of "search for a different date" indicates the strongest tendency of non-purchase. We then develop the modelling approaches of using persistence between viewing behaviours and the information that each customer viewed at the previous page request to predict the viewing behaviour at the next page request. Finally, we use this predicted viewing behaviour to predict the purchase probability at the next page request. Our results demonstrate that our approach improves the prediction accuracy compared to existing modelling alternatives.

3 - When Online "Brokers" Go Social – Drivers of User Engagement on Deal Sharing Websites

Yiyuan Liu, Assistant Professor of Marketing, Otterbein University, Westerville, OH, United States, Wanxi Li

Online shoppers (especially inexperienced shoppers and penny pinchers) greatly decrease their information search cost by regularly visiting a certain deal sharing website. Following the online brokerage model, daily deal sites such as dealnews.com and dealmoon.com provide timely promotion and saving information as an online deal "broker". When daily deal sites go social - by effectively integrating text-and-image deal posting with social media - what become the key drivers of user engagement in this unique online business model? Has user-generated content (UGC) in social media enhanced the diversity of interactions? In the current study, we incorporate website content factors (e.g., design of deal posting title and content), specific deal factors (e.g., deal information such as coupon code, base price, price discount), and social media interaction factors (e.g., unique accounts, sentiment and magnitude) simultaneously to examine their effects on deal sites user engagement KPIs. Based on the empirical analysis of 4,559 promoted products and services from over 400 online retailers with 168,151 social media comments, we find significant deal information, price, and social media UGC factors that influence online engagement metrics. We conclude that when online deal brokers go social, more accurate deal information, higher purchase involvement (i.e., higher prices, multi-channel retailer, computer and electronic product category) will encourage users to get more engaged and active within the website.

■ FC09

Aula 09

Networks 1

Contributed Session

Chair: Xiang Yu, Hitotsubashi University, 1850035, Tokyo, AL, 1850035, Japan

1 - Online Communities and Social Network Structure

Wensi Zhang, University of Southern California, Los Angeles, CA, United States, Yanhao Wei, Sha Yang

This paper aims to understand the co-evolution of online communities and social network. In particularly, we focus on the following unsolved questions: (1) What are the effects of online communities on the network structure over the time, and (2) How does such changes in network structure affect information diffusion? We investigate within an empirical context of a worldwide Massively Multiplayer Online (MMO) Game, where an online community exist in the form of a "guild". We model and estimate the co-evolution of friendship network and online communities. In our empirical analyses, we address potential identification challenges arising from homophily and degree heterogeneity. Our model estimates show significant positive interactions between an individual's online community choice and her friendship tie formation, suggesting that online communities and networks are reinforcing each other. Moreover, our what-if simulation reveals that, under some circumstances, even competitive online communities can promote inter-community connections: One important moderating factor is the individual mobility between communities. Implications from further diffusion exercises include (1) online communities can backfire as individuals become less mobile between communities and the message to diffuse become less noticeable, and (2) online communities could achieve an optimal level of information reach by carefully manipulating individual mobility and the message design.

2 - Disaggregate Network Effects on Two-Sided Platforms

Xiliang Lin, JD.com, San Jose, CA, United States

This paper empirically explores the mechanisms through which software variety affects hardware purchases in markets with a hardware-software structure. Software variety may provide value to consumers because (i) it allows them to find a product better matched to their preferences (heterogeneity), and (ii) it may satisfy their need for different products across consumption occasions (within-person demand for variety). Using household-level coffee purchases and Keurig machine adoption data, I first build and estimates a consumer demand model for coffee allowing both within-consumer demand for variety and cross-consumer heterogeneity. With the preference estimates, I then calculate the value of consuming Keurig's coffee pods (K-Cups) - K-Cup option value. Finally, I link this option value to their Keurig machine adoption decisions via a dynamic discrete choice model. Estimation results indicate variety in K-Cups increases Keurig machine adoption through the option value. In counterfactual analysis, I show Keurig machine adoption rate would be about 1/4 of the actual level by the end of 2013, if all households can only choose their most preferred K-Cups brand. Moreover, Keurig-owned K-Cups revenue would have been more than 40% without third-party brands because of lower adoption base.

3 - How Complementarity affects Volatility in a Retail Product Network

Jack Cadeaux, Uiniversity of New South Wales, Sydney, Australia, Pei-Yu (Amy) Chien

High sales volatility at a retailer can increase the probability of stock-outs and/or increase buffer stock requirements as well as have bullwhip effects on demand in the supply chain, the latter particularly concerning for retailers with significant integrated supply. Most research on the antecedents of retail sales volatility examines promotional versus EDLP pricing and single product items (SKUs). In addition to promotion, retailers try to support assortments with strong inter-category complementarities. This is especially true of convenience stores, which, perhaps even more so than supermarkets, may try to encourage complementary market baskets. This study focuses on how, given expected category-store level volatilities, different network structures of inter-category complementarities in different stores might either attenuate or exacerbate aggregated volatility across product categories, and thus affect overall store sales volatility. After creating an inter-category complementarity matrix for each store, we consider how well aggregated category-store level volatilities weighted by both the in-degree and out-degree centrality of categories predict overall store sales volatility. We then consider how two alternative structural measures (density and centralization) at the level of the inter-category complementarity network in a store might moderate these effects. We test these models in a transaction data set for 25 categories across 235 stores of an Asian convenience retailer using market basket complementarity measures, computing both individual category and store-wide network measures for each store.

4 - The Build-up of Market Orientation for Japanese Knowledge-intensive Teams: An Social Network Analysis

Xiang Yu, Hitotsubashi University, Tokyo, Japan, Wasida Yuichi

It has been generally believed that a lot of companies increasingly utilize knowledge-intensive teams in order to contend with dynamic conditions. Meanwhile, the performance of knowledge-intensive teams depends heavily on whether they have enough absorptive capacity (hereinafter, ACAP) to acquire, assimilate, transform, and exploit new external knowledge. ACAP not only eans the the organization's ability of acquiring and exploiting of external knowledge related to technology or science, but also indicates the ability of organization to acquire, assimilate and utilize relevant informations from market. These informations coming from customers or clients can be essential for market orientation. So, focusing on two vital factors of ACAP: gatekeepers and combinative capacity, this study chooses several knowledge-intensive teams in Japanese companies and used the social network analysis to see the actual flows of information coming from market into these teams and the how these information being disseminated and processed within the teams.

■ FC10

Aula 10

Machine Learning 7

Contributed Session

Chair: Eunkyung An, New York University

1 - Preferences Estimation under Bounded Rationality: Identification of Attribute non-attendance using SVM

Verónica Díaz Gómez, Universidad de Chile, Santiago, Chile, Ricardo Montoya, Sebastian Maldonado

There is growing interest in Economics regarding the problem of estimating consumers' preferences when they partially ignore the information provided in choice experiments, a problem introduced in this field as attribute non-attendance (Hensher et al. 2010, Scarpa et al. 2009). This line of research explores the consequences of assuming that consumers use all available attributes to evaluate the alternatives when in fact they ignore some attributes. Diverse choice models have been developed to identify non-attendance from choice data. For instance, in latent class models, each segment corresponds to a particular combination of relevant and irrelevant attributes. Due to the combinatorial nature of such an approach, researchers typically explore a limited number of specifications. In this work, we propose the use of a machine learning approach based on Support Vector Machines to identify the non-attendance of attributes at individual level and to predict the consumer choices in a conjoint experiment. We conduct an extensive simulation study to investigate the performance of the proposed approach. We compare the performance of our proposed approach to different benchmarks from the literature. Our results with simulated data show a higher performance in terms of the identification of the non-attended attributes that improves the predictive ability of consumers' choices.

2 - Will Self-disclosure Customers Buy More? A Field Experiment

Qing Ye, Wuhan University, Wuhan, China, Fue Zeng, JING LI

Although marketers increasingly rely on customer data, firms have little insight into resolve the personalization-privacy paradox. Data collection efforts may heighten customer privacy concern and reluctant to the subsequent personalized promotions. Specifically, we argue that a personalized promotion success when two stages are successfully completed: privacy disclosure stage and personalized promotion stage. Using a conceptual framework grounded in the foot-in-the-door effect and commitment-consistency principle, we argue that the compliance with the requirement of self-disclosure as the initial small request will induce higher compliance with the later target request(e.g., personalized promotion) than refusal to self-disclosure. By exploiting a two-stage large-scale field experiment, this study shows the positive casual effect of self-disclosure in the initial stage on customer purchase behavior in the target stage using PSM-DID model. Additionally, we find the positive relationship between the involvement in self-disclosure and subsequent customer purchase behavior. Finally, we suggest a combination of privacy assurance and personalization declaration to encourage customers to engage in self-disclosure. This study offers prescriptions for managers on how to manage data collection and personalization strategies.

3 - Automated Sentiment Analysis: A Meta-Analysis of Method Performance

Christian Siebert, University of Hamburg, Hamburg, Germany, Jochen Hartmann, Mark Heitmann, Christina Schamp

The amount of unstructured data in terms of texts posted online is growing at an unprecedented pace. For both marketing researchers and practitioners, this data holds invaluable insights. At the same time, sentiment analysis is one of the fastest growing research areas in computer science. To help marketing researchers navigate the non-transparent landscape of automated sentiment analysis, we perform a quantitative analysis of the state-of-the-art literature. This research provides a meta-analysis on over 200 comparative studies including 5,262 experimental outcomes to comprehensively summarize the current body of knowledge, showing which method and implementation performs best across contexts. Specifically, we employ a multi-level regression model, with accuracy as the primary dependent variable and cross-classified random intercepts to control for author- and dataset-specific effects. The results suggest that lexicon-based approaches, which are among the most frequently used methods in marketing research, on average perform more than ten percentage points worse than a conservative baseline method. In contrast, performance differences between traditional machine learning algorithms such as Support Vector Machines and Naïve Bayes are negligible. Rather, parameter tuning is critical for performance. The added benefit of more advanced methods such as deep learning with word embeddings is relatively small and may not justify the additional effort, computation cost, and tuning time when sentiment analysis is only an input to more comprehensive econometric models. The number of observations has a differential impact on performance, with increasing benefits of more advanced methods for larger datasets. Beyond the number of observations, their quality matters. While many studies make use of relatively simple text labels as an input, better labeling (e.g., independent judges) has a strong impact on accuracy. Overall, our findings suggest some simple steps which can result in noteworthy improvements in data quality when studying the impact of text sentiment.

4 - The Champion of Images: Understanding the Role of Images in the Decision-Making Process of Online Hotel Bookings

Gijs Overgoor, University of Amsterdam, Amsterdam, Netherlands, Bill Rand, Willemijn Van Dolen

The image(s) of a hotel have always been part of the hotel listing, even before the Internet, when travel agencies would often have brochures about hotel properties that they used to entice travelers. On many OTA websites, the hotel's image can take up 33% of the space on the hotel property page, but the importance of this image in the decision-making process has yet to be researched. Additionally, for many OTAs, there are currently no quantitative analytic methods that help determine which image to display in this location. In this research, we build upon visual advertising theory to use visual analytics and artificial intelligence to understand the role of images in the decision-making process of consumers booking hotels online. In addition, we leverage knowledge from the e-commerce literature to explain the choices consumers make and to what extend this is impacted by the hotel images. We use deep learning to extract the information from hotel images and we apply a visual analytics model to understand the importance of this visual information in the online hotel booking process. We will combine a visual complexity score and a concept score to build an overall image score. This image score could then be used for future firm-generated images to help decide what online travel agencies should show to consumers searching for a hotel. Our method, developed on over two petabytes of click-stream and hotel data provided by a global online travel agency, will contribute to the visual marketing literature by creating an understanding of the role of images in the decision-making process of online hotel bookings. Our framework will allow managers to leverage hotel images to attract consumers quickly and to provide them with visual cues that will facilitate their reservation.

5 - Customer and Product Segmentation: A Hidden Markov Approach for Clustering Purchase Sequences

Eunkyung An, New York University, New York, NY, United States, Masakazu Ishihara, Makoto Mizuno

In this paper, we propose an empirical framework for studying intra-consumer heterogeneity in brand and quantity preferences beyond simple state dependence. Across CPG categories, we observe the existence of households whose purchasing behavior on brand/quantity choices alternates between persistent (e.g., inertia, loyal) and varying (e.g., variety-seeking, portfolio buying) over time. Previous studies argue that such intra-consumer heterogeneity may be driven by specific occasions faced by consumers. We develop a model of consumers' brand and quantity choices in the presence of latent occasion states. Specifically, our framework is built on a multiple discrete-continuous model and allows consumers' brand and quantity preferences to depend on latent occasion states in a Hidden Markov fashion. The estimation is carried out by a Bayesian Markov chain Monte Carlo algorithm, and we let data determine the number of latent occasion states. Firstly, using Monte Carlo experiments, we show that model parameters can be recovered. Secondly, we conducted an online choice experiment under manipulated occasions and asked participants to choose multiple brands and multiple units given scenarios. We found that occasions can influence brand and quantity choices. We then use the collected data to test whether our model has the ability to recover the manipulated occasions. Lastly, we apply our approach to scanner panel data in Carbonated Soft Drinks market. The framework can provide marketers with a model-based clustering approach for better conducting consumer segmentation and targeting as well as competitive analysis.

■ FC11

Aula 11

Decision Making 1

Contributed Session

Chair: Lale Guler, The University of Texas at Austin

1 - Risk Averse in Prospect, Risk Seeking in Process

Luxi Shen, Chinese University of Hong Kong, Hong Kong

Judgment and decision-making research has documented a wide spectrum of risk preferences. For example, Gneezy et al. (2009) find that people value an uncertain incentive even less than its lowest payoff, a behavioral pattern suggesting "extreme risk aversion." Yet Shen et al. (2015) show that people can also exhibit "extreme risk seeking"; they work even harder for an uncertain incentive than for its best payoff. How can people display both extreme risk aversion and extreme risk seeking? The present research offers an answer to this puzzle. To do so, it distinguishes two types of decisions: decisions in prospect (decisions made at a time point in advance of a task) and decisions in process (decisions made across the time period of an ongoing task). Three incentive-compatible experiments find that the opposite risk preferences do exist but, crucially, not in the same circumstance: people display risk aversion in prospect and risk seeking in process. In one experiment, for example, when workers were asked to choose in prospect whether to work for a specific payment scheme, fewer chose to work for an uncertain payment than a certain payment, as one would expect. But workers who were engaged in the activity and thus in process chose to continue working longer for the uncertain payment, even when it was strictly financially worse than the certain payment. In other words, uncertain incentives are not attractive in prospect but are motivating in process. This research aims to make two unique contributions: (a) to identify an important distinction for decision-making literature: in prospect versus in process, and (b) to reconcile the two opposing risk preferences with the in-prospect/in-process distinction.

2 - Consumer Search in Offline Retail Shelves: Analysis of Search Patterns and Sequence Discrepancy

Yi Peng, Singapore Management University, Singapore, Singapore, Sandeep R. Chandukala, Kapil R. Tuli

We empirically investigate consumer sequential search in three different categories based on tracking data collected in a large grocery store. The tracking technology enables us to obtain all the product information such as prices, promotions, shelf locations, and brand types. More importantly, it records consumer search behavior (sequence of products touched, picked up, returned, and time spent searching) in a category. This study seeks to classify typical search patterns of consumers within different categories based on the sequential analysis. In addition, we examine underlying factors which influence consumer sequential search patterns and to what extent these differ between national brands and private labels. We also investigate distance and substitution costs between different sequential search patterns. Managerial implications for retailers and manufacturers are explored.

3 - The Value of Time: A Study of Pricing Strategy on a Ride-Sharing Platform

Maiju Guo, Peking University, Beijing, China, Ying Lei, Xing Li

Benjamin Franklin(1748) said, "Remember that time is money". Undoubtedly, time and money both are important and limited resources that influence people's decisions. However, what is exactly the value of time in terms of money and whether consumers hold the same attitudes for money and time appear to be under-explored. We propose that consumers' perceived value of time is different from that of money. Unlike money, time cannot be paused and saved, which makes the value of time difficult to access and calculate. Extending a medium time block, consumers may be able to finish something that cannot be finished in separate small time blocks, and this extra unit of time may therefore reveal increasing marginal value. This does not happen for fragmental time blocks, so a decreasing marginal value of time is expected in the small waiting time period. Leveraging on a unique dataset from a leading ride-sharing platform in China which contains detailed browsing and purchase data, both parametric and nonparametric method are used to explore the effect of estimated waiting time in passengers' ride request decisions. The results of parametric estimation indicate that the magnitude of price elasticity and time elasticity are close and the effect of waiting 1 more minute in line is comparable to the effect of increasing 1 RMB in price on the demand. Nonparametric estimation shows that there is indeed an inflection point such that consumers show decreasing marginal utility before this point but increasing marginal utility after it. By explicitly measuring the effect of displayed waiting time in consumer decisions, this paper intends to enrich the empirical study of the value of time and provide rich managerial implications for the ride-sharing platforms on time display and pricing strategy.

4 - Online and Offline Marketing Decisions When Multiple Individuals Make a Firm's Purchase Decision

Linge Xia, University of Wisconsin-Madison, Madison, WI, United States

Purchase decisions in the business-to-business (B2B) context are commonly made by a group of individuals. In order to make informed resource allocation decisions, sellers require a deep understanding of how different individuals within a firm may impact a purchase decision (Kohli 1989). Specifically, sellers want to learn (1) whom to target, (2) with which marketing instrument, and (3) how to optimally allocate resources. Despite past work done in household settings, where a group of individuals make a collective decision (Arora and Allenby 1999, Arora, Henderson, and Liu 2011), similar empirical studies in the B2B context are scarce. In this paper we use data from a B2B company in the communication equipment industry, where we observe both firm and customer initiated touch-points between the focal company and its customers. These touchpoints include offline (e.g. tradeshow, newsletters) and online (e.g. webinar, emails) activities. In our empirical context we categorize individual decision makers into three categories based upon their role: technical, bridge, or strategic. We study how responsiveness to firm initiatives vary by the customer roles. We also investigate the endogenous aspect of the decision-making process, where the customer-initiated actions often relate to the firm actions. We intend to model both the supply and demand side to uncover role specific sensitivity to different marketing instruments and quantify how this leads to the purchase decision that a firm makes. Using our model, we hope to provide counterfactuals that illustrate how companies can best allocate resources across the different marketing instruments.

5 - Managerial Decision Making and Consequences in the Event of Product Harm Crisis

Lale Guler, The University of Texas at Austin, Austin, TX, United States

Prior research shows that product recalls result in revenue and market share losses, potentially ruin the brand, and increase litigation risk. However, a firm can come out stronger from the recall crisis in the long-run if its executives manage the crisis well. In either case, a recall provides an opportunity to a corporate board to observe managerial decision-making in the event of a crisis and learn about the crisis management ability of its CEO. Using a hand-collected dataset of consumer product recalls announced in the U.S. from 2004 to 2013, this study examines whether the likelihood of CEO turnover increases at firms that experience product recalls. The results indicate that the likelihood of turnover increases substantially for the CEOs of firms that recall their products relative to the CEOs of the propensity-score matched, non-recall control firms. We also document that the positive relation between CEO turnover and product recalls is stronger if the recall is a firm-specific shock rather than an industry wide shock, supporting the main inference that turnover subsequent to the recall is due to the board's disciplinary action. Furthermore, we document that the positive association between the recall and the likelihood of CEO turnover is attenuated if executives (1) respond to consumer complaints quickly and comprehensively rather than waiting until consumer claims to accumulate, and (2) provide disclosures about the financial impact of recall rather than burying it in the financial statements. In addition, the results show that the likelihood of CEO turnover following a recall is lower at firms that have a stronger CSR performance than firms that have a weaker CSR performance. These results strongly suggest that proactive management and information sharing in the wake of an adverse corporate event are the key to re-establishing trust and that CSR is an important strategic tool for executives by providing a reputation insurance for the CEO in the event of a recall.

■ FC12

Aula 12

Mobile Marketing 1

Contributed Session

Chair: Wei Shi, Santa Clara University, 500 El Camino Real, Lucas Hall 221C, Santa Clara, CA, 95053, United States

1 - How Push Messaging Impacts Consumer Spending and Reward Redemption in Temporary Loyalty Programs

Suzanne M.T.A. Bies, Tilburg University, Tilburg, Netherlands, Bart Bronnenberg, Els Gijsbrechts

Delayed temporary loyalty programs (DTLPs), in which consumers save points based on their purchase amounts to collect rewards, have become pervasive in grocery retailing. Unlike permanent loyalty programs (PLPs), these DTLPs usually operate only for a number of weeks and after termination of the program points lose their value. However, though widespread, redemption rates are surprisingly low, which reduces welfare (lost rewards to consumers and/or lost profits to retailers and program operators). A common belief is that communication with customers can remedy these issues and enhance expenditures and redemption. Yet, research on such communication effects is scant. The advent of digital program apps that allow for (targeted) mobile push messaging offers exciting new possibilities. Using a unique panel data set covering consumer spending before and during such a program, we estimate the effect of push messaging on expenditure and reward redemption during a DTLP. We report positive effects of push messages on spending, and strong effects on redemption, relative to a control group not receiving such messages. Due to the savings dynamics, the total spending impact is larger for messages sent early on rather than late in the program, while the opposite holds for the total number of stamps redeemed. Conditioning on observable consumer characteristics, we allow for heterogeneous treatment effects and find that the spending and redemption effects of push messaging increase with high levels of pre-program spending. Our findings reveal which loyalty-program stakeholders benefit the most from mobile marketing campaigns, and help to formulate rules for campaign scheduling and targeting.

2 - Vertical Product Differentiation in Two-Sided Markets: An Empirical Analysis of Mobile Hailing Platforms

Fan Yang, University of British Columbia, Vancouver, BC, Canada, Yanwen Wang, Chunhua Wu

Offering vertically differentiated products is a common practice that maximizes firms' profits in markets with heterogeneous consumers. Two-sided mobile hailing platforms such as Uber provide vertically price differentiated services, for example, Uber Black along with Uber Deal, in a market which was dominated by homogeneous taxi services. However, offering vertically differentiated products in a two-sided market could be less optimal than offer a homogeneous product if the further segmented demand and supply limit the positive network effect in the two-sided market. It also poses a challenge for the platform to design price incentives to the segmented markets on both demand and supply side. In this paper, we take leverage of a unique data set with detailed information on drivers' offer taking behaviors, as well as riders' service requests, in NYC. We develop empirical demand and supply models to accommodate both the rider and driver decisions. Our results have implications on the price incentive design in a two-sided market.

3 - The Impact of Crashes of a Mobile Shopping App

Savannah Wei Shi, Associate Professor of Marketing, Santa Clara University, Santa Clara, CA, United States

This research provides a modeling framework to quantify the economic loss from app crashes in terms of users and usage, and suggests and evaluates policies aimed at minimizing that loss. We focus on the number of page views as a key metric of engagement, given its close tie with advertising - the main revenue source of most apps. We collected consumer usage data on a mobile app and applied a non-homogeneous Poisson process Copula that accounted for page-view loss due to consumer attrition, prior crashes, and truncated browsing sessions when the app fails. The results reveal that relatively low clumpiness of prior crashes leads to greater consumer attrition and a smaller number of pages viewed in subsequent sessions. Greater prior usage experience, longer time passed, and updates of the operating system attenuate the negative impact of recent app malfunctions. App publishers can apply our framework to estimate the loss in page views and advertising revenue due to app crashes and, more importantly, to identify the optimal scope and timing of app-update releases to mitigate losses in various situations, which is illustrated via several policy simulations.

4 - Effects of Search Cost on Consumer Decision Making in Mobile Shopping

Cheng He, Georgia Institutes of Technology, 800 W Peachtree Street, Atlanta, GA, 30380, United States, Xiaopeng Luo, Lizhen Xu, Xitong Li, Yu Hu

In this paper, we empirically investigate the effects of search cost on consumer decision making in mobile shopping. By examining over 55,000 users' hotel shopping behavior recorded by a leading travel booking mobile app in China, we analyze the difference in shopping behavior between users who search for hotels over the cellular data connections and those over the WiFi connections. Based on careful sample matching, we find that users generally exhibit higher price sensitivity but lower quality sensitivity when searching for hotels using cellular data than when using WiFi. As cellular connections incur higher search cost than WiFi, users are found to browse less hotel information when booking via cellular data than via WiFi. The limited acquisition of hotel quality information leads to greater emphasis on hotel prices but less focus on hotel quality ratings. Our results are consistent over various robustness checks. Our study thus provides valuable managerial implications for business practice under mobile environments, including strategic data sponsorship and dynamic targeted promotions.

■ FC13

Aula 14

Choice Models 3

Contributed Session

Chair: Giovanni Compiani, Haas School of Business, Berkeley, CA

1 - Predicting Marketplace Demand Using Volumetric Conjoint Analysis

Nino Hardt, Ohio State University, Columbus, OH, United States, Peter Kurz

Marketers in packaged goods categories need to understand drivers of both primary and secondary demand in order to increase sales. Studies of drivers of demand often rely on choice experiments, especially when new product features are introduced or when household panel data is too expensive. These choice experiments often rely on discrete choices and are focused on explaining drivers of market shares. The properties of discrete choice models and market share predictions have been studied extensively in the literature. However, there is relatively little research that helps understand drivers of primary demand. Demand quantities are often treated independently from preferences shares or the impact of variety on primary demand is ignored.While there is a growing literature on models of quantity demand and multiple discrete-continuous models, there is little research on making marketplace predictions. Compared to discrete choice situations, there are additional challenges in making predictions of marketplace behavior based volumetric choice experiments. Our focus is on the most salient contextual difference between experimental and real choices: the number of choice alternatives consumers are faced with.We investigate the properties of a common volumetric demand model of horizontal variety and propose a method for making accurate predictions of primary and secondary demand from volumetric choice experiments. Our empirical application consists of a series of volumetric choice experiments in the chocolate bar category, where the number of choice alternatives is manipulated over time. Respondents consistently choose larger quantities if more alternatives are presented.We also find that drivers of secondary demand remain consistent, but failing to account for the effect of the number of choice alternatives on the marginal utility of inside goods leads to severe (over 100%) over-prediction of primary demand. Our proposed extension of the volumetric demand models allows realistic predictions of primary and secondary demand.

2 - Models of Endogenous Willingness to Respond

Tetyana Kosyakova, Frankfurt School of Finance and Management, Frankfurt, Germany, Felix Eggers, Thomas Otter

The standard practice in discrete choice experiments asks respondents to make a fixed number T of choices each. Typically, only those respondents are considered in the estimation that complete all T choices. Respondents that complete fewer choices are discarded, potentially leading to a selection bias. On the other hand, when respondents differ in the number of choices Ti, and willingness to respond is correlated with unobserved preferences, the way information is pooled across respondents in standard hierarchical Bayes models becomes invalid. We document the resulting bias and develop a class of hierarchical Bayes models that endogenize the number of choices Ti. The proposed methodology circumvents the bias and allows researchers to analyze studies in which respondents differ in the number of answered choice sets for reasons related to the preferences under study. Particularly, in our study, we test an approach that leverages heterogeneous willingness to respond in a population and allows respondents to adjust to the number of choice sets individually. This approach results in respondent-specific Ti, reflecting a respondent i's differential willingness to respond. This way, we also offer a framework to study what generally contributes to willingness to respond.

3 - Estimating Discrete Choice Models Using Choice-Based Panel Data

Sungho Park, Arizona State University, Tempe, AZ, United States, Sachin Gupta

An underlying assumption of empirical analyses using "sample data" is that the sample represent the target population well. However, in practice, such an assumption can be violated due to several reasons. A lesser-known challenge is that the sampling method commonly employed in practice results in choice-based samples. In a choice-based sample, target population is first categorized based on their choices (e.g. selected brand in brand choice setting) and then a certain predetermined number of random sample is drawn from each outcome group. In this paper, we develop an estimation approach for general random coefficient discrete choice models using choice-based sample panel data. The main methodological contribution of the proposed model is twofold. First, it properly handles the heterogeneous preferences in discrete choice models based on choice-based samples. Consumer heterogeneity is critical factor in marketing models. We propose a general estimation approach for heterogeneous discrete choice models using choice-based samples. Second, to the best of our knowledge, we first tackles the sampling challenge due to choice-based samples in panel data setting. Specifically, we consider two different types of panel structures (stock sampling and flow sampling) and develop likelihood based method to properly tackle the sampling issue. In an empirical application, we apply the proposed estimation approach to a discrete-continuous model (i.e. indirect utility models), which allows researchers to study consumers' quantity decisions along with discrete choices within a single economic theory-based framework.

4 - Social Norm and Consumer Demand: Multiple Constraint Model Approach

Sungjee Choi, Korea University, Seoul, Korea, Republic of, Jaehwan Kim

The goal of the study is to understand the role of social norms in consumers' purchase decisions where demand is revealed in the form of multiple-discreteness. It is a reality rather than an assumption that human beings are influenced by social norm. The expectation given to the individuals regarding what is desirable or more easily acceptable etc, formulates so called a norm such as rules, regulations, and standards that are understood, shared, endorsed, and expected by most members in a community. Individuals have discomfort as they walk away from the norms of the society to which they belong, and the examples are shame, guilt, embarrassment, and anxiety. From consumer's utility maximization point of view, these pressure or burden enters decision making process as a cost rather than utility. In this study, the effect of social norms is captured via multiple constraints. Conjoint study was used having financial budget and psychological burden as constraints as while allowing for heterogeneity. Every choice task was presented with 8 alternatives. Also, the covariates that may explain the heterogeneity were also explored. The posterior distributions of model parameters were estimated via Hierarchical Bayesian framework. It is found that incorporating social norms into the utility model allows for disentangling 'not preferred' and 'not able to buy'. The proposed model shows better model fit. People who have work experience have a higher tolerance against deviating from the social norms than people who are newcomers at work.

5 - A Method to Estimate Discrete Choice Models that is Robust to Consumer Search

Giovanni Compiani, Haas School of Business, Berkeley, CA, United States, Jason Abaluck

Can we distinguish from choice data alone whether consumers are informed about the attributes of goods? We show that, in at least one canonical case, we can. Suppose that the data generating process is a Weitzman search model: there is a hidden attribute, and consumers "open the box" to view that attribute for some goods but not others. Canonical models in which preferences for the hidden attribute are identified by comparing how demand changes when that attribute changes will be biased: the value of the attribute will be understated because consumers will be unresponsive to variation in the attribute for goods that they do not search. Surprisingly, an alternative method of recovering preferences using second derivatives of choice probabilities succeeds regardless of the distribution of search costs across consumers. In particular, the alternative expression we derive successfully recovers preferences if the underlying model is a Weitzman search model or a standard discrete choice model. Once preferences are known, one can also recover the search cost distribution, and thus test whether the sequential search model or discrete choice model is more appropriate. We present several alternative methods of estimating the relevant derivatives, including non-parametric methods for a small number of goods and "flexible logits" that perform well in simulations even when the number of goods is large. In ongoing work, we validate our approach in a choice experiment where true preferences are known and show that our estimation method leads to substantively different parameter estimates when applied to standard discrete choice models. Our approach can be used to more reliably estimate preferences and perform counterfactuals in settings where consumers may be imperfectly informed about relevant attributes.

■ FC14

Aula 15

Advertising 6

Contributed Session

Chair: Maarten Gijsenberg, University of Groningen, Netherlands

1 - Using Customer Information and Bayesian Techniques to Enhance Persistence Modelling

Mark Johnman, PhD Candidate, Bond University, Robina, Australia, Adrian Gepp, Bruce Vanstone

Measuring the effectiveness of media channels and optimizing the resources invested in them is critical to a firm in obtaining a competitive advantage. While persistence modelling is a well-established approach to this problem, the lack of data often available to marketing practitioners to build these models can reduce their performance. This occurs when a model has too many variables to data points, reducing its generalizability, or when important variables are excluded from the model, reducing its accuracy. Previous research shows that it is important for marketing effectiveness models to capture the complexities of the consumer path to purchase, as well as the direct and indirect effects of media channels. However, it is also important for marketing effectiveness models to be generalizable to new data. We firstly establish a baseline by comparing the differences between persistence models with and without consumer activity data (e.g. Facebook post likes, display advertising clicks), which can help create a more accurate picture of the consumer path to purchase and the relationships between media channels. We subsequently investigate how Bayesian persistence models and networks can improve upon normal persistence models, particularly through the inclusion of an informative prior based on customer information. Overall, we contribute to the literature by measuring marketing effectiveness using a modelling approach that handles practical data limitations, while still allowing for the inclusion of consumer activity data. Additionally, our approach replicates how marketers operate in real-life by starting with a prior set of beliefs about media channel effectiveness, based on customer information, and combining this with historical and ongoing marketing data.

2 - Is Online Video More Efficient than TV Advertising? Evidence from a Dynamic Model

Andre Bonfrer, Deakin University, LF Crisp Building 26C, Level 2, Melbourne, 0200, Australia, Nico Neumann, Norris Ignatiius Bruce

For decades, television (TV) has been one of the main advertising channels for marketers (Joo et al. 2014, Tirunilai and Tellis 2017). Moreover, in recent years advertisers increasingly use alternative video platforms, such as YouTube, Facebook or the open web, to run short-film commercials (Emarketer 2017). However, while advertising effectiveness has been one of the most researched topics in marketing, little is known about the relative marketing performance of TV versus online video mass-market advertising. In this paper, we address this research gap and examine the power of mass-market online video and TV advertising (linear versus on-demand) in a dynamic model of sales response to advertising. We present a State-space extension of a modulated Poisson process model (Soyer and Tarimcilar 2008) using HMC estimation and high-frequency data. In addition to investigating the efficacy of different video and TV platforms, our work is the first attempt where a marketing mix model is performed on hourly data for more than two channels (Tellis et al. 2000; Tellis and Franses 2006) and using direct sales impact as the dependent variable. Our model set up also allows differential carryover effects across different types of media. We conclude with a discussion of all media effects, including a cost-benefit analysis for advertisers.

3 - Impact of Macroeconomic Factors on Firm's Advertisement, Profit and Sales: A Dynamic Panel Data Approach

Purna Chandra Padhan, PhD, XLRI, Xavier School of Management, Jamshedpur, India

The interrelationship between advertisement, sales, profits across firm/industry has been studied long time in marketing. However, in recent years, due to fluctuations and uncertain movement of the macroeconomic factors, almost all aspects of business are severely affected. Owing to the market integration, more or less, almost all the firms are victim of the situations. In lieu of this, the present paper attempts to examine the linkage between macroeconomic variables (such as inflation, interest rate, money supply, exchange rate etc.) and firms advertisement expenditure, sales, profits. For empirical analysis, annual data over 1991 to 2018 for 37 selected BSE FMCG companies have been considered. Applying both static and dynamic panel data approach, the results demonstrate that the macroeconomic variables significantly affect firm's advertisement expenditure, sales, profit. Interest rate, being prominent macroeconomic variable, significantly negatively affects the firms' advertisement expenditure, profit and sales for almost all the companies. The rest of results found mixed evidence across firms.

4 - (In)consistently Creative. The Effect of Consistency and Overlap in Advertising Execution

Maarten J. Gijsenberg, Associate Professor of Marketing, University of Groningen, Groningen, Netherlands, Maren Becker

In order to build strong brands, it is generally assumed that managers should strive to maintain similar advertising executions within the brand over time (i.e. seeking consistency). Likewise, it is important to clearly differentiating themselves from competitor ad executions (i.e., avoiding overlap). Maintaining a consistent ad execution should reinforce a unique and memorable brand image. However, consistency can also be perceived as boring whereas variations in the ad execution generate surprise and capture consumers' attention. Avoiding overlap with competitors' ad executions should minimize the risk of competitive interference. Nevertheless, some overlap may even be helpful, since the execution must fit the product category. The question remains to what extent and under which circumstances managers should seek consistency and/or avoid overlaps in the execution of their ads. Based on observations of 33 brands and 193 advertisements in several fast-moving consumer goods categories over nearly four years, we examine the impact of consistency and overlap on advertising effectiveness in terms of brand sales. Initial results show that advertising effectiveness is indeed shaped by the brands' ad execution consistency and overlap. Managers consequently should pay attention to these aspects when designing their advertising campaigns in order to maximize return-on-advertising.

■ FC15

Aula 16

Channels 7

Contributed Session

Chair: Sungwook Min, CSU- Long Beach, 1250 Bellflower Boulevard, Long Beach, CA, 90840-8503, United States

1 - Integrating Dual-channel Closed-loop Supply Chain: Forward, Reverse or Neither

Chunlai Shi, School of Economic and Management, Southwest Jiaotong University, Chengdu, China, Wei Geng

We consider a stylized dual-channel closed-loop supply chain, which consists of one manufacturer, one retailer and one recycler, and investigate supply chain integration in this stylized case. The manufacturer as the leader intends to integrate the supply chain. Two directions are investigated for the manufacturer, namely, the forward direction to integrate the retailer, or the reverse direction to integrate the recycler. Another strategy that the manufacturer stays status quo without integration is also investigated as a benchmark to identify whether the manufacturer has an incentive to integrate. We disclose that integrating the dual-channel closed loop supply chain, no matter which direction is chosen, always offers incentive for the manufacturer, though direction of integration evidently has significant effects on industry profits. Two factors are particularly found critical on the effects of direction, namely, efficiency of collecting used-products and marginal cost saving from remanufacturing. In detail, if the recycler collects used products efficiently, or if the manufacturer saves a lot from remanufacturing, integrating the recycler generates more industry profit than integrating the retailer. We investigate the effects of direction on the manufacturer's profit increment as well.

2 - Can Two Symmetric Firms Offer Asymmetric Risk Reduction Policies?

Amir Heiman, Hebrew University, Department of Agriculture Economics, Israel, Lutz Hildebrandt

This study analyzes the effect of comparative information on the intensity of two effective risk-reduction marketing tools, namely money-back guarantees and price differentiation, on consumers' perceptions and choice processes. In the theoretical section, we show that the likelihood that two balanced competitors will offer asymmetric risk reduction policies, i.e., money back guarantees or introductory price, is very small and may be ignored. It is therefore hypothesized that observing asymmetric risk reduction policies is likely to affect consumers' perceptions of risk and their choices. Based on experimental surveys, we show that information that compares risk-reduction policies affects both consumers' perceptions and their choice processes. Exposure to comparative retail return information increases the perceptual relationship between risk and its consequences. Our findings suggest that the high-end incumbent is better off not responding, while low-end competitors need to reduce their prices.

3 - Relationship-destructive Acts and Counterparty Reaction in Marketing Channels

Tomokazu Kubo, Chuo University, Tokyo, Japan, Sho Yuki, Masakazu Ishihara

Firms in marketing channels relationship are often faced with relation-destructing acts, which are triggered by one party. Past literature has shown that relation-destructing acts by one party make the other party respond differentially: exit, voice, loyalty, and neglect. Exit refers that the victim party terminates the relationship with the initiator of a relation-destructive act, while voice is a constructive discussion between the victim and the initiator. Loyalty refers to waiting for remediation of the initiator's act without active reaction. Neglect is permitting their severe situation, but decreasing their effort dedicated to the initiator. However, we know little about why different responses occur. In this paper, we study how different forms of channel relationships (relation-specific investments, dependence, and commitment among channel members) result in different responses to relation-destructing acts. Our research context is a marketing channel relationship between a big retailer and a small wholesaler. In particular, we focus on the situation when the big retailer demands a large price cut in wholesale price, a typical relation-destructing act observed in marketing channels. Based on survey data collected from Japanese wholesalers (n=453), our empirical analysis show that dependence leads to constructive response: voice and loyalty, while relation-specific investments cause active response: voice and exit.

4 - Overcoming Misaligned Interests of Franchisor and its Franchisees

Sungwook "Sam" Min, California State University-Long Beach, Long Beach, CA, United States, Stephen Kim

Studies on performance in franchising have mainly focused on the performance of a chain, a franchisor specifically (Shane et al. 2006; Srinivasan 2006). This is understandable given that it is the franchisor that organizes and manages the chain. Although some studies examined the performance of franchisees, they were conducted under a context of store management (e.g., Borucki and Burke 1999), without considering chain performance together. It is obvious that the performance of chain and its franchisees are related to each other through contract terms as well as a chain's strategy and governance. However, no prior research examined the performance of a chain and the performance of franchisees simultaneously. Instead, good performance of a chain is construed as good franchisee performance. We revisit this prevalent but unproven assertion. We posit that chain performance and franchisee performance diverges to a chain's advantage (Hadfield 1990; Steinberg and Lescatre 2004)if they are left unattended and that this divergence needs to be addressed for the benefit of the entire chain. In an effort to address this important shortcoming in franchising literature, we first theorize and test the relationship between chain performance and franchisee performance. Then, we explore the effect of a chain's dual channel strategy as a potential mechanism to ensure positive franchisee performance as well as positive franchisee performance. With a large franchisor-franchisee data, we found a stark asymmetry between chain performance and franchisee performance. We explore the possibility of changing a win-lose relationship to a win-win relationship for chain performance and franchisees performance by analyzing those chains that garnered higher chain performance and franchisee performance than the category average performances.

■ FC16

Aula 17

Launguage and Texts

Behavioral Track

Chair: Angela Paladino, University of Melbourne, 111 Barry Street, Carlton, 3010, Australia

1 - The Link Between Language Used in Peer-to-peer Lending Requests and Funding Success

Ekaterina Napolova, PhD Candidate, University of Technology Sydney, Sydney, Australia, Francois Carrillat, Valeria Noguti

With the increasing number of peer-to-peer lending (P2P) platforms, the question of how individuals choose what loans to finance becomes more relevant. Previous research has shown that lenders use both objective and subjective information to determine whether the borrower is trustworthy and capable of repaying. One source of subjective information is the language that borrowers use in their requests. Written texts contain latent information on the writer as a function of a systematic relationship between individuals' language and their personal characteristics that influences readers' perceptions. Drawing from linguistics research, we investigate whether borrowers should provide simple and straightforward explanations (i.e. use less complex language) as well as use words that can, either directly or indirectly, indicate risk. We hypothesise that the inclusion of risk-related words in loan requests can direct lenders' attention to the potential risk and lower their trust toward the borrower. We also suggest that using less cognitively complex language creates the impression of a decisive and trustworthy personality for the borrower that positively affects funding performance. We support our propositions by analysing the texts used in loan requests and their financial performance on the P2P lending platform Kiva. We show that using risk-related words and more complex texts have a negative influence on loan funding. This research suggests that when requesting a loan it is important to consider not only what stories to tell, but also what language to use. In addition to theoretical contribution, our research provides guidance to borrowers, lenders, and operators of peer-to-peer lending platforms.

2 - Interviews with Business Leaders: Language Effects on Public Perception

Valeria Noguti, University of Technology-Sydney, Sydney, Australia

In a world in which consumers expect ever greater interactivity with brands and companies, business leaders' direct interactions with the public have substantially grown, for example with participation in online Q&A sessions. Considering that public perception may affect a company's ability to market their products and services, leaders should carefully choose how to address questions in such interactions. The present research provides guidance on how specific language elements can be used to improve public response. The research builds on the Stereotype Content Model, which places warmth and competence as two fundamental dimensions of social perception. It also builds on advice giving/taking theories to characterize advice questions, which should involve more individualized answers compared to general questions. A unique dataset centered around interviews with business leaders on the online community Reddit was created. Besides questions posted by the public and answers written by business leaders, and in addition to company and individual variables, the dataset contains audience's "likes" and comments to those answers. This study uses automated text analysis to measure competence and warmth indicators from answers given by the business leaders, and sentiment from the audience's comments, and also to identify advice questions. Hierarchical linear models show that competence indicators drive "likes" in general questions, but warmth indicators drive "likes" in advice questions. However, to stimulate positive reactions in more highly involved responses such as those captured in the public sentiment measures, attention should be paid to both competence and warmth elements regardless of question type. Specific indicators of competence and warmth are discussed in detailed guidelines.

3 - Labeling Shapes Behavior

Valentyna Melnyk, Professor of Marketing, UNSW Business School, University of New South Wales, Sydney, Australia, Martin Paul Fritze, Franziska Völckner

In recent years, an increasing number of descriptions that mark consumption-related sequences of action and even whole lifestyles have emerged. Spreading of those descriptions is accelerated by social media, especially through captions such as hashtags. For instance, the expression "selfie" is now famously known for the act of taking a self-portrait, typically with a smartphone and often in experiential consumption contexts (e.g., concerts, holidays). Extant research mainly approaches this emerging phenomenon by investigating specific motivations for behavior associated with these types of labels. For example, it has been shown that selfie posting is related to narcissism. Contrary to common wisdom, we suggest that the labels attached to such behavior are not the result of their spreading and popularity but rather an antecedent. That is, based on Speech-Act Theory, which conceptualizes the 'perlocutionary effect' of language (i.e., the effect a speech act has on a listener), we propose that labeling action sequences leads to individual reinforcement of the corresponding behavior. We contribute to existing knowledge by theorizing and empirically investigating when, how, and why a labeled behavior leads to adoption and reinforcement of certain actions. In a series of experimental lab and field studies we explore the label effect for behavior adoption, its process variables, and boundary conditions. Our results enrich theory in order to better understand and predict behavior changes and hold rich implication for marketers.

4 - Where Do Our Products Come From? Exploring the Evolution of Provenance

Angela Paladino, Professor of Marketing, University of Melbourne, Carlton, Australia

Understanding product origin continues to grow momentum in marketing. Applied widely in the food and beverage industry in particular, it is becoming of increasing importance to numerous stakeholders including consumers, producers and regulators. Used extensively in industry to convey a sense of authenticity of a product and often justify a premium price on a product, provenance narratives differ in content and structure to other kinds of product or brand information. This research reviews the differences between product provenance narratives and related concepts, including country-of-origin labels (which are often applied interchangeably) and brand biographies. A framework for product provenance narratives is presented, a definition for the concept proffered and some preliminary findings of the scale and its application in the European market will be presented at the conference.

■ FC17

Aula 18

Consumer Judgment and Decision Making

Behavioral Track

Chair: Xun Deng, Shanghai Jiao Tong University

1 - Overestimating the Valuations of Others: People Perceive Others as Experiencing Everything More Intensely

Minah H. Jung, New York University, New York, NY, United States, Alice Moon, Leif Nelson

People often make judgments about their own and others' valuation and preferences. In twelve studies, we find that their judgments about how much others like or dislike the experience exhibit a robust bias such that people tend to believe that others have more intense experiences than they do. We argue that this overestimation of others' valuation and preferences are guided by the most intuitive, core representation of the experience itself. We first demonstrate that the overestimation bias is pervasive in judgments about others' valuation and preferences for a wide range of positive (Studies 1- 4) and negative experiences (Study 5) and this bias is not merely driven by how valuation and preferences are measured (Study 6). Consistent with an explanation about the core representation of experiences, explicitly prompting people to consider the entire distribution of others' valuation or liking significantly reduced or eliminated the bias (Study 7). We further demonstrate that the overestimation bias ultimately forms a paradox in how people think that others tradeoffs between valuation and utilities. Specifically, people believe that an identically-paying other would enjoy an experience more than they would, while simultaneously believing that an identically-enjoying other would pay more for the same experience (Study 8). Such paradoxical judgments are specific to the domain of valuation (Studies 9A-9B). Finally, we find that the overestimation and paradoxical judgments extend to judgments about others' time valuation (Studies 10 & 11). These findings suggest that social judgments about others' valuation and preferences are not only largely biased, but they also ignore how others make tradeoffs between evaluative metrics.

2 - Effect of Natural Reminders of Resource Scarcity on Consumption Patterns

Tanya Singh, Concordia University, Montreal, QC, Canada, Ohjin Kwon, Caroline Roux

We investigate the effect of a sudden experience of resource scarcity on consumption patterns. Prior research has shown that resource scarcity can prompt consumers to consume more (see Hamilton et al., in press for a review). While the effect of resource scarcity on consumption levels has been mostly examined using experiments, the effect of sudden experiences of resource scarcity remains unexplored, especially in a field setting. We used the occurrence of hurricane Katrina as a natural resource scarcity shock, and employ both retailer level and household level scanner panel data to estimate the effect of resource scarcity on consumption patterns. We find that consumers show a tendency to buy more quantities of essential items such as paper towels, toilet paper, and diapers after hurricane Katrina. We also find that consumers buy lower quantities of some practical foods, such as canned soups, and buy more quantities of indulgent products, such as potato chips and other salty snacks, cigarettes, and beer. The empirical results suggest that resource scarcity may prompt consumers to consume more calorie rich foods for survival-related purposes (Laran and Salerno 2013), or because it licenses them to be more self-focused (Levontin, Ein-Gar, and Lee 2015).

3 - The Impact of Waiting for Uncertain Outcomes on Inhibited Social Behavior

Xun Deng, Shanghai Jiao Tong University, Shanghai, China, Liangyan Wang

Waiting for uncertain news, such as the outcome of a job interview or a medical test, is an ubiquitous but infrequently studied experience. This study focuses on a common event that everybody may encounter in reality: waiting for an important and unknown outcome. Results show that when people face this situation, they exhibit more inhibited social behavior and are less likely to show off in public. We conduct four experiments to test our proposition. Experiment 1 shows that people are less willing to show off and attract public attention after reflecting on an important, self-selected, and uncontrollable outcome. People are also less willing to choose conspicuous brands (Experiment 2) and to point out others' mistakes in public (Experiment 3&4). The experience of facing an important, uncontrollable outcome increases the likelihood that people act with deliberate restraint or modesty to avoid prominence or publicity. Our research contributes to the literature on outcome uncertainty by showing that waiting experiences do not only affect people's emotion, but also influence people's social behavior. Our study has implications for consumer brand avoidance behavior in the marketing field, and for employee voice in the organization field.

■ FC18

Aula 19

Technology II

Behavioral Track

Chair: Jeremy Fannin, University of Lausanne, 534 Cantering Pl E., Columbus, OH, 43230, United States

1 - When Virtual Reality Backfires on Reality: VR Reduces High Sensation Seekers' Product Evaluation

Youjung Jun, Columbia Business School, New York City, NY, United States, Jae Jaeyeon Chung, Gita V. Johar

Studying the downside of immersive Virtual Reality (VR) experiences, we find that using VR to advertise consumption experiences may be ineffective for highly sensation-seeking consumers. For these consumers, a VR experience satisfies their need for stimulation previously met by actual consumption. Specifically, we find that providing stimulation in virtual reality can limit the extent to which highly sensation-seeking consumers prefer similar, stimulating consumption activities (e.g., listening to electronic dance music, trying a new candy of unknown flavor). This suggests that a VR experience can sometimes act as a “spoiler” rather than a “gateway” to subsequent consumption in physical reality. This effect of VR is mitigated when the experiences in virtual and physical reality contribute to satisfying dissimilar (vs. similar) needs of consumers.

2 - Design Influencing Inference on Functionality of High-tech Product : A Focus on Different Product Types and Typicality of Design

Jungeun Kwon, Seoul National University, Seoul, Korea, Republic of, Sang-Hoon Kim

Today, design influences the competitiveness of a product and serves as a source of product differentiation. Especially for ‘high-tech’ products, design can affect consumers’ inference on product functionality. Specifically, consumers can’t avoid doubting the function of products because they are not familiar with the utility of products. Then, the design acts as a yardstick of judgment and determines whether consumers purchase a product or not. So far, scholars are undertaking research to investigate how product design affects consumer behavior. However, previous research has rarely focused on the specific category of products. In addition, there have been few studies investigating inference on functionality as a dependent variable. Therefore, this study analyzes the relation between the design and the consumers’ inference on functionality, which varies across specific product categories (functional product vs. pleasure product) and typicality of design. Also this study focuses exclusively on ‘high-tech’ products and intends to propose practical design strategies for business people. The analysis reveals three main findings. First, the performance of a pleasure product is evaluated more effectively with a good design, while that of a functional product is evaluated not necessarily based on its design. In this regard, it can be inferred from functional goods that the objective nature of the product is more critical than a subjective appearance. Second, when the design is far to its typicality, consumers tend to evaluate its performance positively. It is certain that an untypical appearance brings about a positive impression because the emotional usefulness is very important to pleasure items. Third, the design of pleasure goods influences the perception of novelty, which mediates an evaluation of its functionality. It can be interpreted that, in case of pleasure goods, extraordinary design leads to an image of ‘the latest style’ because the development cycle is faster.

3 - Designing Smart Agent Facial Expressions: Supporting Physician-Patient Interactions in an IoT World

Hari Ravella, Virginia Tech, Blacksburg, VA, United States, Dipankar Chakravarti

Contemporary healthcare service delivery models promote “shared decision making,” where physicians and patients make decisions together. In parallel, smart agents (e.g., Google, Siri and Alexa) are creating an IoT (Internet of Things) world in which consumers now encounter such devices at home and in serviceinteractions. We anticipate a technological convergence in which smart devices with human-like features may play a key role in supporting physicians and patients in shared decision making. Facial expressions and speech features designed into smart agents will, in part, influence the effectiveness of such support. We report two studies examining these issues in the context of early stage breast cancer treatment. In study 1, we develop a benchmark human physician - human patient interaction.Using trained actors. we create two videos of a multiphase treatment counselling interaction in which (all else equal) we manipulate the oncologist’s facial expression to be empathetic/impassive. A sample of adult female participants evaluates the videos in observer roles. We focus on how the facial expression manipulation influences patient persuasion and the evolution of mediational measures (e.g., trust, liking, etc.) over the interaction. In study 2, we create two analogous videos of smart-agent physician - human patient interactionusing software-generated avatars of the human physician (actor) manipulating facial expression (empathetic/impassive). We examine how the (smart agent) oncologist’s facial expression influences patient persuasion and the mediating process (e.g., anthropomorphic attributions driving trust and liking). We compare the results of studies 1 and 2 for insights into how smart agents may be effectively used to support physician-patient interactions. Our research contributes an initial understanding of how facial expression capabilities designed into smart agents may influence patient persuasion and receptivity to such smart devices.

4 - The Effect of Mobile Phone Usage Tracking on Consumers’ Digital Calibration and Mobile Phone Habits

Laura Zimmermann, IE University - School of Human Sciences and Technology, Madrid, Spain

In fall 2018 Apple launched Screen Time as a new feature of iOS12 to help consumers understand how much time they are spending on their smartphones, and to help consumers reduce their screen time, if wanted. Android phones followed immediately with a ‘Digital Wellbeing’ feature. Thus far, it is not clear whether these novel applications have any impact on consumers’ mobile phone habits. This research investigates empirically, using longitudinal field data whether tracking mobile phone usage with apps 1) improves calibration of judgments of individual mobile phone usage and 2) reduces overall mobile phone screen time. As an alternative to usage tracking, it is further tested, whether turning mobile phones to grayscale mode (black and white) - as a simple nudge - has a comparable effect on mobile phone usage. Participants (N=246) completed two surveys (at T1 & T2) and a ‘mobile phone usage’ project in between T1 and T2 (duration varied from 6-25 days). Results show that while mobile phone tracking improved individuals’ calibration ($r=0.691$, $p<.001$), especially for longer periods of tracking, it did not reduce consumers’ objectively measured screen time. These findings call into question whether tracking in itself may have a significant impact on mobile phone habits. Conversely, turning ones’ phone to grey scale solely one day of the week led to a significant screen time reduction ($t(225)=5.587$, $p<.001$). At the end of the term (spring 2019) students’ GPA will be integrated into the data set to investigate the consequences of mobile phone usage and tracking for academic performance. Results of the longitudinal field study and implications for product design, consumer wellbeing and performance will be discussed.

5 - Affects of Misinformation in Virtual Reality

Jeremy T. Fannin, PhD Student/ Graduate Assistant, University of Lausanne, Lausanne, Switzerland

“Fake News” has proven to adversely affect society (i.e. the 2016 US election) (Allcott and Gentzkow 2017), and firm performance (Carvalho, Klagge, and Moench 2011). At the same time, information is spread faster and wider than ever before, thanks to rapid technological improvements. Virtual Reality (VR) is one of these improvements and the technology has become an increasingly popular and accessible outlet to report news, such as MSNBC VR. Therefore, it is critical to examine how receptive people are to believing the information provided within this immersive environment. Scholars have studied both misinformation (Lazer et al. 2018; Pennycook and Rand 2018) and VR (Bailenson et al. 2003) separately. However, this study provides novelty into how information is interpreted within immersive environments. Specifically, this study will examine how VR affects individual’s veracity of information, and whether they are more susceptible to believing “Fake news”. In this study, we propose that since VR allows the participants to block out the physical world (Biocca 1992) by creating a false sense of reality in a virtual world. Their perception of truth thus should shift from that of actual reality. Using laboratory experiments, the results will provide deeper insights into misinformation by manipulating the perception of individual’s reality. We conducted a preliminary experiment with 120 students, who were exposed to three conditions of a between-subjects experiment (control, VR: normal environment, VR: moon environment). Results show that VR indeed increases the perceived veracity of statements, but not when the VR environment showed a moon landscape.

■ FC19

Aula 20

Pricing 7

Contributed Session

Chair: Yiying Zhang, Chinese University of Hong Kong, 12 Chak Cheung Street, Shatin, NT, Hong Kong, 999077, Hong Kong

1 - Three-part Tariff Menu Design: The Impact of Free Allowance

Rajesh Gaurav, Indian School of Business, Hyderabad, India, Manish Gangwar

Three-part tariff is a commonly used pricing structure in many industries such as communication, information, car rental, etc. A three-part tariff is characterized by its three components - a fixed fee, a free allowance, and a per-unit charge for usage above the allowance. A firm often offers a menu of three-part tariff plans and consumers self-select one plan. Although designing a three-part tariff has been a challenging problem, a recent study shows that under very general conditions, optimal three-part tariff plans should produce the same outcomes as optimal two-part tariff plans. However, empirical studies have documented the existence of tariff specific biases. It has been found that consumers’ choice of plan under three-part menu systematically differs from the choice under two-part menu beyond what can be rationally explained by the budget constraints and consumer demand elasticities. Building on this literature, in this study, we focus on the role of free allowance in three-part tariff, specifically investigating how it impacts the consumer plan choice decision and consumption. Pricing experiment data from a car rental firm highlights that consumers tend to pay disproportionate attention to the allowance level and tend to anchor their usage to the allowance specified. Our results have important implications for the design of menu of three-part tariff plans.

2 - A Stochastic Model for the Evaluation of Intention to Purchase EEMs

Christian Rizzo, University of Salento, Lecce, Italy, Luigi Piper, Luca Petruzzellis, Donato Scolozzi, Gianluigi Guido

Recent research (Prete et al., 2017) has shown that economic driven motives turn out to be the most relevant determinants of the intention to purchase Energy Efficiency Measures (EEMs), thus eliciting larger price sensitivity on the part of consumers. In particular, some studies (Amstalden et al., 2007) have shown that energy price expectations and the decrease of the EEMs costs are able to influence house owners' energy-efficient retrofit investments. Nevertheless, these studies only examined static purchase decision and cannot be used to provide forecasts. The present study aims to develop a stochastic model directed to measure future intention to purchase as depending on the current and the expected price of energy, and the current price of EEMs. Results allowed to obtain a time dependent function that describes the dynamic of the intention to purchase and to make predictions. First, the model assumes that the evolution of the energy price Pt, follows a Geometric Brownian Motion (GBM) whose expected value was calculated and a linear model was defined by entering the parametric cost of EEMs. The parameters were calculated by a regression on data from a closed-ended questionnaire administered to a random sample of 200 households. The GBM parameters have been calculated using the time series of price considering 60 quarterly values, from the first quarter of 2004 to the fourth quarter of 2018, and defining the trend of the electricity cost in Italy, which is evaluated by considering the economic conditions of supply for a house with 3 kW of engaged power and 2,700 kWh of annual consumption. Using Ito's Lemma, the Stochastic Differential Equation deriving from the model and describing the evolution of purchase intentions was solved. A 3-year forecast stated that, when an increase of 25.9% in the cost of energy in Q1/2020 the value of intention to purchase will increase of 14.3%. This value corresponds to an increase on the 7-Likert scale from 4 (present value) to 5. The methodology allows to extend the analysis to psychological variables.

3 - Private Labels and Bargaining in the Supply Chain

Alexander Gross, PhD Candidate, University of Virginia, Charlottesville, VA, United States

I estimate the effects of private label products on vertical (manufacturer-retailer) relationships and firm profits. In particular, I study to what extent retailers use private label products to improve their bargaining position with manufacturers. I propose a new model of bargaining in the vertical channel where players negotiate bilaterally over both wholesale and retail prices. I estimate this model using data on domestic wine sales in the US in 2015 and supplementary data on wine sales in alcohol control states. I show that wholesale prices and bargaining parameters can be identified with these two datasets. On average, I find that bargaining power and the resulting split of channel profits are roughly even between retailers and manufacturers. I decompose the profit effects of private labels by "removing" private label products in a counterfactual exercise. I compare the conclusions from my model to those of other commonly used models of the vertical channel, such as sequential linear pricing and wholesale price-only bargaining.

4 - Intra- and Inter-Store Cross-Category Effects of Private Labels and National Brands: Can Private Labels Defend Supermarkets from Hard-Discounters?

Muhammad Ahmad, PhD Candidate, University of Groningen, Groningen, Netherlands, Jaap Wieringa, Keyvan Dehmamy, Philip Stern

Traditional grocery retailers typically rely on price-based strategies to compete against hard-discounters. For this purpose, retailer own brands - private labels - provide more freedom than national brands when setting prices. While some research has investigated the effectiveness of private labels, it has focused on within-category effects in the supermarket. The intra- and inter-store cross-category impact of private labels and their consequent defensive potential with respect to national brands has not been studied in detail. This leads to following research questions: 1) Do price promotions on private labels in one category increase sales in other categories? If so, how does the impact vary with national brands? and 2) Does cross-category substitution or complementarity vary within and between supermarkets and hard-discounters? To answer these questions, this study develops a category demand model and examines the intra- and inter-store cross-category effects of private label and national brand prices across several categories. We utilize a consumer panel from the UK market containing household purchases for two years across all the leading grocery retailers. The preliminary results reveal that 10% of the possible cross-effects between categories are significant, with most related to private label prices. Moreover, inter-store cross-category substitution is more common than complementarity, particularly, from supermarkets to hard-discounters. This suggests that private labels could be a more viable strategic weapon to counter-attack hard-discounters than national brands. We also examine the moderating impact of various category characteristics to explain own- and cross-category effects.

5 - Competitive Promotion Strategies of e-Market Sellers under Platform Promotions

Yiying Zhang, Chinese University of Hong Kong, Hong Kong, Youngsok Bang, Sang Won Kim

In the context of e-market platforms, individual sellers conduct price promotions under platform promotions. We build an analytical model to investigate how individual sellers' competitive promotion strategies react to platform promotions, considering consumers' heterogeneity in price sensitivity, the size of sellers, and the ratio of direct search consumers in the market, who do not compare prices between sellers. Our results indicate that, as platform promotions decrease the ratio of direct search consumers in the market, the large seller increases the promotion frequency and level, whereas the small seller increases but then decreases its promotion. Moreover, the increase in promotion by the larger seller is always greater than the small seller, which decreases the market share of the small seller and increases the market inequality. Our empirical results based on the data from a leading e-marketplace in Korea provide evidence supporting the above-mentioned findings, where positive interaction effects between platform promotions and the seller size exist for sellers' promotion frequency and promotion level. This study contributes to our understanding of sellers' competitive promotion strategies on two-sided platforms, and provides managerial implications to platform-level promotions which may aggravate the market inequality.

■ FC20

Sala delle Lauree

Retailing 5

Contributed Session

Chair: Pablo Jofré, Universidad de Chile, Beaucheff 851, Santiago, 8370456, Chile

1 - Disentangling the Impact of Expert Product Ratings to Inform Market Strategies

Karthik Sridhar, Baruch College-The City University of New York, New York, NY, United States, Ram Bezawada, Ashish Kumar

Expert reviews and ratings have been found to be more effective than user reviews in increasing purchase consideration for rated products, particularly in the case of experience goods where consumers determine quality of product after consumption. Prior investigations into the impact of expert ratings on product demand have produced varying and inconsistent results. In the retail environment, a product can receive multiple expert ratings at different points in time. Moreover, there exists heterogeneity in the quality of ratings provided by experts. Hence, each expert who is rating, corresponding rating score and contrasting quality grades emanating from multiple rating scores can have differential impact on the demand of the rated product - issues which warrant deeper investigation. By employing a rich data set of weekly sales of rated and unrated wines - tracked at the SKU level, we seek to identify the impact of a single rating score on rated product demand. We discern the impact of rating score based on when they were given and the quality tier of the expert reviewer while controlling for product quality through a difference-in-difference (DID) approach with treated and matched control entities. Preliminary results reveal that an average rating of 84 (0-100 scale) can increase the volume sold for the rated wine anywhere from 10.13% to 35.76%. Ratings emanating for the top tier experts provide an additional bump to sales of the rated product. Retailers can maximize demand for the rated product by disseminating ratings by top tier raters first followed by ratings from others.

2 - When Too Many Customers Becomes a Problem

Pak Yan Choi, Assistant Professor, Universita Bocconi, 225 Morewood Ave, Milan, 15213, Italy, Francisco Cisternas, Kaiquan Xu

In retailing, brick-and-mortar store managers pay attention to foot traffic and often look for ways to attract customers to their stores. By tracking consumers' in-store journey using machine learning algorithm on store video camera data and combining with scanner data, we find that in-store congestion may decrease shoppers' price sensitivity, on specific product categories with high demand. We model the shoppers' behavior and provide empirical evidence to support a new mechanism that explain this phenomenon. In summary, foot traffic can be too much of a good thing in some cases while not enough in others. This paper provide recommendations for managers to take advantage of congestion in their stores by exploiting these demand variations for different price strategies.

3 - Private Label Supply by National Brand Manufacturers: An Empirical Analysis

Yu Ma, Associate Professor, McGill University, Montreal, QC, Canada, Mercedes Martos-Partal, Kusum L. Ailawadi, Óscar González-Benito

Private label (PL) is a significant portion of total CPG sales and it continues to grow in many countries. In this research, we document the patterns of PL supply in a major market and examine the determinants of a National Brand (NB) manufacturer's decision to supply PL to a specific retailer. Our empirical work is based on a unique dataset including four years (2008-2011) of scanner panel data and NB advertising data for all CPG categories tracked by GfK and PL supplier information for the subsequent year (2012). To our knowledge, this is the first large scale empirical study of PL supply. Overall, less than 10% of the PL suppliers in the market are dedicated PL suppliers, while the majority are NB manufacturers who supply both NBs and PL. There is variation across all six retailers but the PL sourcing strategy of the leading retailer, discounter Mercadona, is markedly different from that of the others. We estimate a multivariate probit model of PL supply by a NB manufacturer in a given category to each of the six retailers, as a function of three forces: how attractive the category is for NBs and for PLs, the retailer's market position, and the NB manufacturer's market position. Many of the variables related to these three forces have expected associations with the probability of supplying PL to each retailer. We also find interesting effects of these variables on the probability of supplying PL exclusively to a given retailer conditional on supplying PL.

4 - Real Time Salesforce Allocation in Department Stores

Pablo Jofré, Universidad de Chile, Santiago, Chile, Andres I. Musalem, Marcelo Olivares

We consider department stores that rely on salespeople to assist customers in their shopping process. These stores usually have multiple departments and employees have relevant knowledge and expertise for only on a subset of these departments. At the same time, customer traffic to different store departments varies considerably across periods making it challenging to match customer traffic and salespeople availability. Using a novel data set from a major home improvement retail chain that was obtained using the video cameras inside the store, we are able to measure the demand for services in a specific store department and the available salespeople capacity. This information is then linked to point-of-sales data to measure the effect of increasing or reducing the number of employees of each store departments on revenues. This is accomplished formulating a hierarchical Bayesian model of sales for each department. The estimated model then allows us to simulate the impact of implementing a real time allocation of salespeople to different departments in response to changes in customer traffic. This analysis also provide insights in terms of the benefits of training salespeople so that they may be able to assist customers in more than one department.

Friday, 4:00PM - 5:30PM

■ FD01

Aula 01

Modeling CB 3

Contributed Session

Chair: Rumen Pozharliev, LUISS University

1 - Influence of On-Screen Character Design on Perception about Chatbot - Case of Credit Card Company in Korea

Jong Ho Lee, Yonsei University, Seoul, Korea, Republic of, Heejun Park

Chatbot is widely used for customer service purpose in various industries. Customer's perception about chatbot can be assessed using information system adoption models such as information system success model and self-service technology model. Meanwhile, the chatbot service is delivered through an on-screen character which is designed with a persona. In this research, the moderating role of on-screen characters on consumer's perception about chatbot will be analyzed. Data for analysis will be collected through a survey. A credit card company in Korea is providing consumer service through two different chatbot characters. Consumer perception about chatbot will differ depending on which character the consumer has selected. Conventional information system adoption model is selected as a basis and the choice of chatbot persona is considered as a moderating effect. Most research regarding chatbot is about improving technological aspects; however, this research is assessing consumer perception about using chatbot also it is considering the role of on-screen characters. For managerial implications, chatbot developers can design chatbot characters to enhance certain consumer perception which the brand wants to enhance.

2 - Consumer Preferences for Innovative Business Models of Electric Vehicles

Youlin Huang, Xi'an Jiaotong Liverpool University, Suzhou, China, Lixian Qian, David Tyfield, Didier Soopramanien

China is the world's biggest market for electric vehicles (EVs) regarding annual sales, where the transition to the EV-dependent mobility system is of strategic importance from both environmental and energy perspectives. Various new business models have been proposed with the aim of better driving the adoption of EVs. However, it is unclear whether the new business models could lead to an increase in EV adoption compared to the current prevalent model of EV buying. In this paper, we conduct a nationwide stated preference experiment in China to study consumer preferences for three innovative business models: (i) battery-leasing, (ii) EV-leasing, and (iii) EV-sharing as well as the typical EV-buying business model. We apply a discrete choice analysis and find that consumers have the strongest preference for the EV-buying model and that they are least likely to consider battery-leasing model. We also find that consumers are strongly concerned about the annual operating cost in EV-buying and battery-leasing models as well as the annual leasing cost in EV-leasing model. Furthermore, consumers care less about both the vehicle purchase price in the EV-buying and battery-leasing models and the hourly rent expense in EV-sharing model. Potential buyers are sensitive to the vehicle licensing policy and home charging capability, while the density of service stations is only important in the battery-leasing model where battery swapping is allowed. We also find that females and those who are highly educated and have a pro-EVs attitude are likely to adopt innovative business models of EVs. Compared to the EV-buying model, low-income households are more likely to choose EV-sharing, and existing car owners are more likely to advocate EV-leasing and battery-leasing models when adopting EVs. This paper contributes to the literature by exploring consumer preferences for potential innovative supporting business models and we offer business and policy implications on the effectiveness and viability of these different business models in promoting the adoption and diffusion of EVs.

3 - The Influence of Variety-of-options on Consumers' Attitudes Toward the Store and its Sub-category

Kyuseop Kwak, University of Technology Sydney, Broadway NSW, Australia, Jungkeun Kim, Jae-Eun Kim

We introduce the concept of variety-of-options for sub-categories of products in a store. Past research has focussed on the assortment-of-options (the number of items available) rather than the variety-of-options (the range of attribute variation) when considering attitudes towards the store and its sub-category. We examine the moderating role of store image on the evaluation of the store and its sub-category. We present three experimental studies in which we show that variety-of-options is a significant determinant of attitudes towards the store, and that low image stores gain the greatest benefit from having large variety-of-options through low expectation of the variety-of-option from the low image store. In addition, the additional panel data analysis confirmed our prediction. Implications and suggestions for future research are also provided.

4 - Using Neuroscience and Interpersonal Attachment Styles to Better Understand Consumer Experience from Consumers' Interactions with Intelligent Technology

Rumen Pozharliev, LUISS University, Rome, Italy, Simona Romani, Patrizia Cherubino

The modern-day consumer forms attachment not only to other humans, but also to inanimate objects. This study explores the association between interpersonal attachment style and consumers cognitive, behavioral, and emotions responses toward intelligent technology. In addition, we study the effects of this association on consumers' experience and preference for interaction (e.g. being served by robot at the hotel reception) with robots compared to humans. We collect and compare self-reported measurements, electroencephalographic (EEG), galvanic skin response (GSR) and heart rate (HR) data in both passive (computer screen) and active (virtual reality) sessions. The authors of this study propose that a specific interpersonal attachment style (anxious/avoidant) could serve either as a facilitator or as a barrier in intelligent technology adoption. This project's expected results could help marketers improve their understanding of how individual characteristics and social factors jointly influence consumer experiences and adoption practices with smart object, robots and intelligent technology. Consumer neuroscience techniques could reveal neurophysiological patterns that describe the association between interpersonal attachment styles and consumer experiences from interactions with smart objects and artificial intelligence. Finally, the insights generated by this research can help practitioners improve the allocation of marketing resources and optimize customer relationship practices to better match customer preferences.

5 - Assessing Consumer Preferences for Traditional TV and Online Streaming Services

Paul Wang, University of Technology Sydney, Sydney, Australia, David Waller

The television industry has dramatically transformed over the past fifty years. Advances in technology has led to the appearance of streaming television, which is the digital distribution of television content as streaming video delivered over the Internet. The streaming revolution is now in full swing; TV's biggest shows are no longer on free-to-air networks, but often on streaming services such as Netflix and Amazon Prime Video. The increased availability of broadband Internet and multi-device platforms have altered consumer expectations, creating an audience that expects to watch their chosen content with a much higher degree of flexibility. Since television is a widely used advertising media, there is significant value in understanding consumer preferences for online streaming services in relation to traditional free-to-air television. This study aims to compare consumer preferences in program viewing behavior between two television formats: free-to-air and streaming television. An online survey of Australian television viewers was undertaken which included a discrete choice experiment comparing programs and attributes in relation to free-to-air and streaming television. The results indicate differences in preferences for program and attributes by the different forms of television. Consumer prefer to watch streaming television for entertainment content such as movies and watch free-to-air television for news and live events. Consistent with the unified theory of acceptance and use of technology, consumers' intention to watch streaming television is significantly influenced by perceived usefulness, facilitating conditions, and entertainment factors.

■ FD03

Aula 03

New Products 1

Contributed Session

Chair: Makoto Mizuno, Meiji University, School of Commerce, 1-1 Kanda-Surugadai, Tokyo, 101-8301, Japan

1 - A Theoretical Analysis of the Lean Product Development Process

Onesun Steve Yoo, University College London, London, United Kingdom, Tingliang Huang, Kenan Arifoglu

The widely-touted Lean Startup method is emerging as a best practice for entrepreneurs' early product development and in entrepreneurship curriculums in academia. Central to its paradigm is the view that startups should iteratively launch minimum viable products (MVPs) to gather consumer feedback and then modify (or "pivot") the product design goals in response to that feedback. In startup settings where neither the product nor a market exists, this agile approach is desirable because it reduces the costs of failure that would be associated with developing the wrong product. This paper examines a stylized model focusing on the Lean Startup MVP-induced learning process. Our analysis identifies which MVP the entrepreneur should develop and when (i.e., at what development level) to launch it, and it also presents insights into the product-market conditions for which implementation of the Lean Startup approach is the most or least desirable. Our results refine our understanding of how the Lean Startup approach works in order to help entrepreneurs derive the most benefit from it, and our model also provides an empirically testable framework to aid future research.

2 - A quasi-Patent (qPatent) System for Service Innovation

Li Xiao, Associate Professor, Fudan University, Shanghai, China, Ujwal Kayande, Jing Wang, Min Ding

Innovation is critical for firms to survive and thrive in the market, including service firms that account for a large proportion of global GDP. However, innovation in the service domain has been characterized as ad hoc in practice and lagging behind innovation in the product domain. One key factor is, unlike the patent system that has been the great facilitator of innovation in the product domain, there is no corresponding system for fostering and developing new service offerings, since services generally are not patentable in the standard patent system. To remedy this critical managerial handicap, we design and validate a mechanism for service firms, called the quasi-patent (qPatent) system. The qPatent system builds upon both principles of the patenting system and unique characteristics of services using state-of-art incentive aligned conjoint analysis. It provides an environment where a firm can incent potential outside inventors to develop service innovations that the firm desires, in a way that innovations addressing the needs of the firm will be protected and rewarded financially based on their market value. We demonstrate the application of the qPatent system in the context of developing a tour package for American tourists visiting Shanghai, China. It is shown to be capable of generating new service offerings that are more valuable to the firm than existing offerings for various segments of potential customers.

3 - Identifying and Understanding Sales Patterns of Fashion Products

Daniela Mast, University of Tuebingen, Tuebingen, Germany, Dominik Papies

The fashion industry is characterized by frequent new product introductions and very short product life cycles. Importantly, the shapes of these product life cycles, i.e., the sales patterns of fashion products, vary dramatically between products. The shapes include bestseller products or shelf warmers, fast-moving fads or long-lasting classics, some products peak early, some peak later. The variety in shapes poses significant challenges for managers, and previous research has not empirically addressed their differences. To fill this void, we seek to identify and understand typical fashion sales patterns. To this end, we compile a data set that covers observed sales for 590 fashion products at a European online retailer. We estimate the sales pattern of every product using a flexible two-parameter Weibull function and cluster the resulting parameters to identify distinct typical patterns. We then relate several product- and brand-specific characteristics to the product's sales pattern. Among other factors, we utilize a Machine Learning approach (neural network) to identify a product's design typicality from product images, which we then use to explain the sales patterns. The results suggest that the fashion products in our sample show 5 typical sales patterns that differ in life cycle length, shape and underlying product characteristics.

4 - Cross-Categorical Prediction of New Product Diffusion: Examining Overlap of Consumer Innovativeness in Consumer Packaged Goods

Makoto Mizuno, Professor of Marketing, Meiji University, Tokyo, Japan, Masakazu Ishihara, Eitan Muller

Consumer innovativeness is originally defined as "the degree to which an individual (or other unit of adoption) is relatively earlier in adopting new ideas than other members of a system" (Rogers 1995). In researches on new product diffusion, this construct has been often measured via questionnaire surveys with a psychometric scale (e.g., Goldsmith and Hofacker 1991; Steenkamp, Hofstede, and Wedel 1999; Tellis, Yin, and Bell 2009). Alternatively, we propose a more objective approach for quantifying consumer innovativeness based on individual consumers' purchase record. Secondly, integratingconsumer innovativeness over past adopters, we apply a simplified model to predict the performance of new product diffusion, penetration rate and net present value of sales, in addition to other predictors observable before prediction. For this, we use the scanner panel data involving 10-year individual-level purchase records for 30 categories of consumer package goods in a region in the US. The results show a practically satisfactory accuracy in prediction for most categories. Thirdly, we extend the analysis beyond the border of categories. Comparing individual consumer innovativeness across categories, we discuss a classical issue on cross-categorical overlapping of innovativeness (Ostlund 1972; Summers 1971; Goldsmith and Goldsmith 1996). Further, we attempt to incorporate such information into our model to improve the predictive accuracy. Finally, we argue the implications to formulate cross-categorical segmentation strategies for more effective new product launch.

■ FD04

Aula 04

Mobile, Algorithm, and Artificial Intelligence (AI) Session 4: AI and Deep Learning Applications in Marketing

Special Session

Chair: Xueming Luo, Temple University, Philadelphia, PA, 19122, United States

Co-Chair: Siliang Tong, Temple University, Philadelphia, PA, 19144, United States

1 - Crowd Bias and Machine Learning: Evidence from Crowd Lending

Yan Huang, Carnegie Mellon University, Pittsburgh, PA, 15213, United States, Runshan Fu, Param Vir Singh

Where can machine learning algorithms outperform crowd decisions? We answer this question in the context of crowd lending. We show that a reasonably sophisticated machine learning algorithm predicts loan default rate more accurately than the crowd investors, even with access to less information. The crowd and machine predictions are comparable for less risky borrowers, but the machine significantly outperforms the crowd predictions for highly risky borrowers, which can be explained by the "bid-down only" nature of the auction system employed by crowd lending platforms. Our results suggest potentially large welfare gains from replacing crowds with machines in interest rate setting and loan selection. Results reveal that both the machine learning algorithm and the crowd are biased in decision making against minorities and females. We propose a general and effective "de-biasing" method, and show that the de-biased algorithm still leads to a higher total return as compared with the crowd decisions.

2 - Does Machine Translation Affect International Trade? Evidence from a Large Digital Platform

Xiang Hui, Washington University in St. Louis, St. Louis, MO, 63130-4899, United States, Erik Brynjolfsson, Meng Liu

Artificial intelligence (AI) is surpassing human performance in a growing number of domains. However, there is limited evidence of its economic effects. Using data from a digital platform, we study a key application of AI: machine translation. We find that the introduction of a new machine translation system has significantly increased international trade on this platform, increasing exports by 10.9%. Furthermore, heterogeneous treatment effects are consistent with a substantial reduction in translation costs. Our results provide causal evidence that language barriers significantly hinder trade and that AI has already begun to improve economic efficiency in at least one domain.

3 - Human and Machine: The Effects of AI Chatbot Disclosure for Conversational Commerce

Xueming Luo, Temple University, 1801 Liacouras Walk, Philadelphia, PA, 19122, United States, Siliang Tong, Zhe Qu, Zheng Fang

Empowered by artificial intelligence (AI), chatbots are surging as new technologies for firm-initiated communications and conversational commerce. However, little is known regarding these questions: (1) Will the disclosure of AI chatbot machine identity negatively impact customer purchases? (2) How would customers perceive AI chatbot as service agents facilitating purchase decisions? And (3) how to mitigate the potential negative impact of chatbot disclosure? To address these questions, we collaborate with a large Fintech company to conduct a randomized field experiment. Our data suggest that undisclosed AI chatbots are as effective as proficient human workers in engendering customer purchases. However, the disclosure of chatbot identity before or after the machine-human conversation reduces purchase rates by 56% to 85%—a substantial loss of chatbot value. We also explore the underlying mechanism. While the subjective survey data suggest that disclosed chatbots are perceived as less knowledgeable and empathic than undisclosed chatbots, the objective voice-mining data on the conversation content from the same customers suggest no such gap. These results imply that the negative impact of chatbot disclosure is driven by a subjective human perception-based bias against machines, despite the objective competence of disclosed chatbots. Fortunately, such negative impact can be allayed by customer prior experiential learning of AI or a disclosure right after the purchase decision making—a disclosure timing strategy that enables customers to learn the full experience of interacting with the smart machine.

■ FD05

Aula 05

Information Processing and Learning

Special Session

Chair: Tanjim Hossain, Toronto, ON, M5S 3E6, Canada

1 - Matching and Learning within the Networks of Real Estate Agents

Mantian Hu, Chinese University of Hong Kong, Cheng Yu Tung Building, Shatin, Hong Kong, Junhong Chu, Yu Zhou

In Lianjia, the China's largest online-offline real estate agency, agents are randomly assigned to two separate teams representing the buyer side and the seller side. The success of a transaction not only depends on the property itself but also on the characteristics of the two teams. In addition to the demographic information and work experience of the agents, empirical data analyses reveal that the collaborations among agents in the past play a significant role in determining the outcome of a transaction. Utilizing the data from this agency, we study the matching between the two teams of agents and the mechanisms behind the matching. In particular, we focus on the structure of the networks formed by the agents and their past collaboration history. We estimate how the effects of the collaboration network substitute the effects of the observed characteristics of agents.

2 - Time to Act: A Field Experiment on Overdraft Alerts

Matthew Osborne, University of Toronto, 105 St. George St, Toronto, ON, M5S 3E6, Canada

Despite the growth of digital banking and the rapidly expanding offering of money management applications, a substantial proportion of UK banking customers still incur overdraft and unpaid item charges. This can add up: 19 million people use their overdraft each year and firms made £2.3 billion in revenues from overdrafts in 2016. Although recent research has suggested that sending people a text message alert prior to incurring an overdraft can reduce charges, few people had signed up for alerts of their own accord: 3-8% had registered for any type of alert by early 2015. In this paper, we quantify the benefits of just-in-time and early warning alerts related to overdraft and unpaid item charges using a series of field experiments run on roughly 500,000 UK customers at two large banks. We find that just-in-time alerts reduce overdraft and unpaid item charges by 13-18%; however, early warning alerts, which notify an individual their account balance is low, do not lead to significant reductions in charges. Additionally, we find that just-in-time alerts are most effective for individuals who are not frequent users of the overdraft facility.

3 - Belief Formation under Signal Correlation

Tanjim Hossain, 105 St. George Street, Toronto, ON, M5S 3E6, Canada, Ryo Okui

Using a set of incentivized laboratory experiments, we characterize how people form beliefs about a random variable based on independent and correlated signals. First, we theoretically show that while pure correlation neglect always leads to overvaluing correlated signals, this depends on the exact structure of signal generation process if people misperceive precision. Specifically, they may sometimes undervalue correlated signals depending on the correlation structure even in the presence of correlation neglect. Our experimental results reveal that, while they do overvalue moderately or strongly correlated signals, they undervalue weakly correlated signals. It is consistent with the presence of both correlation neglect and overprecision —- believing the signals are more precise than they actually are. Estimated parameters of our model suggest that subjects show a nearly complete level of correlation neglect and also suffer from a high level of overprecision. Additionally, we find that subjects do not fully benefit from wisdom of the crowd —- they undervalue aggregated information about others' actions in favor of their private information. This is consistent with the models of overprecision where people do not properly incorporate the variance reducing power of averages.

4 - Learning in a Dynamic Context: An Experimental Study

Shervin Shahrokhi Tehrani, University of Texas at Dallas, 318 Richmond Street West, Dallas, TX, M5V0B4, United States

How do people aggregate independent signals to form beliefs about the realized value of an unknown variable? Updating belief when people read a sequence of reviews of a product, consume an experience good with unknown quality, or guessing a financial index when new information comes sequentially in the market, are well-known examples of dynamic belief formation. Traditionally, because of limited data, researchers assume people update their beliefs "as if" a Bayesian decision-maker or some other heuristics such as the average of observed signals. In this project, we design a laboratory experiment to elicit subjects' belief about the true underlying value of an unknown variable. We focus on the dynamic of belief structures where some informative signals are independently drawn and sequentially are observed by subjects. We sequentially elicit beliefs after providing subjects with any new information about the unknown value. The overarching objective for the project is to pin down people's types of their updating strategy. We directly elicit people's belief while controlling the kind of information they receive in laboratory experiments using the method proposed by Hossain and Okui (2013). Our elicitation process is incentive-compatible and provides us with a piece of truthful information about the posterior distribution of each subject, regardless of her utility functional form. By tracking the dynamic formation of subjects' posterior distributions, we investigate that are people "hyperrational" by following the Bayes' rule? If there are not, what type of "boundedly rational" behavior explain a subject's a specific belief updating pattern? Finally, we determine the dynamic of subjects' type of using boundedly rational updating processes in different environments, wherein either a more positive or negative trend of signals are arriving sequentially.

■ FD06

Aula 06

The Impact of Artificial Intelligence and Robots on Consumer Decisions

Special Session

Chair: Tae Woo Kim, Indiana University, Bloomington, IN, United States

1 - Consumer Adoption of Artificial Intelligence: The Role of Variety in Product Design

Zhongqiang (Tak) Huang, The University of Hong Kong, Hong Kong, Ke Zhang, Meng Zhu

Consumer products featuring AI technology, such as virtual personal assistants (e.g., Apple's Siri or Microsoft's Cortana), smart home devices (e.g., Google home), and automatic vehicles (e.g., Baidu's self-driving car), are growing rapidly nowadays. Much research has been done on how the functions of AI-powered products may influence consumers' adoption of them, but the impact of the physical appearance of these products is largely unexplored. This research investigates this overlooked factor. Specifically, we examine whether offering greater variety in the physical appearance of AI-powered products may affect consumers' adoption tendency. We found that greater variety in product design can decrease consumers' likelihood to adopt AI-powered products by reducing perceived functionality. This finding stands in contrast to prior research suggesting that greater variety can make consumers perceive that a brand has more expertise, and suggests that evaluation basis for AI-powered products differs from that for other general products. Our findings also offer important implications for marketing managers. (Keywords: Product Design, Variety, Adoption)

2 - What if Your Robot Looks Like You?

Seo Young Kim, Columbia University, New York, NY, United States, Bernd H. Schmitt

Engineers are increasingly using human-like features to design the behavior and appearance of AI and robots, and some labs have created humanoid robots that look strikingly similar to real humans. Research on avatars that users employ to represent themselves in online interactions suggests that user-avatar look-alikes lead to positive responses (affection, connection, and passion). In this research, we investigate whether the same effect holds for robots that look similar to a user and whether marketers should sell such customized robots. Interestingly, we find the opposite effect: people prefer robots that do not look like them. We thus recommend that marketers should not create robots that look too similar to users. Specifically, in Study 1 consumers evaluated a robot that does not look like them more positively than one that does (p<.05, Msimilar=4.22 vs. Mdissimilar=4.90). They also felt more positively about themselves in "self" perception (p<.01, Msimilar=4.19 vs. Mdissimilar=4.99), as well as "other" perception (p<.05, Msimilar=4.03 vs. Mdissimilar=4.70). Study 2, employing robots, natural twins and clones, showed that the more negative evaluations of identically-looking robots (artificially created through technology) compared to biologically determined look-alikes (identical twins and clones) were due to a threat to human species-uniqueness (95% CI: -1.06, -.23), whereas liking twins better than clones was due to a threat to purely psychological self-uniqueness (95% CI: -.61, -.14). The results add to the growing literature on consumer perceptions of robots, contributing a personal-identity-perspective to complement the prevalent "object"-perspective of robots as AI machines in retail and service settings. (Keywords: Consumer robots, self, self-representation, identity threats)

3 - When Robots Come to Our Rescue: Why Professional Service Robots Aren't Inspiring and Can Demotivate Consumers' Prosocial Behaviors

Szu-chi Huang, Stanford University, Stanford, CA, United States, Fangyuan Chen

Robots are machines that are capable to carrying out complex, and often repetitive, actions (Merriam Webster 2018). Recently, disaster robots have been increasingly used for search, rescue, and recovery operations (Davids 2002; Murphy 2015). In this research, we ask: How would observing a robot conduct a prosocial act affect consumers, and their support of prosocial organizations/marketers? We propose that observing a robot conduct a disaster relief act is less inspiring to consumers than observing the same act carried out by a fellow human (H1). This lowered feeling of inspiration results from the perceived lack of autonomy in robots; consequently, when a robot's autonomy is externally enhanced, the negative effect on inspiration can be mitigated (H2). Importantly, a lower feeling of inspiration leads to a lower likelihood for consumers to support prosocial organizations/marketers in subsequent, unrelated causes (H3). Six studies (four controlled experiments and two field studies) offered support for our hypotheses. Study 1 showed that reading about robots in disaster relief missions led to a lower feeling of inspiration among consumers. Study 2-4 showed that when (1) the artificial intelligence powering the robot was highlighted (vs. no AI or a neutral description), (2) robots' own decisions to assist in the disaster relief was highlighted (vs. humans making decisions for them or a neutral description), or (3) robots' relationship with the human personnel on the team was described as collaborative (vs. hierarchical or neutral), the perception of robots' autonomy increased, and thus the negative effect of reading about robots on inspiration was mitigated. Studies 5-6 collaborated with different nonprofit organizations (a used book and a used clothing donation drive) and demonstrated the consequence of reading about robots on consumers' subsequent contributions to prosocial organizations. (Keywords: Robot, Artificial Intelligence, Inspiration, Prosocial Behavior)

4 - Ghost in the Marketing Machine: Consumer Susceptibility to Exploitative Offerings from Humanlike versus Machinelike Artificial Agents

Aaron Garvey, TaeWoo Kim, Adam Duhachek

Humans have deep-seated psychological defense mechanisms to protect against exploitative, unfair treatment (Frank and Ekman, 1997). In this research, we explore how AI may bypass human defenses against interpersonal exploitation in various contexts, such as ultimatum game and buyer-seller consumption scenarios. In contrast to the finding that humanlikeness of an agent increases trust (Waytz, Heafner, and Epley 2014), we propose that exploitative offers are perceived more acceptable when made by less humanlike agents. We theorize that this effect stems from the lay theory that machinelike (vs. humanlike) agents are less capable of intentionally administering unfair treatments. Study 1 shows, in an ultimatum game, that an exploitative offer (i.e., $90 for the offering agent and only $10 for the participant) was accepted significantly more when the offer was made by an AI (79%) vs. human (54%). For a fair offer (i.e., $50 agent / $50 participant), there was no difference. Replicating in Study 2, acceptance of unfair offer significantly increased from a human (55%) to AI (74%). Also, intermediary-human condition (i.e., an AI makes autonomous offer for an human owner) significantly increased acceptance (75%) compared to human (55%), indicating that presence or absence of autonomy in an agent is the key driving factor. Impact of AI on increasing unfair offer acceptance was attenuated when AI was framed as humanlike (e.g., Amazon Alexa described as humanlike neural network) (Study 3), or among the individuals who perceive relatively higher humanlikeness in AI (Study 4). Study 5 utilized a ticket resale context and shows that different level of perceived of intentionality between AI and human mediates the effect. (Keywords: Robot, Artificial Intelligence, Fairness Perception, Autonomy, Decision Making)

■ FD07

Aula 07

JM/MSI-Special Session on Managerial Priorities in Marketing: Frameworks and Research Directions from MSI and the Journal of Marketing. Part 2 of 2

Special Session

Chair: Harald Van Heerde, University of New South Wales, Sydney, 2052, Australia

Co-Chair: Christine Moorman, Duke University, Durham, NC, 27708-0120, United States

Co-Chair: Carl F. Mela, Duke University, Durham, NC, 27708-0120, United States

Co-Chair: John Deighton, Harvard Business School, Boston, MA, 02163, United States

1 - Advertising Frictions in the Digital Era

Zsolt Katona, UC Berkeley, Brett Gordon, Kinshuk Jerath, Sridhar Narayanan, Jiwoong Shin, Ken Wilbur

This paper describes research opportunities in advertising with an emphasis on frictions between the various entities shaping the advertising ecosystem. Advertising industry relationships were fairly predictable by the second half of the past century, but digitization has upended some of those traditional relationships. Major changes include how marketers conduct and evaluate campaigns, how advertising markets and channels are organized, how marketers target consumers, how consumers respond to advertising exposures, and the nature and extent of advertising fraud. At the same time, the evolving ecosystem became more complex with an explosion of new players and emerging frictions. Conflicts within and between firms present a number of unique opportunities for researchers. The paper takes stock of the most pressing issues by i) identifying the origins of frictions in advertising, ii) describing the ongoing transformation of digital media, iii) looking at the evolution of the ad message in the digital age, and iv) evaluating the current practice of measuring ad effectiveness. Each of these areas offers a variety of important research questions that should be at the forefront of academic research related to advertising.

2 - The Role of Emerging Technologies in Shaping the Future of Omni-Channel Marketing

S. Sriram, University of Michigan, Tony Cui, Anindya Ghose, Raghuram Iyengar, Catherine Tucker, Sriraman Venkataraman, Juanjuan Zhang

Channels have traditionally been viewed as intermediaries that facilitate transfer of products from manufacturers to consumers. In recent years, with the evolution of digital technology, manufacturers, retailers, and consumers are able to seamlessly move across different channels as they navigate the phases of a typical purchase journey. Such seamless integration of customer experience across channels and devices is usually referred to as "omni-channel marketing." The advent of new technologies such as AI (powered by advances in machine learning) and Blockchain provides new opportunities for data generation, data mining, and ascertaining the veracity of data in the arena of omni-channel marketing. AI based technologies can be used to alter customer journey by introducing new stages in the customer path to purchase, eliminating some stages, alter their sequence, or modify the point at which customers make their purchase decisions. Blockchain based technologies are being used to identify ad fraud, resolve data discrepancies, address billing problems and more generally ascertain whether the original data sources are bonafide or not. We review extant and ongoing research in omnichannel retailing, and discuss how the latest technologies fundamentally transform channel management.

3 - Capturing Information to Fuel Growth

Rex Yuxing Du, University of Houston, Houston, TX, 77204, United States, Debanjan Mitra, Oded Netzer, David A. Schweidel

Marketing is the functional area that is primarily responsible for driving organic growth, which is key to firms' futures. In the age of digital marketing and big data, marketers are inundated with increasingly rich types of information from an ever-expanding array of sources. Each type or combination of information may help marketers generate insights about buyer behavior and mindset, which in turn may lead to better decisions in some regards. One fundamental question remains: How can marketers wrestle massive flows of existing and nascent data resources into coherent, effective growth strategies? Against such a backdrop, our paper attempts to: 1) provide a historical perspective on how past data innovations have led to new theories and practices, highlighting their attendant implications for fueling organic growth, and 2) enumerate several topics for future research that we believe can have a consequential impact on how marketers may turn data opportunities into growth opportunities. For each topic, we try to offer sufficient detail to drive the field of marketing science forward.

4 - Marketing Agility: Conceptualization, Research Propositions, and a Research Agenda

Kartik Kalaignanam, University of South Carolina, Moore School of Business, Columbia, SC, 29208, United States, David Gal, Tarun Kushwaha, Leonard Lee, Kapil R. Tuli

The objective of this paper is to introduce the emergent concept of marketing agility and develop an organizing framework that systematically captures the antecedents and consequences of marketing agility. Given the sparse literature on the topic, we use a grounded theory approach to tap into the mental models of managers. Synthesizing insights from 22 interviews with senior managers in diverse industries, we first define marketing agility, discuss its importance to various stakeholders in the field of marketing, and distinguish the concept from related constructs in the domains of strategy, information systems, and marketing. Next, we develop an organizing framework to guide the systematic study of marketing agility. We offer propositions related to organizational cultural, team, and marketing technology (MarkTech) characteristics as antecedents of marketing agility. As regards consequences, we offer propositions related to marketing agility's impact on customer metrics and product-market outcomes. Based on this framework, we identify several research questions/themes and provide a roadmap to guide future empirical research.

■ FD08

Aula 08

Digital Marketing 8

Contributed Session

Chair: Malek Ben Sliman, Columbia Business School, New York, NY, 10025, United States

1 - Search Ranking Policy, Seller Incentives, and Pricing Dynamics in a Digital Goods Marketplace

Justin T. Huang, Assistant Professor of Marketing, University of Michigan Ross School of Business, Ann Arbor, MI, United States

Digital marketplace display mechanisms have traditionally been designed for buyers, giving "hot" or "top selling" products prominently positions on the front page and search results with the expectation that historical purchase will predict future purchase. However, the analysis of these designs tends to neglect that sellers have agency and respond endogeneously to the marketplace display mechanisms which enable them to reach consumers. This research aims to bridge this gap using data from a large app store-like marketplace to examine the implications of the common sales ranked marketplace visibility policy. I present a model in which the marketplace's visibility policy is internalized by sellers in their pricing decisions and incorporate rich institutional details from the marketplace to aid in dynamic structural estimation. Using this model, I show that marketplace policy leads sellers to compete for visibility by adopting strategies of discounted introductory pricing. The widespread use of introductory pricing strategies leads to inefficient pricing from an aggregate perspective, reducing seller revenue and thereby the marketplace operator's revenue share. This issue can be thought of as a form of channel conflict from the perspective of the marketplace operator, whereby the operator in the role of the wholesaler would like to enforce a higher price level but is thwarted by seller (retailer) competition for visibility. I evaluate a mitigation strategy the marketplace operator could pursue - ranking products by revenue rather than sales quantity - through counterfactual simulation and find that the marketplace operator could increase revenue by switching ranking algorithms.

2 - User Information Sharing on Healthcare Websites

Hooman Hidaji, University of Calgary, Calgary, AB, Canada, Ram Gopal, Sule Nur Kutlu, Raymond Patterson, Niam Yaraghi

There has been an increase in online medical services offered in the past few decades as the reach of Internet has grown and medical devices and data collection have evolved. Individual's medical data is often cited as one of their most sensitive types of information that individuals have. One would assume that this sensitivity would drive websites offering health services to be more mindful about how they share user information on their website. In this paper, we investigate the sharing of user data with third-parties on health websites. We find that while health websites share less user information than news websites for example, they still share significantly with third-parties. Given that the sharing is at least partially observable by the users, this reinforces the inconsistency between user's concerns about privacy and their actual behaviour online, also known as the the privacy paradox. Using an empirical analysis of third-party sharing, we further explore the impact of subscription services, advertising, privacy policy statements, website accreditation, and privacy tools used by the users on sharing of user browsing data with third parties.

3 - The Antecedents and Consequences of Promo Code Redemption

Scott Andrew Neslin, Dartmouth College, Tuck School of Business, Hanover, NH, 03755, United States, Wenyu Jiao

This paper analyzes the antecedents and consequences of redeeming promo codes offered by emailed promotions. We hypothesize and find that customer characteristics and historical transaction behavior predict promo code redemption and that redemption leads to incremental profits. We decompose the profits into three sources: eligible purchase with redemption (ERED), eligible purchase without redemption (ENRED), and not eligible for redemption purchase (NPURCH). Based on a field test, we model each of these as a function of customer characteristics and historical transactions. We find the ENRED purchase are particularly important because they represent incremental sales where the firm does not have to pay a discount. For example, ROI of a promo code promotion increases 35.3% over what they would be without these purchases. Our model shows that we can predict ENRED from several antecedents: (1) customer reliance on the retail channel for previous purchase makes eligible non-redemption more likely, (2) reliance on non-promo code discounts makes eligible non-redemption less likely, and (3) longer time to previous purchase (recency) makes eligible non-redemption less likely. We show we can use our model to target ENRED customers and profits increase significantly. This is indicative of the traditional role of coupons and rebates as price discrimination devices. We discuss implications for future research and managerial action.

4 - Adaptive Feature Selection and Product Recommendation for Online Shoppers

Malek Ben Sliman, Columbia University, New York, NY, United States, Rajeev Kohli, Khaled Boughanmi

To facilitate product search, e-commerce websites often allow online shoppers to screen alternatives by sequentially selecting product features. Such screening provides two types of information about the shopper: an explicit preference for the selected features, and an implicit preference ordering over the features he/she might subsequent select. We propose a methodology for customizing the feature menu and recommending alternatives each time a shopper uses an additional screening feature. The proposed method assumes that there are segments of consumers, each using a different EBA rule for screening alternatives. Both the segment-membership probability and the probability to using a sequence of one or more of still-available features is updated each time a shopper selects a feature. We use this information to iteratively customize the filtering menu and the recommended products displayed to the shopper. We show how choice data may be used to estimate the model and illustrate its use for customization using data on consumer choices for electronic tablets. Only a few screening steps are needed to identify segment membership. We describe situations in which the seller's profit is maximized by delaying product recommendations until a shopper has screened alternatives using one or more features. We consider how and why the seller should select a single attribute (e.g., brand name) to design a choice task (e.g., which best-selling brand would you like to see?) that provides the most information and maximizes the expected profits for the seller.

■ FD09

Aula 09

Methods 1

Contributed Session

Chair: Daniel McCarthy, Goizueta Business School, Emory University, Atlanta, GA, 30322-1059, United States

1 - From RFM to LSTM: Predicting Customer Future with Autoregressive Neural Networks

Jan Valendin, Teaching and Research Associate, Vienna School of Economics and Business, Wien, Austria, Thomas Reutterer

Probabilistic models have proven useful for customer base analysis and lifetime predictions in non-contractual business settings since the well established Pareto/NBD and BG/NBD models; but despite recent advances they have their limitations. First, the assumptions regarding the purchase as well as the dropout process are rigid; second, including covariates is cumbersome and can result in non-closed form solutions for key expressions of interest, and third the model capacity often doesn't scale to the data at hand.To address these limitations, we propose a generic, flexible approach for modeling customer behavior based on recurrent neural networks using layers of so-called Long Short Term Memory (LSTM) units. Instead of reducing customer purchase histories to a set of hand-engineered metrics (à la RFM models), LSTM-based artificial neural networks are trained to build rich internal representations of each customer's history by selectively extracting useful information while discarding less important signals from data, such that it helps the model improve on the given task: predicting what happens next. The proposed LSTM-based model has a number of advantages. First, it can easily incorporate any time-varying (e.g., marketing variables, monetary transaction value), time-invariant (e.g., customer characteristics), categorical (e.g., gender) or numerical (e.g., age) covariates. As we will demonstrate, this can lead to significant improvements in prediction accuracy over state-of-the-art probability models, both on individual and on aggregate level. Second, the model can simultaneously predict additional measures of interest, such as monetary value. Third, the model predictions can be selectively conditioned on the incorporated covariates to simulate arbitrary

"what-if" forecasting scenarios. Fourth, the model clearly outperforms probability models in terms of capturing seasonality. Keywords: neural networks, deep learning, CLV, probability models, forecasting

2 - How to Capture Model (Mis-)specification in Structural Equation Modeling

Andreas Falke, Universitat Regensburg, Regensburg, Germany, Nadine Schröder, Herbert Endres

The measurement of unobservable variables has gained increasing attention in marketing and social sciences. One important issue of contention in structural equation modeling is the detection of model (mis-)specification because there are contradictory results on how well model fit criteria capture model specification. In our simulation study, we examine how well currently recommended model fit criteria, construct validity criteria, and their combinations detect misspecification. We consider two types of misspecification simultaneously: misspecification severity and location. Furthermore, we include several facets of model size as distinct experimental factors. We show that fit criteria, construct validity criteria as well as recommended combinations of them only marginally cover model specification because they still include many misspecified models or drop too many correctly specified models. Therefore, we construct three new combinations of fit criteria and construct validity criteria by optimizing only the type I error, only the type II error, and both of them simultaneously. The resulting combination of the type I error optimization turns out to be superior in discriminating between correctly specified and misspecified models. The power to discriminate can be enhanced even further if it is combined with the result from the type II error optimization. This way, researchers can better classify their model correctly.

3 - Modelling Preferences for Visual Products from Eye Gaze Path

Shasha Lu, University of Cambridge, Cambridge, United Kingdom, Yinghui Zhou, Min Ding, Vithala R. Rao

The increasing use of eye-tracking technology in user interfaces (e.g., ModiFace) gives rise to a new form of user generated data: consumers' eye gaze paths when evaluating the visual product stimuli. Whereas many of the previous studies using eye tracking focus on viewer's attention to advertisements, few model viewer's preference for the design features of visual product from eye gaze paths. This research develops a theoretical framework and managerial tools to understand the decision rules used by individuals in forming preferences when viewing visual product stimuli (e.g., the interior design images) in the interior design context. Using computer vision techniques and marketing models of consumer preferences, the proposed model attempts to infer individual user's preference on three key elements of an interior design, 1) the preference on visual features (e.g., colour, texture, size, shape, etc) of visual objects (e.g., sofa, table, etc.); 2) the visual compatibility of the visual objects; and 3) the three-dimensional spatial arrangements of the visual objects. We estimate the proposed model using the eye gaze path data users generated while viewing fifty interior design images and the rating/choice decisions following each viewing. We study ways to optimize the visual features in a specific design in order to achieve higher viewer preference (for an individual or a segment of individuals). We believe that this model can be used for designers making individualized recommendations and providing useful optimization tools for designers and customers. We expect this work will enhance current knowledge about the role of eye gaze path in understanding consumer decision-making and guide business practice related to the design of visual products or stimuli.

4 - Using Aggregate-Disaggregate Data Fusion to Forecast the Inflow and Outflow of Customers

Daniel McCarthy, Goizueta Business School, Emory University, Atlanta, GA, United States, Elliot Oblander

It is highly common for marketing researchers use granular panel data when performing empirical analyses. Panel data allows for rich model specifications, but the panels being studied are often subsamples not representative of their target populations, leading to potentially biased inferences when generalizing results from panel to population. Conversely, aggregated data (e.g. overall market shares) are often representative of their target populations but require restrictive model specifications/assumptions due to identifiability concerns stemming from the coarse nature of the data. Aggregate-disaggregate data fusion has the potential to overcome both issues, using panel data to identify richer model specifications and aggregate data to correct for bias in the panel data. However, the few methods that exist for this type of data fusion do not incorporate selection bias, do not generalize naturally to complicated processes with high-dimensional outcomes, and/or do not scale to large population sizes. We propose a methodology for aggregate-disaggregate data fusion which addresses all of these issues, maximizing a "proxy likelihood" function that uses asymptotic expansions to approximate the likelihood function. In addition to proving favorable theoretical properties of the procedure, we demonstrate its practical merit in a customer base analysis setting, using a combination of aggregated first-party company disclosures and third-party credit card panel data to forecast customer acquisition and retention at Spotify, a music streaming service. Through this application and supporting simulation studies, we show that the incorporation of third-party panel data improves predictive validity, sometimes dramatically so, over simpler methods.

■ FD10

Aula 10

Machine Learning 8

Contributed Session

Chair: Huazhong Zhao, City University of Hong Kong, Kowloon, Hong Kong

1 - Comparative Analysis of Nutrition and Price Promotional Sensitivities of Consumers

Meheli Basu, PhD Candidate, University of Pittsburgh, Pittsburgh, PA, United States, Jeffrey Inman, Hristina Nikolova

Grocery retailers are joining the fight against obesity by offering a wide range of wellness programs at the point of sale. However, the success of such programs in promoting healthy choices remains an open question. This study examines the effectiveness of a growing wellness initiative: a simplified nutrition scoring system. NuVal score is a nutritional scoring system, ranging from 1 to 100 with higher scores signifying healthier products. We use frequent shopper purchase data of 50,000 households across a two-year period combined with promotional data from the grocery chain's weekly ads to compare the lift in category sales resulting from nutritional labels of food displayed in price promotion flyers. We examine if price sensitivity toward price promotions decrease by heightening nutritional information to consumers. In addition, we examine the moderating effects of household usage rate, and promotion characteristics on these nutritional and price promotion sensitivities. We define nutritional promotions as the display of a summary nutritional score (e.g., NuVal score) next to a product featured in the grocery chain weekly ad. Price promotions are defined as the display of discounted prices featured in the grocery chain weekly ad (e.g., buy one, get one free offers). We also examine if there are specific product categories across which the impact of the presence of nutritional scores on price promotional sales are more pronounced. We employ deep learning techniques to handle the "big" data set to optimize our analysis of consumer sensitivity to price and nutritional labels.

2 - A Flexible Method for Demand Forecasting with Structural Decomposition

Mingyu (Max) Joo, UC Riverside, Riverside, CA, United States, Chul Kim, Dongsoo Kim

Demand forecasting is a key to optimize future marketing variables. Although existing time-series forecasting methods present reasonably high face validity, the model parameter estimates in such models may embed confounds from environmental factors and trends. Therefore, such models may not clearly distinguish between consumers' responsiveness to firms' marketing actions from extraneous variables. This paper proposes a simple modeling framework to decompose consumer responses and environmental trends using a theoretical demand function derived from an Engel curve. We aim to show that the model parameters of the demand function allows counterfactual predictions of treatment effects, and separate descriptive predictions of environmental factors can be merged to improve forecasting accuracy.

3 - Predicting Consumer Characteristics from Facial and Body Images Using Deep Learning

Yegor Tkachenko, PhD Student, Columbia Business School, New York, NY, United States, Kamel Jedidi

Recent advances in deep learning have allowed for accurate information recovery and predictions from images of individuals. In recent academic studies, it has been demonstrated that even such concealed human traits as sexual orientation can be predicted from facial images of human subjects. Building on these findings, we quantify to what degree different types of customer information can be predicted directly from images of consumers - data, which are usually abundant, free, and easily available, for example, from video feeds in public spaces. In the experiments, we build on survey responses and facial image data collected from close to a thousand of online respondents, as well as 13 days of video surveillance footage and receipt data obtained from our supermarket chain partner. Preliminary analysis of the data shows that images of consumers provide statistical signal on a range of topics, such as consumer preferences, product usage, and regularly felt emotions. These findings provide support for privacy concerns due to use of artificial intelligence in video surveillance, emphasize the variety of signals that humans may be able to read off from peers' faces (which creates a possibility for hidden bias), and suggest existence of new data collection opportunities for corporations through analysis of security camera footage.

4 - Understanding Network Positions through Modeling Community Structure

Arash Yazdiha, Erasmus School of Economics, Rotterdam, Netherlands, Bas Donkers, Dennis Fok

The structure of social networks plays a large role in the diffusion of new products and the success of social media campaigns. Earlier works have suggested ways to characterize influential members as a function of their number of connections. However, identical treatment of each connection is problematic as some are more relevant for spread of a focal behavior than others. Literature suggests that considering multiple underlying networks aids in making conclusions about the relevance of specific connections when studying diffusion. These underlying networks can be thought of as different communities of people. However, direct observation of communities, or connections over multiple networks, is often not possible. We identify latent communities and the memberships of users to communities using a single observed network. We use these communities to characterize the relevance of connections for product adoptions. Quantifying each user's community membership yields new metrics to measure the relevance of connections between individuals. We explicitly model the network structure and propose a scalable stochastic variational inference methodology to uncover the model parameters. We apply our model to a US social network that involves product adoption. We find that the estimated community structure is indeed informative about the adoption patterns of new products in the network.

5 - Where to Visit When New in Town? A Recommender System Based on Travelers' Personal, Social and Locational Information

Huazhong Zhao, Assistant Professor, City University of Hong Kong, Kowloon, Hong Kong, Xi Li

Making relevant recommendations plays a key role in facilitating consumer decisions, and marketing researchers are showing increasing interest in the theories and applications of big data-driven recommender systems. The majority of current literature focuses on a focal consumer's historical activities or social influence to generate recommendations, using the collaborative filtering (CF) approach. With the prevalence of location-based social network services and mobile APPs, we argue that geographic location can be another crucial factor to increase the effectiveness of recommendations. However, traditional CF approach faces a severe challenge when consumers travel to new locations without any previous activities, since the traveler-venue matrix at the new locations is very sparse, if not empty. Thus, we propose a new recommender system that incorporates locational features as well as personal interest and social influence, while at the same time handles the data sparsity problem for travelers. We showcase the effectiveness and efficiency of our recommender system by applying our model to a large data set from a leading venue review service mobile APP, and then compare the results with current competing models. Finally, we will discuss the managerial implications on how to make more accurate recommendations to travelers, especially for popular tourist destination cities.

■ FD11

Aula 11

Decision Making 2

Contributed Session

Chair: Mario Kienzler, Linköping University, Campus Valla, Linköping, Sweden

1 - Can Surge Pricing Adversely Affect Driver Income?

Linli Xu, University of Minnesota, Minneapolis, MN, United States, Yanhao Wei

Ride-sharing platforms such as Uber and Lyft often utilize dynamic pricing, so-called "surge price," to attract drivers at times and places of high demand. Prior research has investigated how surge pricing affects consumer welfare. Our work focuses on examining the revenue implications of such pricing algorithm from drivers' perspective. Our analyses replies on two policy discontinuities within a comprehensive dataset of individual trips on one of the largest ride-sharing platforms in China. We find that, on average, surge trips lead to 20% boosts in trip fares. However, the complaint rate toward drivers increases by 10-15% when serving surge trips, which translates to about 5% decrease in drivers' daily income. One immediate implication of these findings is that ride-sharing platforms should not treat every complaint equally, especially during surge. The negative financial impact of driving surge trips on drivers' revenue might discourage them to provide services during high demand periods, which lowers the effectiveness of surge pricing.

2 - Two Experts are Better than One: Reaping the Rewards from Specialization through Better Communication

Jinzhao Du, The University of Hong Kong, Hong Kong, Kevin Du

We examine the conditions when it is beneficial to incorporate a common language system between the marketing salesman and product engineer within a firm. Given endogenous communication effort necessary to ensure that product design meets customer preferences, we find that bilateral communication (i.e. some effort is exerted by each party) occurs when communication cost is not too high. More importantly, the range of costs needed for bilateral communication under a common language system strictly subsumes the range of costs that would otherwise be required when languages remain disparate. Likewise, the range of costs for full communication (i.e. maximum effort is exerted by each party) is also enlarged when a common language system is in place. Second, while a common language system has a pure redistribution effect on value capture between the engineer and salesman when costs are sufficiently low, it also has a value creation effect under mid-range costs. As costs become high, the benefits of a common language system are outweighed by a disparate language system.

3 - Country Image Effects in Production Relocation Timing Decisions

Martin Reisenbichler, Research & Teaching Associate, Vienna University of Economics and Business, Vienna, Austria, Gila E. Fruchter, Thomas Reutterer

In this paper, we study the dynamics of production relocation decisions from one country to another made by a branded goods manufacturer. Given that country image influences brand image which in turn affects profitability via generated sales and production costs, we formulate an optimal timing decision control problem and develop optimal decision rules for a manufacturer regarding the timing and duration of production relocation. Furthermore, we examine the profit implications of production relocation decisions. We examine our theoretical results in a simulation study with parameter settings mimicking real world proportions and subsequently analyze the output. Our findings suggest that simultaneous stopping and relocation optimization clearly outperforms isolated optimization strategies by up to 15% in mean profits. The companies' prospective total equity and the product fit to a country are main determinants for choosing a relocation strategy as well as for timing and profit implications. Factors like the countries' image, production and relocation costs have less overall impact. In addition, we shed light on the decisive and partly indirect impact of these factors on the brand image and on sales, which in turn play an important role in the whole decision-making framework. However, the effects vary depending on the chosen strategy, and on the specific situation a company is in. Based on our findings, we draw conclusions and discuss implications for corporate management and public policy.

4 - Four More Years: Presidential Elections, Comparative Mind-set, and Managerial Decisions

Alison Jing Xu, Assistant Professor, University of Minnesota, Minneapolis, MN, United States, Christine Moorman, Vivian Qin, Akshay R. Rao

Exposure to stimuli that elicit comparisons in one domain activates a comparative mind-set. In this state, managers are more likely to select from available options and increase their level of spending, when making subsequent, unrelated managerial decisions. Five studies demonstrate this effect. Arguing that U.S. presidential elections likely elicit a comparative mind-set among managers, we show in Study 1 that U.S. firms, but not non-U.S. firms, spend more on advertising in presidential election years than in non-election years. In a controlled business simulation, Study 2 demonstrates that participants spend more money on advertising and training in presidential election years than in non-election years. Three experiments involving practicing managers follow. Study 3a exposes managers to stimuli featuring a U.S. senate election and we observe an increase in spending on training and development programs, while Study 3b examines the underlying mechanism linking the activation of a comparative mind-set to increased choice and spending on marketing programs. Finally, Study 4 shows that shifting the decision frame from choosing to rejecting options attenuates the comparative mind-set effect. We conclude with a discussion of the theoretical and practical contributions of this research.

5 - The Downside of Accountability: A Study on Decoy Effects and Managerial Decision-making

Mario Kienzler, Linköping University, Linköping, Sweden, Christian Kowalkowski, Daniel Kindström

Common sense suggest that accountability improves decision-making. To investigate this notion, we asked 155 purchasing professional at a practitioner conference to indicate how much they believe accountability improves decision-making. In line with common sense, purchasing professionals believe that accountability has a substantial effect. However, in our main study—an experiment with 147 purchasing managers—we show a more nuanced picture. Particularly, accountability can also deteriorate decision-making. We show this circumstance in the context of product decoys. Decoys are unattractive products added to a choice set to make a target product more attractive. We used a 2 (accountability: reminder versus no reminder) x 2 (decoy: present versus absent) full factorial between-subjects design with subjects randomly distributed across the four conditions. Within the experiment, a short business scenario asked the subjects to image their firm wants to lease a new multi-functional office printer. Half the subjects were reminded about their accountability. Next, the scenario displayed information about two (decoy absent condition) or three (decoy present condition) printers. Finally, all subjects choose one printer to lease. The results indicate that both accountability and decoys influence managerial decision-making. Particularly, without the accountability reminder, introducing the decoy increased the choice share of the target from 45% to 64%. However, with an accountability reminder, introducing the decoy increased the choice share of the target from 29% to 86%. These findings support our hypothesis that accountability and decoys have an interaction effect on the choice share of the target. Specifically, accountability deteriorates decision-making in the presence of a decoy. Marketing managers and salespeople can use these insights to adapt their marketing and sales activities accordingly. Purchasing managers should be aware that accountability can have a negative influence on their purchasing decisions.

■ FD12

Aula 12

Mobile – Apps

Contributed Session

Chair: Rufina Gafeeva, Ottmar-Pohl Platz 7, Köln, 51103, Germany

1 - Conversations with a Chatbot: Are You Ready to Open Up Your Pocket?

Minki Kim, KAIST College of Business, Seoul, Korea, Republic of, Minkyoung Ahn, Dowon Kwak, Sara Kim

We examine how AI (Artificial Intelligence) chatbot influences consumers' spending in an e-commerce shopping environment. We propose that consumers spend more in a chatbot-enabled channel than in a non-chatbot channel, as the perceived level of responsibility for the purchase is lowered when a chabot creates the presence of another agent during the purchasing process. Using the difference-in-differences framework in a field experiment context, we test our proposition by comparing consumers' spending on a channel with a chatbot to that without a chatbot, while holding fixed the systematic changes over time and across different product categories. We find that consumers spend more when they are coupled with a chatbot than when they are not. Robustness checks for other spending measures and estimation methods corroborate the main findings. We further explore the mechanism behind this effect (i.e., lowered felt responsibility for the purchase) by employing several moderators that can change the level of felt responsibility. Our results support the suggested mechanism that the increased amount of spending in the chatbot channel (vs. non-chatbot channel) is driven by the lowered level of perceived responsibility for the purchase due to the presence of another agent (chatbot) during the purchase. We also rule out possible alternative explanations and show that the positive effect of chatbot on consumers' spending is not driven by a heightened need for impulsive purchases nor conspicuous consumption.

2 - When App-rooming Promotions Backfire: A Field Experiment on Multichannel Shopping

Debashish Ghose, Temple University, Philadelphia, PA, United States, Siliang Tong, Xueming Luo, Takeshi Moriguchi

App-rooming is an emerging multichannel shopping phenomenon wherein customers browse information and search for product details on mobile apps but visit stores to complete purchases. Yet, the dynamic effects of app-rooming promotions on multichannel shoppers vis-à-vis single channel shoppers remain poorly understood. A large-scale randomized field experiment shows that although app-rooming promotions with incentives can increase store purchases, multichannel shoppers are not more responsive than single channel shoppers in both short and long runs. Also, multichannel shoppers negatively respond to app-rooming promotions in the absence of incentives. We explore underlying mechanisms with customer purchase journey stages. Relative to single channel shoppers, multichannel shoppers positively respond to app promotions in the early stage but negatively respond to them in the late stage. Further, app-rooming promotions have moderate positive spillover effects from store spending to online purchasing, channel expansion, and subsequent app engagement. These results contribute to the marketing discipline by focusing on the emerging trend of app-rooming promotions and demonstrating that, contrary to prior research findings, multichannel shoppers do not always respond more positively to promotions than single channel shoppers. In addition, our results provide marketers novel insights into targeting mobile app users in the context of multichannel shopping journeys.

3 - Does Your Chronotype Affect Your In-Game Features Purchase Intention in Online Mobile Gaming Context

Syed Waqar Haider, PhD Researcher, Xi'an Jiaotong University, School of Management. China, Xi'an, China, Shahid Ali, Shoukat Younas

The number of online mobile gaming users is growing at a rapid pace, and businesses are struggling to cope with this evolution and to develop more effective strategies. In online mobile games, the "in-game purchase" is the most crucial stream of revenue for game developers. Past literature has merely focused on online purchase intention in relation to consumer lifestyle, information risk, experience, behavioral control and subjective norms. The research which delves into in-game purchase intention remains sparse. This study is the pioneer to investigate chronotypes' (evening and morning-type individuals) and online mobile game loyalty impact on in-game purchase intention. A sample of 313 of two Chinese universities students confirms that evening types have greater online mobile gaming loyalty and high in-game purchase intentions than morning-type individuals, whereas game loyalty has a positive relationship with in-game purchase intention. Furthermore, we discussed paper contributions and insights for managers have been outlined to develop an effective online mobile gaming strategy. Directions for future research are also stated for researchers and academicians.

4 - What Are the Factors that Drive Traditional Videogame Players to Play Mobile Games?

Xiaowei Cai, PhD Student, Public University of Navarre, Pamplona, Spain, Jose Javier Cebollada Calvo, Monica Cortinas Ugalde

This study analyses player migration from traditional to mobile videogame platforms. A human migration framework, the Push-Pull-Mooring, is adopted to the context of videogame platform switching. A total of 340 valid samples were collected in Chinese videogame forums. We applied an unsupervised machine leaning algorithm, K-mean clustering, to find the videogame player segmentations. Empirical results from K-mean clustering show that there are two types of players in our samples, who are Unshakable stayer and Moderate intentional emigrant. Additionally, according to one-tailed t test, switching intention from traditional video platforms to the mobile platforms in the Moderate intentional emigrant group is significantly higher than Unshakable stayer group. On the other hand, we also apply Ordinary Least Squares (OLS) to estimate the lineal regression models for observations grouped by K-mean clustering. Empirical results from lineal regression model show that possession of Nintendo Switch is negatively associated with switching intention in both segmentations while previous gaming experience on mobile platforms is positively associated with switching intention in both segmentations. It is worth noting that perceived higher gaming performance of traditional platforms is a variable that lower the switching intention only among the Unshakable stayers. In turn, perceived high price of traditional platforms is only positively associated with switching intention among Moderate intentional emigrants, while perceived vendor-related switching costs and previous gaming experience on traditional platforms lower the switching intention in this segmentation. This study contributes to the nascent knowledge body of videogame marketing by creating the first switching empirical model from the traditional videogame platform to the mobile platform, identifying salient factors that positively and negatively affect the videogame platform migration, and giving practitioners of videogame companies useful insights when launching a mobile game project.

5 - Payment Account Settings Matter: A Further Investigation of the Mobile-Premium Effect on Spending

Rufina Gafeeva, Independent Researcher, Cologne, Germany, Simon McNair

With emergent mobile payment technology retailers expect additional profit; on the one hand by reducing the personnel and management costs, and on the other hand by improving the shopping experience for customers. Despite the rapid proliferation of mobile payment, how their actual usage will affect consumer behaviour remains relatively unknown. To investigate a potential mobile-premium effect on consumer spending, we employ real-world data on mobile payment transactions and complement our findings with an online experiment. In addition to the physical payment form (card vs. mobile phone), we differentiate between the payment account settings, i.e., the access method of the payment account of a digital payment mode to monetary resources. We distinguish between the "manual deposit" payment account settings where a monetary amount is transferred in advance to the payment account of a digital payment mode in order to fund subsequent purchases, and the "automatic debit" payment account settings where the payment account of a digital payment mode is permitted direct access to the bank account and charges dynamically only in the event of a purchase. We find that it is not the difference in physical payment form that results in higher spending but the difference in payment account settings: "Automatic debit" result in higher spending compared to "manual deposit". We also find that this effect is due to a higher perception of resource availability when the payment account is set to "automatic debit" than to "manual deposit". Drawing on our results, payment system developers confronted with the choice of payment account settings can better understand their effect on consumer behaviour and potential economic consequences. While a "manual deposit" payment account setting may bring larger upfront returns due to the pre-set monetary top-up values perhaps being larger than the immediate cost of any one purchase; an "automatic debit" payment account setting may have yield larger returns in the long run due to users' reduced cost focus and increased spending caused by mental accounting effects.

■ FD13

Aula 14

Choice Models 4

Contributed Session

Chair: Gary J. Russell, University of Iowa, College of Business Administration, Iowa City, IA, 52242-1000, United States

1 - A Structural Model of Default and Product Return Options with Implications for Return Policies

Joseph Pancras, Associate Professor, University of Connecticut, Storrs, CT, United States, Nian Wang, Hongju Liu, Malcolm Houtz

Allowing product returns benefits firms in that it encourages customers to order products. But firms have to balance between the increase in demand and the costs caused by product returns. Previous research has focused on studying customers' return behaviors but ignored the option for customers to default. As recent research (Liu, Pancras and Houtz 2015) shows the importance of incorporating information on customer default behaviors in firms' targeting policies, we study the question of how customers weigh their default and return options as well as how firms should design their return policies when including the default option. We construct a structural model with both return and default options included, and compare it with a model that does not have a default option (Anderson, Hansen, and Simester 2009). We estimate the two models with a sample panel dataset from a co-operative database. Our research finds that customers have lower price sensitivity and higher transaction fit uncertainty if we ignore defaults. The demand estimates can be biased and lead to a difference in firm's optimal return policies when we do not consider the default option. We also find that customers' trade-offs between return and default option are influenced by their return and default costs as well as the transaction fit of the product. The paper illustrates the importance of including the default option when estimating demand and studying the optimal return policies for firms. It also makes a contribution to studying the relationship between product returns and defaults.

2 - Modeling Share of Choices with the Presence of Many Zero Observations

Qin Zhang, Pacific Lutheran University, Parkland, WA, United States, Manish Gangwar

Models of shares of consumer purchases/visits across different choice options often encounter the problem of the presence of zero observations. The problem causes the log transformation of zero shares not to be defined, precluding the use of the log-linear regression technique to estimate those models. A common fix is adding a small positive value to those zero observations. However, if the number of zero observations is large, which is often the case when dealing with individual level data, the summation across individuals will result in a sizeable artificially created positive value that can bias the estimation of a model. In this study, we propose an econometric technique to solve the problem. We apply the technique to an empirical application of share of choices of store-category combination by individual households. Our proposed technique will be useful to study board research questions related to share of choices such as shall of wallets (SOW), consumers visits/purchases across multiple platforms/devices (e.g., smartphone, tablets and computers).

3 - Analyzing Joint Brand Purchases by Conditional Restricted Boltzmann Machines

Harald Hruschka, University of Regensburg, Regensburg, Germany

In a previous study the restricted Boltzmann machine (RBM) turned out to be superior to several rival models with hidden or latent variables with respect to the prediction of joint purchases. That is why we investigate the conditional restricted Boltzmann Machine (CRBM) which adds independent variables to the RBM. Whereas the well-known multivariate logit (MVL) model considers pairwise coefficients between products, the CRBM looks at relations between products and hidden variables. It is therefore capable to reproduce higher order interactions as well. In contrast to the majority of studies on joint purchases we follow a less aggregate approach by looking at purchases at the brand level. We analyze household panel data for 42 brands in ten food categories. Household attributes and brand specific marketing variables serve as independent variables. We compare the CRBM to homogeneous and finite mixture versions of both the RBM and the MVL model. All models are estimated maximizing the log pseudo-likelihood. We evaluate model performance by the log pseudo-likelihood on holdout data. A RBM and a CRBM outperform the best (finite mixture) MVL model. This result is especially remarkable for the RBM, because it does not include independent variables in contrast to the best MVL model. The overall best model is a CRBM with 12 hidden variables. For this model we present results with respect to hidden variables, pairwise interdependences and effects of marketing variables. We interpret hidden variables by determining difference sets of brands in baskets with high probabilities of the respective hidden variables. We infer interdependences between pairs of brands from the CRBM. To this end we compute the probability change of a brand associated with a marginal increase of the probability of the other brand. We measure own and cross effects of marketing variables by marginal purchase probability changes.

4 - Consumer Sentiment, Monetary Expenditure, and Time Use

Botao Yang, University of Southern California, Los Angeles, CA, United States, Lan Luo, Brian T. Ratchford

In this paper, we examine how U.S. consumers spend time and money conditional on their outlook on personal finance, regional, as well as national economy. We collected a consumer panel data that tracked how 300 U.S. consumers spent time and money in five major activity categories on a monthly basis from January 2014 to February 2016. We further monitored how these consumers feel about their personal finance along with the state of regional and national economy during these months. To our knowledge, this is the first study that collects individual-level panel data of consumer usage on both time and money. We are also the first to link time and monetary expenditures to consumers' outlook on personal finance and economic climate. Consequently, we are able to examine how consumer sentiment affects time use and monetary consumption across major activity categories of our daily lives. Our key findings can be summarized as follows. First, time use and monetary expenditure on personal care are insensitive to how consumers feel about personal finance, regional, or national economy. In other activity categories, personal financial situation dominates regional and national economic climate in terms of driving time use and monetary expenditure decisions. Specifically, how an individual feels about her/her current personal finance is the most significant predictor of time use and monetary expenditure. In addition, while monetary expenditure is more sensitive to one's comparison to the past, time use is more driven by outlook of personal future financial situation. Second, outlooks on present and future national and regional economy generally do not impact time use decisions, while current economic climate sometimes impacts monetary expenditure. Lastly, we find significant state dependence at the aggregate level; however, in each activity category, state dependence does not seem to play a salient role in time use and monetary expenditure.

5 - MVP vs. MVL Bundle Choice Models: A Critical Review

Gary J. Russell, Professor of Marketing, University of Iowa, Iowa City, IA, United States, Yang Pan, I-Hsuan Chiu

The Multivariate Probit (MVP) and the Multivariate Logistic (MVL) models provide alternative ways of representing the bundle choice process. Drawing upon research in economics and psychology, we discuss the theoretical foundations of the two models and their appropriateness for certain types of marketing science applications. We argue that the two models make fundamentally different assumptions about choice behavior. The MVP model envisions a set of correlated decisions that are viewed by the consumer as conceptually independent. That is, no global attributes exist that tie the decisions together. In contrast, the MVL model views the decisions as linked due to the existence of global (bundle-level) attributes. Advances in computational strategies have made both models practical for application. Thus, the researcher's decision to adopt a particular model should depend on assumptions about the nature of the bundle utility process. We illustrate our key points with empirical findings from bundle choice experiments.

■ FD14

Aula 15

Different Behavior on User-Generated Content Networks

General Session

Chair: Andreas Lanz, University of Mannheim, Mannheim, 68159, Germany

1 - Fake News Sharers and News Fact-Checkers: Profiling and Targeting Beyond Demographics and Ideology

Verena Schoenmueller, Bocconi University, Milan, Italy, Gita Johar, Simon Blanchard

An increasing proliferation of misinformation and so called "fake news" has been widely reported and documented. So far, research in the context of fake news has mostly focused on identifying and flagging potential misinformation on social media platforms based on textual markers. However, only a few studies have examined individual-level characteristics of sharers of fake news. Our project thus aims to generate a better understanding of "fake news" sharers: who are they and what motivates them to share fake news? We contrast fake news sharers, fact check sharers, sharers of news articles from mainstream media outlets and a random sample of social media users across five dimensions: Demographics, political ideology, social media usage, emotions and personality. We access these characteristics by collecting the Twitter profile information of all users in our sample and the content of the tweets they posted. Our results indicate that fake news sharers tend to be more conservative, but we also show that the political orientation alone does not seem to be sufficient to explain their behavior. Fake news sharers differ from the other groups on multiple characteristics, but they interestingly also show similarities to fact check users on emotional aspects.

2 - Brand Selfies: Risks and Rewards of Consumers Taking Self-Photos with Brands

Gabriela Kunath, Frohburgstrasse 3, Luzern, 6002, Switzerland, Reto Hofstetter, Leslie John

Taking and sharing self-photos (i.e., selfies) have become common behaviors. Marketers eager to capitalize on this have started to encourage consumers to take selfies together with their brands (i.e., to take "brand selfies"). We test how brand selfie-taking affects purchase intentions, both of the consumers who take those selfies (i.e., takers), and those who view them (i.e., observers). Data from a large-scale online review platform reveals a positive correlation between reviewers' ratings and whether or not they attached a brand selfie to their review (Study 1). A follow-up field experiments established causality: brand selfie-taking increased actual brand choice even if the option is economically less valuable than the alternative (Study 2). The effect of brand selfie-taking on purchase intention can be explained by the takers' increased attachment to the brand (Study 3). However, brand attachment is conditioned on how attractive the brand selfie is perceived by the taker himself as well as by others (Studies 4 and 5). This effect is mirrored on the observer side: provided that the taker is attractive, brand selfies can increase the purchase interest of observers (Study 6).

3 - How Sophisticated are Consumers? The Case of Digital Newspaper Subscriptions

Klaus Miller, Goethe University Frankfurt, Theodor-W.-Adorno-Platz 4, Frankfurt am Main, 60323, Germany, Navdeep S. Sahni

We study the profit-maximizing contract design if firms are facing naïve and sophisticated consumers in the context of digital newspaper subscriptions. Specifically, we assess whether a consumer's contract choices for an auto-renewal versus an auto-cancellation subscription are consistent with their subsequent usage and renewal behavior. In cooperation with a leading daily only newspaper in Europe, we conducted a large-scale field experiment from April to August 2018 amongst more than 3 Mio. consumers online. Our preliminary results indicate some level of sophistication of the users - consumers are able to forecast their future "cancellation costs" and incorporate them into their present decision-making. All else being equal: more users buy under the auto-cancellation option, relative to the auto-renewal option. Although, the auto-renewal option clearly dominates the auto-cancellation option with regard to subsequent user retention (i.e., generating full subscriptions) and revenues. In our further analyzes, we will assess how our findings are consistent with predictions from behavioraleconomics and derive the optimal contract design in a case where both naïve and sophisticated users are present. Our results will contribute to the question of how a firm should consider behavioral economics inputs while setting policies.

4 - Targeting Influence Corridors – A New Path to Influencers in User-Generated Content Networks

Andreas Lanz, University of Mannheim, C8, 20, Mannheim, 68159, Germany, Jacob Goldenberg, Daniel Shapira, Florian Stahl

In recent years, user-generated content networks such as Instagram, YouTube, and SoundCloud have become ubiquitous. On these platforms, individuals and firms alike seek to expand their follower base to increase the reach of the content they upload. This setting generally belongs to influencer marketing. The academic literature in this field, and especially on optimal seeding policies, suggests targeting users with a large follower base - the influencers. For unpaid endorsements, however, Lanz et al. (2019) recently showed that targeting ordinary individuals (with just a few followers) might be a more effective seeding policy to accumulate a follower base, because influencers are associated with a very low responsiveness. Lanz et al. (2019) thereby shift the seeding focus to the direct return (the follow-back from the seeding target) - and disregard the power of the network. Some ordinary individuals, despite having a low number of followers, can prove to be not so ordinary after all, because they might have a follower who is an influencer. Using data from SoundCloud, we find that the expected return on such individuals (we call them "influence corridors") is by order of magnitude higher than on influencers, because corridors activate the influencers with a higher probability - compared to reaching out to an influencer directly. These findings indicate that influence corridors hold potential to be powerful seeding targets for unpaid endorsements.

■ FD15

Aula 16

Channels 8

Contributed Session

Chair: Upender Subramanian, University of Texas-Dallas, Richardson, TX, 75080-3021, United States

1 - Progress Feedback in Hierarchical Loyalty Programs and its Effect on Purchase Efforts

F. Javier Sese, University of Zaragoza, C/ Maria De Luna S/N, Zaragoza, 50018, Spain, Yuping Liu-Thompkins, Mirja Kroschke

Customer loyalty programs are under pressure as there is increasing evidence that simply setting up a reward structure is not sufficient for deriving business benefits from such programs. In order to improve loyalty programs' effectiveness, many firms provide their customers with progress feedback to motivate purchase efforts. Social psychology research distinguishes between progress feedback that emphasizes what individuals have accomplished (i.e. backward framing) versus what remains to be done (i.e. forward framing), and suggests that both can have positive and negative consequences on motivation. By using a fully randomized field experiment conducted in collaboration with a German retailer, this study attempts to provide a deeper understanding of the effectiveness of progress feedback framing on customers' purchase efforts in a hierarchical loyalty program. We show that the effectiveness of backward- and forward-framed progress feedback is determined by customers' previous purchase behavior. Specifically, emphasizing remaining actions (i.e. forward frame) is effective for customers who have already secured a similar tier as the one enjoyed the previous year, while emphasizing what has been accomplished (i.e. backward frame) is effective for customers who have accumulated a large investment in the program. Further, we demonstrate the economic relevance of such a progress feedback campaign. Interestingly, the results indicate also a dark side of providing progress feedback: sending messages to the wrong loyalty program members can be very costly as it can result in a lower level of purchases than if no progress feedback is provided altogether.

2 - Impact of Retargeted Display Advertising on Multichannel Customer Browsing & Purchase

Min Tian, University of Wisconsin-Madison, Madison, WI, United States, Paul R. Hoban, Neeraj Arora

Retargeted display advertising is one of the most popular and growing forms of digital marketing. The main problem in analyzing retargeted display ads is selection bias. We use data from a randomized field experiment to identify the causal impacts of individually-targeted display advertising on both digital and traditional channels. Overall, online visits and web and store purchases increase in response to retargeted display ads. We find the effect of retargeted display advertising not only is contemporaneous, but also carries over for several days after a consumer leaves the treatment group. The retargeted ad effect also depends on a consumer's distance from a store. Consumers living near a store tend to visit the website immediately as a response to a retargeted ad, while consumers distant from a store tend to visit the website more often in the days following the treated ads. In terms of purchasing, people tend to choose the low cost channel to shop: nearby consumers go to the store as the purchase response to retargeted ads, and distant consumers go to the online website to place an order in response to the retargeted ads. This finding holds for both contemporaneous and carryover responses.

3 - Media Platforms' Content Provision Strategy and Source of Profits

Woochoel Shin, University of Florida, Gainesville, FL, United States, Wilfred Amaldoss, Jinzhao Du

We see media platforms earning their profits from both consumers and advertisers (e.g., the New York Times), advertisers only (e.g., the Huffington Post), or consumers only (e.g., Tidal). This paper theoretically investigates two important strategic issues confronting a media platform: what proportion of its limited bandwidth or space should a platform allocate for content (instead of advertising)? and what should be the source of a platform's profits? To facilitate this analysis, we propose a model where a media platform interacts with three sides: content suppliers, consumers, and advertisers. In a perfectly competitive content market, our analysis shows that competing platforms will adopt a free-content strategy even in circumstances where a monopoly platform adopts a paid-content-with-ads strategy. However, the result can get reversed if the content supplier is a monopoly. Counter to conventional wisdom, inter-platform competition helps a platform to earn more profits when they adopt a free-content strategy. Next, despite paying a lower price to content suppliers, a media platform may still get hurt. Furthermore, though advertisers' higher valuation for consumers benefits a media platform, it can hurt a content supplier's profits when a monopoly supplier sells content to a platform using paid-content-with-ads strategy or when duopoly suppliers can shape consumers' preference at a low marginal cost and sell to a platform using free-content strategy. Finally, if advertising is quite annoying, even while a monopoly platform shuns the advertising market, duopoly platforms may cater to advertisers.

4 - The Effect of In-store CRM on Customer Behavior: Evidence from a Natural Experiment

Rishika Rishika, Assistant Professor of Marketing, North Carolina State University, Raleigh, NC, United States, Ram Janakiraman, Subodha Kumar

In this study, we examine the impact of implementation of in-store CRM system by a multichannel retailer on customer purchase behavior. Building on the literature on sales and customer relationship management, we hypothesize and examine the effectiveness of in-store CRM technology on customer purchase behavior. To rule out possible endogeneity and reverse causality issues, we adopt a natural experimental approach. We leverage a unique customer level transaction data before and after the technology implementation and cast our model in the difference-in-differences modeling framework. Based on our results, we offer prescriptions for salespersons on how they can leverage the new technology to engage with different customer segments.

5 - A Theory of Conventional Channel with Kickbacks

Upender Subramanian, University of Texas-Dallas, Richardson, TX, United States, Zhong John Zhang

The frequently studied conventional distribution channel has largely overlooked the role of the retail buyer who is employed by the retailer to procure products from the manufacturer. In many economies and industries, the presence of the buyer opens the door for the manufacturer to distort buying decisions by offering the buyer a kickback. In this paper, we introduce the retail buyer in the conventional channel and explore her role when kickbacks are feasible. We examine a context where the buyer may be responsible for ordering the right quantity from the manufacturer to match uncertain demand. A knowledgeable buyer can always help improve the channel efficiency when the channel is clean of any kickbacks. However, when kickbacks are possible, we show that, ironically, the manufacturer may not be the one who benefits. Instead, the retailer or buyer may be made better off. While kickbacks can incentivize the buyer to act against the retailer's interest, the retailer can strategically take advantage of the kickback so as to lower its cost of employing the buyer, effectively shifting the cost to the manufacturer. In fact, the retailer may even tacitly encourage kickbacks and not do all it can to eliminate kickbacks from taking place even if doing so adds no additional cost. Surprisingly, the presence of kickbacks can improve channel efficiency and be a win-win for the retailer and the manufacturer.

■ FD16

Aula 17

Physiology and Sensory Marketing

Behavioral Track

Chair: Boyoun Chae, Hong Kong Polytechnic University

1 - Consumers' Hesitation in Purchase Stage: Collective Cognitive Dissonance and Self-Threat

Jeongbin Whang, Korea University, Seoul, Korea, Republic of, Ji Hee Song, Jong-Ho Lee

New communication platforms such as Social Network Services (SNS) allow consumers to easily get their peers involved in their purchase process. For instance, consumers actively seek other consumers' opinions to make final choices. However, even after making their final decision (i.e., they have decided and is about to buy in virtual or real store), they still want their choices confirmed by their peers via SNS (e.g., via facebook, consumers ask their close friends' opinions about the product they are about to purchase). Here we focus on "purchase hesitation", an emerging phenomenon in the mobile era, which refers to hesitation in making the final choice to purchase because of negative feedback from peers in the purchase stage. Purchase hesitation is different from shopping hesitation, deferring product purchase with additional processing time in the information-search stage. Based on two theories, 1) collective dissonance theory and 2) self-affirmation theory, we examine how to attenuate purchase hesitation and retain consumers' original purchase intention. Two experiments were conducted on 157 students in a Korean University. First, we found that negative information from peers in the purchase stage decreases purchase intention and stimulates intention of information search, identifying "purchase hesitation". Second, offering additional supporting information (i.e., decreasing collective cognitive dissonance) about their choice mitigates the negative influence of purchase hesitation on purchase intention, supporting the collective dissonance theory. Third, providing cues that enhance self-esteem (e.g., getting scholarship) (i.e., decreasing self-threat) reduces their intention to search additional information, but did not restore reduced purchase intention, partially supporting the self-affirmation theory. The findings provide significant implications for marketers and academics in studying and managing consumers' purchase hesitation stimulated by peer consumers in both mobile and offline stores.

2 - Value of Weighty Products: The Influence of Haptic Weight on Product Evaluations

Ata Jami, Research Assistant Professor of Marketing, Northwestern University, Evanston, IL, United States, Maryam Kouchaki

People often hold or touch products before purchasing them. Holding a product enables consumers to capture the product's weight and other tactile information (e.g., texture, hardness, temperature). For some products (e.g., laptop or groceries), weight is a critical attribute that provides diagnostic information and it might be positively (e.g., groceries) or negatively (e.g., laptop) correlated with the product value. However, weight is not critical or diagnostic for many products (e.g., DVDs), though consumers still register weight information when handling these products. This research examines how a product's weight when weight is a non-diagnostic attribute changes the product evaluation. We posit and show that holding a heavy product triggers positive affective reactions toward the product because people often interpret heaviness as an extensive amount, a more potent, or a more powerful product. Relying on the affect-as-information heuristic, consumers evaluate heavier products more positively and would be willing to pay more for the product, even when the weight provides irrelevant or non-diagnostic information. We examined the effect of weight on product evaluation and our proposed underlying mechanism across four studies using different products. This research contributes to the body work on sensory marketing showing how a product's weight influences consumers' judgment of that product's value. Our findings have practical implications in designing product packages. Moreover, retailers can encourage (discourage) consumers to touch products in a retail setting when the product's weight suits (does not suit) its value.

3 - The Influence of Indulgent Olfactory Cues on Food Consumption

Boyoun Chae, Assistant Professor, Hong Kong Polytechnic University, Hung Hom, Hong Kong, Rui (Juliet) Zhu, Sangsuk Yoon, Ernest Baskin

Growing number of food retailers use sweet and pleasant food smells to increase their sales. This practice is based on an unproven market belief that that longer exposure to an indulgent food scent, the more likely shoppers to buy the food items. The current research examines the effectiveness of this popular, yet not scientifically proven market wisdom: whether a longer exposure to an indulgent food scent increases shoppers' intention to buy the food. We propose that an extended exposure to an indulgent food scent can paradoxically reduce consumption of the food items.

■ FD17

Aula 18

Construal

Behavioral Track

Chair: Eugene Chan, University of Technology-Sydney, 810/18 Park Lane, Chippendale, 2008, Australia

1 - Donate: Nonprofits' Assertiveness and Individuals' Donations

Matteo De Angelis, LUISS Guido Carlli, Rome, Italy, Antonella Buonomo

"Social marketing and commercial advertisements often use assertive language, which refers to confident and forceful statements that explicitly indicate recipients the desired behavior. Examples of assertively phrased advertisements include Save the Children's "Alone in Europe. We Must Protect 3,000 Children". Although some studies have shown that assertive language induce reactance, thus reducing messages' persuasiveness, other studies have demonstrated that under some circumstances an assertive language rather than a nonassertive one increases environmental and commercial advertisements' persuasiveness. The contribution of this study lies in its attempt to advance the knowledge into assertive language's effectiveness in social marketing advertisements, in particular in those advocating donations to help people in need, by adopting a different theoretical lens than that used by extant studies, that is the construal level theory. Indeed, prior studies argued that construal levels importantly affect donation appeals' effectiveness. Building on the idea that requests using an assertive language are less polite than those using a nonassertive language and on the association of increased politeness with high-level construal, we argue that a charitable appeal that uses an assertive language (nonassertive language) enhances recipients' intention to donate their money when the message is construed at a low level (high level). Findings of a 2 (language assertiveness) x 2 (message construal) between-subject experiment with 156 participants support our prediction. This research offers interesting insights to managers and policy makers on how to combine effectively advertisements' language and format.

2 - How to Discourage Loyalty Points Hoarding and Influence Loyalty Point Redemption Behavior

Charan Kamal Bagga, University of Calgary, Calgary, AB, Canada, Alina Nastasoiu, Neil Thomas Bendle, Mark Vandenbosch

Stimulating redemptions of loyalty points for rewards is crucial for loyalty programs because without such redemptions, consumers are not rewarded for their loyalty and the programs' effectiveness declines dramatically. We argue that cognitive theories (i.e., construal level and mindset theories) can shed light on consumers' reluctance to redeem rewards offered by loyalty programs. Using several experimental studies, we show that loyalty points trigger more abstract mental representations than "cash" and are matched to redemptions that are also construed at a higher level. Importantly, we show that it is within marketers' power to influence whether and how loyalty point members spend their loyalty point currency. By altering the nature of the loyalty point currency (making the currency more concrete) or by altering the nature of redemption (making the redemption more concrete), loyalty points are spent similar to cash, and collectors are less likely to hoard loyalty points. Crucially, we confirm our experimental findings by analyzing secondary data from a large loyalty program. Our analyses of the secondary data presents evidence that loyalty points hoarding is diminished, even reversed, when the redemption is construed at a lower level. Theoretically, we contribute to the literature on loyalty programs by showing how loyalty point rewards should be designed to keep consumers actively engaged. In addition, we contribute to the construal-level and mental accounting literature. Managerially, promoting loyalty program engagement is top of mind for marketers and CRM practitioners. Our research provides an efficient solution that drives engagement without increasing the marketing budget.

3 - Usage Intentions of Online/Mobile Ad Offerings of Online Purchasers of Performance Tickets

Masataka Yamada, Professor, Nagoya University of Commerce and Business, Nisshin-shi Aichi-ken, Japan

After smartphones appear, marketers have started to think about the suitable timings and locations of their online/mobile ad delivery because of the recent progress of mobile technologies. Even some studies as in Tap (Ghose 2017) have already shown the actual behavior of the consumer's responses to the marketer's offerings. This survey study investigates, instead of the behavior, the usage intentions of the mobile discount offerings to the online purchasers of performance tickets (Concert, Sports, Theater, Classical Opera, Event/Art, Movie, Other) since intention precedes behavior. The reason to pick up the performance ticket for this study is that we can limit the locations to the neighborhoods of the performance sites. The offerings are mainly the reserved seats with discount prices for restaurants, bars, cafes, and coffee shops. We set the ad deliveries into four timings; T1: the time of the ticket purchase online; T2: the time right before (two days or so), T3: the time a little before and right after the performance; and T4: the time a few weeks after the back home. Also, we asked several questions related to the reasons why the respondents to intend to use the discount offerings. The question items are the ones about consumer influentialness, type of consumer's planning attitude, benefit seeker, frequent UGC user, beginner, knowledgeable around the site, and gender respectively. The preliminary results could add some evidence at the consumer's intention level to the construal-level theory/Ghose's mobile phone results. Also, we could show the usefulness of the backward scale of the consumer organic influentialness.

4 - Deny the Voice Inside: Accessible Attitudes Can Impair Choice and Reduce Word of Mouth in Social Contexts

Aaron J. Barnes, University of Illinois, Champaign, IL, United States, Sharon Shavitt

Managers invest in making their brand preferences "top of mind" for consumers. Indeed, research suggests that preferences that spring readily to mind are more likely to influence one's decisions. Our research addresses when managers should rely on consumers' accessible attitudes to predict outcomes, highlighting contexts where accessible preferences either facilitate or get in the way of making consumer decisions. We propose that for consumers with an independent self construal, highly accessible attitudes make consumers feel more prepared to make choices, and therefore facilitate decision making. However, consumers with an interdependent self construal must take others' views into account and adjust to normative constraints. Personal attitudes that readily spring to mind may impede this adjustment and therefore reduce feelings of preparedness to act. A series of five experiments tested the hypothesis that individuals with a salient interdependent self construal feel less confident acting upon an attitude that is high (vs. low) in accessibility. As a result, interdependents are less likely to take actions based on their attitudes, such as choosing a product or making consumer recommendations to others. We observed this effect across attitudinal domains, across manipulated and measured attitude accessibility, and when participants' self construal varied either as a function of national origin or situational prime. Together, our findings show that, in some contexts, it can be more useful to have less accessible attitudes.

5 - Think of Others and You Will Spend Less! Collectivistic Self-Construals Reduce Credit Card Spending

Eugene Chan, Monash University, Caulfield East, 3145, Australia

In the current research, we hypothesize that a salient collectivistic (vs. individualistic) self-construal can reduce consumers' spending on credit cards (but not cash). We reason that a collectivistic self-construal should lead consumers to be more worried about how others might see their irresponsible use of money, which using credit cards conveys. This anticipated stigma of using credit cards should reduce spending on credit cards. This should also mean that the reduction in spending should be limited to credit cards and not with cash because paying with cash does not convey fiscal irresponsibility, and to spending on indulgences to which stigma is attached but not on necessities that others see to be less indicative of someone who is careless with money. Meanwhile, an individualistic self-construal should have little impact on credit card spending because a consideration of oneself (vs. others) should not lead consumers to worry about how others might see them. We test our hypothesis in four experiments. We discuss the confines of our current work, avenues for future research, and implications for policymakers to design strategies that reduce consumer debt.

■ FD18

Aula 19

Valuation

Behavioral Track

Chair: Marcel Lukas, Heriot-Watt University, 16 Dove Street, Anstruther, KY103AN, United Kingdom

1 - Competitive Expertise Levels Influence Willingness to Pay in Auctions

Stephen Hood, PhD Student, Virginia Tech, Vienna, VA, United States, Dipankar Chakravarti

Participative pricing mechanisms such as auctions may elicit pre-existing bidder values or facilitate processes through which bidders construct value during the auction as a function of factors, including perceived competition. In this paper, we show that bidder value construction and associated bidding behavior depends on whether the competition (other bidders) is perceived as relatively high or low on expertise. Moreover, the nature of expertise matters, i.e., bidding behavior differs depending on whether competition consists of product experts (i.e., individuals high on focal product knowledge such as a wine connoisseur) or process experts (individuals high on knowledge of auction bidding strategies) versus novices. Moreover, how bidders value the focal object following an auction outcome (a win or a loss) depends on the nature of competitive expertise. We report the results of a study that uses a simulated computer-based ascending auction to manipulate the perceived level/nature of competitive expertise (high product, high process, low) and the auction outcome (win versus loss). Participants bid in the simulated auction and indicate their perceptions of the focal product's value (both WTA and WTP) along with other associated measures. The value estimates are made both (a) immediately at the close of the auction; and (b) at a later point in time, separated by an unrelated interpolated task. Value estimates (contingent on a given outcome) differ based on the nature/level of perceived competition and change differentially in direction and magnitude. The cross-sectional and temporal patterns of value estimates are interpreted in terms of economic and psychological reasoning.

2 - A Bibliometric Review and Empirical Assessment of Frequent Conceptualizations and Operationalisations of Customer Value

Vesna Zabkar, University of Ljubljana, Faculty of Economics, Ljubljana, Slovenia, Barbara Cater, Petar Gidakovic

How customers evaluate marketing offerings is one of the fundamental topics of interest in marketing and consumer research. Therefore, it is not surprising that literature on customer value (CV) is extensive and researchers have applied many theoretical lenses and measurement approaches to study this concept. Although several review papers on CV exist, they are either narrative or focus on a small sub-domain of the literature. To address this gap, we employed bibliometric methods (co-word and co-citation analysis) to synthesize the literature on CV, which enabled us to identify conceptualizations and measurement instruments, which are most frequently applied. We analysed references of 3,707 documents from WoS, published until the end of 2018. Through co-citation analysis of references cited at least 40 times we identified five main domains of CV research: early research CV, based on utility theory; utilitarian/hedonic CV research, based on attitude theory; experiential CV research, based on marketing endogenous theories (theory of consumer value or consumption values); CV research in context of service-dominant logic and CV research in the field of informatics. In the next phase, we surveyed 423 respondents, recruited from a professional panel who evaluated one of 16 brands. Brands were preselected based on expert survey to include low/high involvement, local/global and product/services brands. Next, we analysed measurement properties of the three most commonly used conceptualizations and measurement approaches (utility theory, utilitarian/hedonic and experiential CV). Results show that all three scales conform to standards of measure validity assessment, however they vary significantly in terms of nomological validity.

3 - Willingness to Pay for Economy Class Seats with Additional Cost Service: From Chinese Air Consumers' Perspective

Ting Zhang, Business School, Sun Yat-sen University, Guangzhou, China, Yanfeng Zhou, Yujun Mo, Guang Huang

Airline ancillary services play an increasingly important role in the airline industry. Ancillary revenues account for more than 40 percent of the total revenue for airlines like Spirit, VivaAeroBus, Frontier (Sorensen, 2018, p. 5). However, current academic research has paid limited attention to this practical topic. Almost no research focuses on the ancillary services of the Chinese aviation market. It is very likely that the Chinese aviation market will outdistance the United States as the world's largest aviation market, suggesting the importance of Chinese aviation market. Accordingly, this article focuses on one of the airline ancillary services, i.e. economy class seats with additional cost service (ECSWACS). By studying individual interview and online survey data in detail, we aim to explore factors influencing Chinese air consumers' willingness to pay for this airline service on China domestic flights. Our findings show that both intrinsic cues (like length of voyage, seat comfort and convenience) and extrinsic cues (like payment, consumption situations) have significant impact on Chinese airline consumers' willingness to pay for economy class seats with additional cost service. The results of this research could contribute to enhancing the current ancillary services literature, uncovering insights about Chinese airline consumers and providing implications to airline ancillary services marketing.

4 - The Influence of Budgets on Spending: Evidence from the UK's Largest Financial Aggregation App

Chuck Howard, University of British Columbia, Vancouver, BC, Canada, Marcel Lukas

The present research is the first to test key implications of consumer budgeting theory using real world budgeting and spending data from a popular financial aggregation app with more than 400,000 users. Research on mental budgeting suggests that when expenses are easy to track and categorize - as is the case when using a budgeting app - consumers will tend to comply with their budgets. On the other hand, research on budget forecasting suggests that consumers tend to spend significantly more than they budget. We test these competing hypotheses by comparing budgeted vs. actual monthly spending. We find that on average, consumers spend 21.06% more than they budget for Groceries and 27.84% more than they budget for Dining and Drinking. Past research on consumer budgeting has demonstrated how budgets can psychologically influence spending but the magnitude and persistence of this influence is currently an open question. The unique structure of our data set allows us to answer this question by comparing pre- and post-budget spending for each individual in the dataset, and by comparing the spending of budgeters to non-budgeters using a quasi-experimental propensity score matching paradigm. Descriptively, the data suggests that budgets do influence spending: the median consumer in our sample spends 12.87% less on groceries after they set a budget and 20.63% less on dining and drinking. Moreover, this influence is surprisingly "sticky" - the reduction in spending holds up to six months after the initial budget is set. Furthermore, the propensity score matching analysis provides evidence that the decrease we observe in spending is in fact owed to budgeting setting. Matching budget and non-budget users on criteria such as postcode area, income, gender, age and number of logins, we find that the average effect of setting a budget is a reduction in spending of 16.39% for Groceries and 37.70% for Dining and Drinking. Additional analyses show that budget compliance and influence are amplified by expense tracking as measured by user login frequency.

■ FD19

Aula 20

Promotion 1

Contributed Session

Chair: Julia Wamsler, University of Zurich, Zurich, 8032, Switzerland

1 - Retailer Price Advertising and Price Promotion Effectiveness

Kai A. Widdecke, University of Hamburg, Hamburg, Germany, Wiebke I. Y. Keller, Barbara Deleersnyder, Karen Gedenk

Retailers in the consumer packaged goods industry support their price promotions by advertising them in various media. For example, retailers very often use store flyers for their price advertising, which account for a third of retailers' overall advertising spending in Germany. But retailers also rely on other advertising media like TV and newspapers to support their price promotions. Grocery retailers in Germany, for instance, were among the top 5 industries with respect to classical media spending in 2016. Nevertheless, knowledge is still limited with respect to how retailer price advertising in different media affects price promotion effectiveness. Using household panel data and data on retailer price advertising, we for the first time investigate the impact of price advertising on price promotion effectiveness for three different media (store flyer, newspaper, TV). Model-free evidence suggests that store flyers have the largest impact on price promotion effectiveness. Also, we find synergy effects between advertising media: Supporting price promotions with advertising in both store flyers and newspapers has a stronger positive effect on price promotion effectiveness than the sum of the separate effects for each medium. We will formally compare sales response to promotions with advertising support in different media, and study interactions between these media, by estimating sales response functions with brand and category sales at the retailer as dependent variables. We do so for a broad set of CPG product categories to evaluate how these effects generalize, and/or to what extent retailers should tailor their advertising support to the type of brand or category that is promoted. Our results are interesting for both retailers and manufacturers.

2 - Value of Promotions with Delayed Incentives: An Empirical Investigation of Gift Card Promotions

Özalp Özer, Professor, University of Texas-Dallas, Richardson, TX, United States, Bharadwaj Kadiyala, A. Serdar Simsek

Gift card promotions provide customers an incentive to spend more than an expenditure threshold on regularly priced (as opposed to discounted) products, by rewarding customers with a gift card to be redeemed against a future purchase. This type of promotion is widely used by luxury fashion, department, and consumer electronic stores. Our main objective is to empirically test and quantify the effectiveness of gift card promotions in boosting customer purchase likelihood and expenditure. We achieve this objective by collaborating with a major U.S.-based fashion retailer that regularly runs gift card promotions on its online channel. We find that the gift card promotion impacts customer response (purchase and expenditure decisions) both through participation in the promotion and through mere exposure to the advertisement of the promotion. We quantify both short term and long term effects. We also find that customers who redeem their earned gift cards spend, on average, $101.15 (i.e., 58.5%) more than the face value of the gift card. Therefore, redemption of gift cards induces additional expenditure and, hence, can be profitable for the retailer offsetting any promotional costs incurred. Our empirical models also shed light on how delayed incentives affect consumers' purchasing behaviors. For example, we find a U-shaped relationship between purchase probability and the time since a customer's last purchase. This relationship allows us to estimate a customer's average time to return to the retailer for the next purchase. This average return time is shorter for customers who participate in gift card promotions. We discuss managerial implications of our results in designing and running delayed incentive promotions, and in particular gift card promotions, effectively.

3 - The Impact of Relative Location in Display on Consumer Choices

SunAh Kim, Concordia University, Montreal, QC, Canada, Ohjin Kwon

Retailers have practiced changing the location of private labels from the right next to the top national brand to the next to the brand with a small share. Fashion retailers also frequently change the product layout of the products to optimize the product selling without giving a discount at the end of the season. Such practices provide insights that consumers' choice may depend on the context that products were displayed. We examine how relative locations in the product display affects a consumer's product choice. We explicitly incorporate the spatial information between alternatives using covariance structure in a multinomial choice model. We show that the proximity between alternatives in a physical display serves to predict consumers' choices.

4 - Taking from the Competition: Increasing Customers' Share-of-Wallet Through Targeted Price Promotions

Julia Wamsler, University of Zurich, Zurich, Switzerland, Denis Vuckovac, Martin Natter, Alexander Ilic

Using customers' share-of-wallet for targeting purposes enables companies to address customers who still have the potential to grow their expenditures with a company and therefore to increase their share-of-wallet. Yet companies usually do not possess information on share-of-wallet, as they do not know when customers purchase at competitors. Using data from a single grocery retail chain that runs targeted price promotions, the authors predict (1) customers' category-level share-of-wallet, (2) their overall category-level interpurchase time (involving unobserved purchases at competitors), and (3) their increase in share-of-wallet when redeeming targeted price promotions. For this purpose, the authors develop a share-of-wallet-increase (SOWI) model that extends existing share-of-wallet research by incorporating the impact of targeted price promotions on customers' purchasing behavior. The authors benchmark the SOWI model and its underlying assumptions against alternatives using simulated data, panel data, and data from a grocery retail chain. Applying the insights gained from the SOWI model when approaching customers with targeted price promotions, translated into an average share-of-wallet increase of 14.7%. This increase was almost twice as big as the 8.2% achieved under a comparable RFM-based approach (i.e., recency, frequency, monetary value). Consequently, the SOWI model enables retailers to more efficiently select customers for targeted price promotions and to take business away from their competitors by increasing customers' category-level share-of-wallet.

■ FD20

Sala delle Lauree

Meet the Editors II

Special Session

Chair: Douglas Bowman, Emory University, Goizueta Business School, Atlanta, GA, 30322-2710, United States

1 - Journal of the Academy of Marketing Science

Douglas Bowman, Emory University, Goizueta Business School, Atlanta, GA, 30322-2710, United States

2 - Journal of Consumer Research

Jeffrey Inman, Professor of Marketing, University of Pittsburgh, Pittsburgh, PA, United States

3 - Journal of Consumer Psychology

Simona Botti, London Business School, Regent's Park, London, NW14SA, United Kingdom

4 - Journal of Interactive Marketing

Brian T. Ratchford, University of Maryland, College Park, MD, United States

5 - International Journal of Research in Marketing

Pallassana K. Kannan, University of Maryland-College Park, The Robert H. Smith School of Business, Department of Marketing, College Park, MD, 20742-1815, United States

6 - Journal of Retailing

Rajagopalan Sethuraman, Southern Methodist University, Southern Methodist University, Dallas, TX, 75275-0333, United States

Saturday, 9:00AM - 10:30AM

■ SA01

Aula 01

Artificial Intelligence and Value Creation in Marketing

General Session

Chair: Margherita Pagani, Emlyon Business School, EMLyon Business School, Ecully, 69134, France

1 - Unraveling Heterogeneity in Customer Experiences with Service Robot Constellations

Margherita Pagani, EMLyon Business School, 23 Avenue Guy de Collongue CS40203, Ecully, 69134, France, Bart Lariviere, Katrien Verleye, Massimo Airoldi

The study aims to provide insights into the drivers and dimensions of service robot experiences among customers and to explain heterogeneity in terms of customer experiences with different service robot constellations (i.e. service robot features x service robot characteristics). Extant research has merely focused on customer responses to service robots, thereby ignoring that a one-size-fits-all service robot does not exist. Marketing researchers need to transcend the service employee-robot dichotomy (i.e., augmentation/substitution by service robot) by focusing on a multitude of service robot constellations. After a systematic literature review we conduct an exploratory phase to identify the dimensions of service robot experiences among customers in the hotel sector. In study 1 we conducted qualitative scenario-based interviews (n=53) with focus on imaginary service robot experience in hotel sector. In study 2 we apply text-mining of certified customer reviews (n=296) with focus on lived service robot experience in the hotel sector. In study 3 we explain the heterogeneity in terms of customer experiences applying conjoint analysis with different service robot constellations as independent variable, the service robot experiences as dependent variable and customer and contextual factors as moderators. Emerging results show that the service robot experiences - either imaginary or lived - reflect five dimensions: aesthetic, hedonic, social, cognitive, pragmatic/utilitarian. Service robot experiences depends on four sources of heterogeneity: service robot features, customer characteristics, service providers characteristics, contextual characteristics. Most important service robot features relate to the degree to which human characteristics can be attributed to the service robot (anthropomorphism): physical, emotional, functional. Service provider characteristics relate to price and degree to which employees are replaced by service robots (substitution vs. augmentation).

2 - Artificial Intelligence and Value Creation within the International Chess Community

Jeroen Struben, Emlyon Business School, Ecully, 69134, France

How does artificial intelligence (AI) affect value creation and practices within markets, ecosystems, and communities? This study addresses this question by examining the transforming effect of AI on the chess community. Chess is exceptional in having a longstanding relation with AI, leading to chess engines exceeding world champion skill levels over two decades ago. Since then, chess players have begun to embrace AI -embodied in powerful specialized computer engines and databases- as a resource to gain competitive advantage. Making use of the unique measurability of and data availability for key constructs about chess activity - level of performance, degree of participation, and quality and style of play, at the macro (cross-country-) and micro- (individual-) level - I will first analyze the direct effects of AI on chess performance across different membership strata within the chess community. In particular, I will examine the extent to which AI's competitive advantage has been exploited by previously peripheral actors. Second, I will examine, qualitatively and quantitatively, the evolving practices of chess playing and watching as a result of AI. I discuss implications beyond its specific context, for our understanding of the effect of AI on value creation within ecosystems.

3 - Towards Using Responsible Artificial Intelligence in Product Recommender Systems in Marketing

Christine Balague, Professor of Marketing, Institut Mines-Telecom Business School, Evry, France, El Mehdi Roch

Most of product recommender systems in marketing are based on artificial intelligence algorithms using machine learning or deep learning techniques. One of the current challenges for companies is to avoid negative effects of these product recommender systems on customers (or prospects), such as unfairness, biais, discrimination, opacity, encapsulated opinion in the implemented recommender systems algorithms. This research focuses on the fairness challenge. We first make a literature review on the importance and challenges of using ethical algorithms. Second, we define the fairness concept and present the reasons why it is important for companies to address this issue in marketing. Third, we present the different methodologies used in recommender systems algorithms. Using a dataset in the entertainment industry, we measure the algorithm fairness for each methology and compare the results. Finally, we improve the existing methods by proposing a new product recommender system aiming at increasing fairness versus previous methods, without compromising the recommendation systems performance.

4 - Developing Voice-based Branding. Insights from the Mercedes Case

Michela Patrizi, Sapienza, Roma, Italy, Maria Vernuccio, Alberto Pastore

This study arises from the nascent line of research that analyzes the implications of artificial intelligence with reference to branding. In particular, our goal is to analyze an under-investigated field, i.e. the innovation related to brand management and user-brand relationships as a consequence of the development of voice-based artificial intelligence platforms by companies. The exploratory research design is based on the qualitative analysis of a cross-sectional single-case study. The unit of analysis is the brand voice assistant project developed by Mercedes, which is one of the first branded voice assistant launched on the international market. First, by assuming the brand's point of view, the analysis of this emblematic case has allowed to outline the marketing strategic objectives pursued by the company through the in-house development of a voice-based artificial intelligence platform. Moreover, our results delineate the main innovative aspects related to the creation of the brand vocal identity, as well as the design and management of the customer experience and customer brand engagement. This study represents a first contribution to the literature available about voice assistant and branding, highlighting opportunities and critical issues related to the construction of a direct and dynamic relationship between brand voice and user. Being qualitative, the research can not assume a general validity. However, the insights emerging from this study could guide future - both qualitative and quantitative - research about voice-based branding. In addition, the results offer useful suggestions to companies to seize the new marketing opportunities opened by voice-based branding.

5 - Using Artificial Intelligence to Create Customer Value: A Study in the Banking Industry

Fareena Sultan, Northeastern University, Boston, MA, United States, Margherita Pagani, Henry Laborbe, Vlaerie Vercoutre

Purpose of this study is to present key lessons on how AI will shape the context for new value creation for banking customers in the future. In order to create value-adding autonomous systems, banks have to feed them with massive amounts of data about customers and prospects and in doing so, face privacy issues and regulation constraints imposed by the European Union's General Data Protection Regulation (GDPR) in EU and similar regulations in US and Asia. First, in a theoretical section, we show how AI is impacting banks, considering the types of AI applications currently in use by customers and employees worldwide. We then consider the case of Société Générale, one of the largest European banking and financial services organization, present in 67 countries and serving more than 31 million individuals, professionals, companies, and institutional investors worldwide. We directly led a one-year proof of concept aimed at implementing AI to manage compliance risk in various locations of the bank. Based on the key learnings from this study, we provide practitioners, academic scholars and CRM readership a roadmap on how banks can benefit from the implementation of AI to generate value for customers considering privacy vs. innovation tradeoffs.

■ SA03

Aula 03

New Products 2

Contributed Session

Chair: Wanqing Zhang, Purdue University, 2241 Sandpiper Court S, West Lafayette, IN, 47906, United States

1 - A Generalized Adoption Modeling Framework: Mathematical Background

Martin Schlather, Universität Mannheim, Mannheim, Germany, Steffen Jahn, Yasemin Boztug

The Bass (1969) model and certain agent-based models can be joined into a generalized model for individual adoption decisions. In this talk we present the mathematical approaches of this modeling framework. The main ideas are the following: (i) instead of an individual's adoption decision we model his or her adoption utility function; (ii) the utility function is split into four parts: private utility (immanent, current), memorized utility (immanent, aggregate), recent social influence (external, current), and cumulative social utility (external, aggregate); (iii) novel binary operators, which generalize convex combinations and the forming of maxima and minima, combine these four parts; (iv) after adoption, the utility function is interpreted as a degree of satisfaction. We will motivate our approach by means of the Bass (1969) model and the agent-based model of Goldenberg, Libai, and Muller (2010). We will show that these two models can be considered as two specifications within a larger modelling framework.

2 - Toward a Generalized Adoption Modeling Framework

Steffen Jahn, Assistant Professor, University of Goettingen, Goettignen, Germany, Martin Schlather, Yasemin Boztug

Understanding the product adoption process is of considerable scholarly and managerial interest in marketing and innovation management. A critical element of this process is social influence. Extant literature, however, is rather fragmented in terms of how social influence is considered. Notably, the Bass model takes a macro perspective and agent-based models (ABM) a micro perspective. The central goal of this research is to provide an integrative framework that unifies the fragmented approaches of adoption modeling. We propose a novel framework to model individual adoption decisions that integrates various classes of models for adoption processes, such as the Bass model and ABM. Technically, we propose a hierarchical model that consists of private and social utility elements as well as aggregate and recent influence. Combining these dimensions results in four utility components: memorized utility, current private utility, cumulative social influence, and recent social influence. The presented framework has been made available in the R package "adoption," which allows the specification of arbitrarily parameterized models. The parameters can be adjusted in a graphical user interface, which displays the development of the number of adopters and their utilities. Without difficulty, a market size of 1,000 individuals is simulated in real time. The package is particularly useful for sensitivity analysis as it also allows comparisons of different models. Finally, the package is able to fit the models to empirical adoption data. Using microwave oven adoption as an example, our findings suggest that a flexible, generalized adoption modeling framework has the potential to advance the field in terms of enhanced understanding and forecasting of adoption processes.

3 - One Man's Trash is Another's Treasure: Configurations for Consumers' Adoption of Bio-plastic Products Using Qualitative Comparative Analysis

Ilenia Confente, Universty of Verona, Verona, Italy, Ivan Russo, Daniele Scarpi

Urban bio-waste includes organic municipal solid waste (from households, restaurants, etc.) and represents a primary source of concern for government and society. A new type of bio-plastics (polyhydroxyalkanoates: PHA) have been very recently developed from food waste, turning it into a multifunctional raw material that could replace fossil fuel materials, with significant environmental benefits. However, little is known about consumers' reactions to products made from bio-waste. Hence, we aim at understanding consumers' intentions to purchase, pay for, and switch to those products. Researchers have already introduced various antecedents and developed several models to explain consumers acceptance of green products, however past studies concentrated exclusively on the main 'net effects' of these antecedents. Acknowledging the complexity of the phenomenon, we account for different configurations of attitude toward green products, perceived value, green self-identity, recycling awareness, perceived environmental benefits and risks, as well as for consumers' demographics (gender; age) and product involvement, within an experimental study based on a representative sample of UK respondents. Because of the complex reality in which the phenomenon unfolds, complexity theory can provide a more accurate understanding of what generates customer acceptance. Accordingly, we seek to determine all possible successful configurations, the necessary and sufficient conditions, and the contrarian cases, to understand which combinations of attributes result in high levels of customer acceptance of bioplastics. To do so, we employ qualitative comparative analysis (QCA), which assumes that the influence of attributes on the outcome (bioplastics acceptance) depends on how the attributes are combined.

4 - Threats to Privacy versus Saving Money: A Multi-Period Panel Study of Consumer Choices in the Automobile Insurance Industry

Miremad Soleymanian, University of British Columbia, Vancouver, BC, Canada, Charles B. Weinberg, Ting Zhu

How consumers make tradeoffs between privacy and economic and social benefits are important questions for technology firms and the government. To empirically examine this issue, we study consumers' adoption and usage of Usage-Based Insurance (UBI). UBI, a recent auto insurance innovation, enables insurers to collect individual-level driving data, provide feedback on driving performance, and offer individually targeted prices. In UBI programs, consumers make trade-offs between their concern for privacy and the premium savings gained by allowing their driving behavior to be monitored for up to 6 months. Once enrolled, customers can drop out at any time, but receive a lesser discount the earlier they do so. Using detailed information on insurance premiums, adoption and retention decisions, and individual driving behavior (as measured by sensor data) for the UBI adopters, we build and estimate a dynamic structural model to examine the effect of costs of being monitored including the privacy concerns on adoption and retention of the UBI policy. Our results suggest that such costs are heterogeneous across demographic characteristics. We also use a natural experiment resulting from a major, but exogenous data breach to examine the effect of changing privacy perception and find that the data breach is associated with a decrease in retention rates among customers who are currently being monitored, consistent with the view that consumers trade off privacy costs against economic benefits.

5 - New Technology Adoption and Alternative Sources of Information: Evidence from a Field Experiment in China

Wanqing Zhang, Postdoctoral Researcher, University of Chicago, Chicago, IL, United States, Purdue University, West Lafayette, IN, United States, Pradeep K. Chintagunta, Manohar U. Kalwani

The diffusion of an innovation requires prospective customers to be made aware of its existence, and to appreciate the benefits they will derive from adopting it. For innovations that involve a new technology, prospective customers also need to learn its application and usage. Customers acquire this information through selfexperimentation, from external sources including the innovating firm's service and support, or through social interactions with peers and opinion leaders. In this paper, we compare the effectiveness of these alternative sources of information in the adoption of a new technology by business customers. In particular, we investigate whether mobile technology-based social media can facilitate the adoption of a new technology via the exchange of information between prospective customers. If it does, how effective it is compared with the traditional use of firm-initiated customized marketing service and support? We also examine whether opinion leadership can be leveraged to accelerate the adoption of a new technology in such an online environment. Empirically, we conduct a large-scale field experiment concerning the adoption of a new nano-pesticide technology by farmers in China. We find that the social interaction platform that includes the presence of an opinion leader is the most effective in promoting trial behavior in the initial stage of the diffusion process when customers face technological uncertainty. We also find that the firm-initiated approach and the social media platform that includes opinion leadership are equally effective in achieving the highest overall trial and final adoption rates. In the absence of an opinion leader, mobile social media is less effective in terms of overall trial although this group shows a high rate of adoption conditional on trial.

■ SA04

Aula 04

Performance Implications of Formation, Management and Dissolution of Business-to-Business Relationships

Special Session

Chair: Mariia Koval, Grenoble, 38000, France

Co-Chair: Shekhar Misra, Grenoble Ecole de Management, Grenoble, 38000, France

1 - Spillover Effects of Alliance Dissolution in Emerging Markets

Kiran Pedada, Indian School of Business, Shekhar Misra

Alliances dissolution is commonplace in the corporate world, with about one in two alliance ending within 4 years of formation. Alliances dissolves due to various reasons such as inter-partner conflict, dilution of trust, objective achievement, uncertainty in the market, government regulations. Though there has been lot of work on alliance dissolution, still understanding of their influence on rival firms' performance remains elusive. The relationship between alliance dissolution and performance of rival firms is further complicated in emerging market context by the halo effect of the foreign partner firm. For managers such breakups can either provide unique opportunity to grow its own sales and market share or it can be early warning of an approaching trouble. Using a unique dataset of alliances dissolution from India, we look at the performance implications of a rival's alliance disintegrating. As our analysis show that overall, performance of a firm improves when rival's alliance dissolve, 78% of firms experience 2.7% higher returns. However not all firms benefit with the other 22% seeing a -1.5% returns. Our study provides direct evidence of the impact of dissolution of alliances on rivals in emerging market context, where alliances with foreign firms have a "halo effect" on domestic brands. Overall, our findings suggest that alliances dissolution presents a unique opportunity that rival can exploit for better gains.

2 - Alliance Termination and Firm Idiosyncratic Risk: The Role of Governance Misfit

Mariia Koval, Grenoble Ecole de Management, Grenoble, 38000, France, Kenneth H. Wathe, Auke Hunneman, Stefan Wuyts

Prior research has shown that strategic alliance announcements can serve to reduce firm idiosyncratic risk. Still, more than 50 percent of alliances terminate shorty after they have been announced. A small but growing body of literature has examined antecedents of such unplanned alliance terminations, documenting that a major hazard facing firms engaging in alliances is partner opportunism. In this paper, we study the consequences of the announcement of an unplanned alliance termination. Specifically, we examine how the alliances are organized or governed, and how this influences the stock market's reaction to an unplanned alliance termination. Drawing on transaction cost economics, we find that termination of a misgoverned alliance, or an alliance which is not organized according to the transactional hazards facing the alliance partners, serves to decrease firm idiosyncratic risk. Moreover, we find that this effect is contingent on how long the alliance has lasted. Specifically, for alliances with excess governance, the longer the alliance has lasted, the weaker the effect of an unplanned alliance termination on firm idiosyncratic risk. Conversely, for alliances with a lack of governance, the more pronounced the effect of an unplanned alliance termination on firm idiosyncratic, the longer the alliance has lasted. We discuss the implications of our findings for alliance theory and management.

3 - B2B Projects for Innovation

Elham Ghazimatin, The University of Melbourne, Melbourne, Australia, Erik A. Mooi, Jan B. Heide

Innovation is inherently important to firms, as indicated by Tellis' observation (2013, p. 2) that "perennial success belongs to those firms that innovate unrelentingly". Thus, understanding how innovation comes about is an important priority for an organization. Interestingly, in some instances promoting innovation requires the establishment of an entirely new organization, namely a so-called project. To date, however, projects have received limited attention in the extant literature. In general, projects bring together different firms and create opportunities for capitalizing on specialists' expertise, knowledge, and resources, which are prerequisites for innovation. However, a largely unresolved question is why certain projects produce innovation while others do not. In answering this question, we examine how a project's particular task configuration, namely what tasks are performed by whom, impacts process and product innovation. We rely on a panel database, spanning the time period from 2001 through 2015, involving 429 business-to-business projects in the construction industry. We advance a set of hypotheses and test them empirically using a hybrid effects Poisson model to address unobserved heterogeneity. Theoretically, we conceptualize projects as an organizational form that, despite its apparent importance and wide applications across industries, has received limited attention from a marketing perspective. We also seek to unpack the "black box" of projects, which to date has remained inaccessible due to a lack of relevant data. By distinguishing between two distinct types of innovation, namely process and product innovation, we demonstrate that the structure of projects impacts process and product innovation differentially, thereby adding nuance to both the literatures on innovation and organizational structure.

4 - The Impact of Alliance Portfolio Composition on Firm Performance during an Economic Crisis

Tuba Yilmaz, BI Norwegian Business School, Oslo, Norway, Mariia Koval

An important gap in the alliance literature is to study how business cycles affect firms' collaboration behavior. Though it is well known that firms often use alliances to respond to uncertainty and share risks, little is known how firms adjust alliance strategies in response to economic crises. Alliance portfolios can be one of the mechanisms that help firms to reap the opportunities unleashed by the external change. Thus, when faced with rapid, often unforeseen changes in their external environment, firms need to adapt by reconfiguring their alliance portfolios. This research explores to which extent firms can benefit from adapting their alliance portfolio composition over a business cycle. More specifically, this study investigates how changes in alliance portfolio diversity can influence firm performance following an economic crisis. On the one hand, higher alliance portfolio diversity allows firms access new and diverse information about new customer needs and business solutions critical during an economic crisis. On the other hand, higher alliance portfolio diversity increases alliance coordination costs that may make firms particularly vulnerable during an economic crisis. The aim of this study is to show how firms benefit from reconfiguring their alliance portfolios during an economic crisis to balance the necessity to adapt to new circumstances and to minimize alliance coordination costs under existing resource constraints. The study contributes to the alliance portfolio literature that has overlooked the impact of business cycles on the link between firms' alliance portfolio composition and performance. It also contributes to the literature on the role of business cycles for firms' marketing strategies that has not considered alliances as means to respond to an economic crisis.

■ SA05

Aula 05

Marketing Quantitative Method

Special Session

Chair: Marco Visentin, University of Bologna, Via Capo di Lucca 34, Bologna, 40122, Italy

1 - Modelling Consumer Demand and Substitutions with 21st Century Secondary Data: Discrete Choice Models vs. Demand Systems

Beatrice Biondi, University of Bologna, Bologna, Italy, Sara Capacci, Mario Mazzocchi

The accurate estimation of price elasticities is key to develop public and private strategies involving price interventions. The theoretical and empirical frameworks have evolved over time in response to innovations in computing power and data availability. Until recently, economists have mostly relied on household budget surveys and demand systems, mostly for applications aimed at supporting policy decisions, while marketing and consumer researchers have privileged more disaggregated data and ad hoc surveys, with a focus on understanding consumer behaviours and assist marketing strategies. The progress in commercial data collection, and especially the availability of highly disaggregated and frequent home scan data, is now bringing the two disciplines towards a common ground. This study discusses the pros and cons of the two approaches in relation to their application to home scan data. We will discuss and compare their effectiveness in meeting and testing theoretical restrictions, the ability to capture consumer heterogeneity, the pros and cons of different aggregation levels in relation to the research objectives, and other empirical challenges, such as - for example - the modelling of non-purchases. More specifically, we will explore whether modelling heterogeneity through discrete choice models using highly disaggregated secondary data may also provide new opportunities for consumer policy analyses.

2 - The Future of Research in Retailing: Above and Beyond Machine Learning Approach

Marco Visentin, University of Bologna, Bologna, Italy, Eleonora Pantano, Gabriele Pizzi

In recent years, marketing and retail literature solicited new research adopting novel approach such big data analytics to achieve deeper consumers' insights and make more accurate predictions. During any consumer interaction with retail technology, retailers are able to collect a massive amount of data on consumers (representing a primary source of data on consumers' behaviour), which they might transform into useful insights to gain competitive advantage. The emergence of big data analytics for marketers and retailers arises from the need to systematically analyse massive amount of unstructured data available from consumers' interactions with different technologies, including social media, mobile apps, in-store interactive technologies. Accordingly, the need to exploit Big Data to gain societal, economic value and to encourage the development of innovative products and services and creating business value pushed researchers to develop more sophisticate tools of Artificial Intelligence roughly named "machine learning algorithms" that might be employed aside more "traditional" approaches such as Bayesian methods or logistic regressions. However, such a plethora of methodological approaches available to researchers has never been directly compared yet, so that scholarly knowledge still requires additional clarity on the extent to which artificial intelligence results well compare with more traditional and supervised data analysis methods. Accordingly, the aim of this paper is to compare and contrast machine learning approach for achieving suitable predictive analytics with Bayesian methods and logistic regressions.

3 - Interpreting the Year-of-Establishment Effect: A Comparison between Qualitative Comparative Analysis and Mediation Models

Daniele Scarpi, University of Bologna, Bologna, Italy, Gabriele Pizzi, Mathieu Oliver Alemany

Recent studies have witnessed the influence of the year of establishment (YOE), when displayed on the brand logo, on consumers' attitudes and intentions toward the brand. In his respect, the literature has also highlighted the pivotal role played by brand heritage. However, a significant set of brand- and consumer-related factors emerged as relevant antecedents of consumer reactions to heritage brands, with possible relationships between these factors yet to be explored. Given the complexity of the constructs potentially involved in this theoretical framework, it is important to apply research methods that can take this complexity into account in order to study the effect of the YOE on consumer reactions. Among these methods, Qualitative Comparative Analysis (QCA) and Mediation Models (PROCESS) explore how different constructs interact in the relationship between YOE and consumer reactions. The former provides an analytical framework to identify the complex set of necessary and sufficient conditions under which the presence of YOE improves consumers' attitudes; the latter, instead, provides the methodological tools to assess all the intermediate causal relationships among the different constructs. To the best of our knowledge, no extant studies have directly compared the results provided by QCA and PROCESS models. Accordingly, the present study aims to explicitly compare these two methodological approaches on the same data. Methodological and theoretical considerations are discussed.

4 - The Extensive Margin of Aggregate Consumption Demand

Andrea Pozzi, Einaudi Institute for Economics and Finance, Rome, Italy, Luigi Paciello, Claudio Michelacci

Using micro level scanner data, we document that around one half of the cyclical variation in aggregate non-durable consumption expenditures by US households comes from changes in the products entering their consumption basket. Most of this variation is due to changes in the rate at which households add new products to their basket, while removals from the basket are relatively acyclical. These patterns hold true at different frequencies (quarterly or annual), within narrowly defined sectors of products or quality categories, across households with different permanent income, generally characterize business cycles across US regions, and are only partly driven by changes in the price of products or their availability in the market. We show that household propensity to adopt new varieties in her consumption basket is an important determinant of the aggregate demand for innovation. Its cyclical dynamic feedbacks on firms innovation incentives amplifying the long-run welfare effects of business cycle fluctuations and the response to aggregate demand stabilization policies.

■ SA06

Aula 06

Supply Side Responses to Online Word of Mouth

Special Session

Chair: Tommaso Bondi, New York University-Stern, Brooklyn, NY, 11238, United States

1 - Reputation Inflation

Apostolos Filippas, New York University, New York, NY, 10012, United States, John Joseph Horton, Joseph Golden

A solution to marketplace information asymmetries is to have trading partners publicly rate each other post-transaction. Many have shown that these ratings are effective; we show that their effectiveness deteriorates over time. The problem is that ratings are prone to inflation, with raters feeling pressure to leave "above average" ratings, which in turn pushes the average higher. This pressure stems from raters' desire to not harm the rated seller. As the potential to harm is what makes ratings effective, reputation systems, as currently designed, sow the seeds of their own irrelevance.

2 - Online Reviews, Management Responses, and Gender Bias: An Empirical Investigation

Davide Proserpio, University of Southern California, Los Angeles, CA, 90034, United States

We investigate the impact that management responses have on the likelihood that male and female users write a review. We exploit the variation in the rate by which hotels respond to reviews on different platforms to show that when managers respond, the probability of observing a review from a female user relative to a male user decreases by 3.3% for negative reviews and increases by 1.3% for neutral and positive reviews. To explain these findings we show, first, that male and female reviewers react to the presence of management responses differently: when the hotel stay is negative, female reviewers are more likely to see hotel responses as a potential source of conflict which, in turn, reduces their likelihood of writing a negative review; when the hotel stay is positive, female reviewers gain a positive utility from praising hotels, which increases their likelihood of writing a positive review. Second, we provide evidence of gender bias in the way hotel managers address reviewers: managers are more likely to criticize female reviewers than male reviewers. Overall, our results suggest that management responses can bias the distribution of reviews written by male and female users.

3 - Fake News Propagation and Detection

Yiangos Papanastasiou, University of California-Berkeley, Haas School of Business, Berkeley, CA, 94720, United States

In the wake of the 2016 US presidential election, social media platforms are facing increasing pressure to combat the propagation of "fake news" (i.e., articles whose content is fabricated). Motivated by recent attempts in this direction, we consider the problem faced by a social media platform that is observing the sharing actions of a sequence of rational agents and is dynamically choosing whether to conduct an inspection (i.e., a "fact-check") of an article whose validity is ex ante unknown. We first characterize the agents' inspection and sharing actions and establish that in the absence of any platform intervention, the agents' news-sharing process is prone to the proliferation of fabricated content, even when the agents are intent on sharing only truthful news. We then study the platform's inspection problem. We find that because the optimal policy is adapted to crowdsource inspection from the agents, it exhibits features that may appear a priori non obvious; most notably, we show that the optimal inspection policy is non monotone in the ex ante probability that the article being shared is fake. We also investigate the effectiveness of the platform's policy in mitigating the detrimental impact of fake news on the agents' learning environment. We demonstrate that in environments characterized by a low (high) prevalence of fake news, the platform's policy is more effective when the rewards it collects from content sharing are low relative to the penalties it incurs from the sharing of fake news (when the rewards it collects from content sharing are high in absolute terms).

4 - Online Reviews, Consumer Taste, and Market Structure

Tommaso Bondi, New York University-Stern, New York, NY, 11238, United States

I consider a model of consumer ratings in horizontal markets. When consumers are uninformed about products' features, ratings summarise overall popularity, solving a well known production inefficiency first highlighted in Spence (1975). When consumers are informed about products' qualities and locations, tail and lower quality products are systematically advantaged. This is because both tail and lower quality products are better matched to their (fewer) buyers. These two categories often coincide, exacerbating the bias. As a result, ratings need not become more informative over time. Optimal firms' responses and consumer welfare crucially depend on consumers' rationality in interpreting this information: if consumers learn naively from it, production is skewed towards the tails, creating local monopolies and relaxing price competition for lower quality products. The prevalence of rational consumers, on the other hand, favours the formation of superstars, products of high quality and mainstream design that enjoy market power thanks to their reputation. When scarce enough, rational consumers can exploit their naive peers by having access to superstar products at relatively low prices. Interestingly, consumer welfare - and even naive consumers' welfare - is non monotonic in the share of naives. This is because naives underestimates quality differences, thus decreasing market power of super star products. Relatedly, having access to more precise ratings does not always benefit consumers: the optimal accuracy of ratings trades off matching efficiency with the market power they generate.

■ SA07

Aula 07

Causal Inference in Entertainment and Advertising

Special Session

Chair: Bowen Luo, University of Rochester, Rochester, NY, United States

Co-Chair: Bhoomija Ranjan, Monash University, Melbourne, Australia

1 - The Poor Get Poorer: The Impact of Differential Lottery Play on Consumer and Retailer Earnings

Paul Parker, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France, Paulo Albuquerque, Yakov Bart

In this paper, we study how consumers make choices of lottery products and the consequent impact on their earnings and the earnings of retailers selling lottery tickets. We model the effects of income and education on consumer incidence, game choice, and number selection and use both market and transactional lottery data to determine the extent to which earnings from lottery ticket purchases and sales vary across populations. While we replicate previous findings from related literature, such as that lottery play is regressive, we go beyond it by showing that lower income less educated areas see disproportionately lower sales for games with higher payout rates. In addition, we examine the proportion of random and non-random selection in number choice for draw games across income groups, finding that lower income areas exhibit greater bias, i.e., less randomness, leading to lower expected earnings. As a result of the differences in lottery product choice and number selection bias, retailer earnings in poorer less educated areas are actually higher, given their incentive structure. Overall, these effects show that lower income less educated areas are negatively affected to an even greater extent than previously documented.

2 - The Impact of Virtual Reality Experiences on Time Perception and Patience

Rafay Siddiqui, Hong Kong Polytechnic University, Hong Kong, Hong Kong, Seung Hwan (Mark) Lee

Consumer access to Virtual Reality (VR) experiences is progressively increasing, as the VR market is expected to surpass $34 billion by 2023 (Rayome 2018). Due to its 3D, 360-degree digital format, VR is a richer medium of communication than traditional methods (Steuer 1992). It is able to transport users to an alternate environment, an effect referred to as telepresence (Kim and Biocca 1997). Thus far, the downstream impact of VR on consumer decision-making has only been explored to a limited extent. We investigate the impact of VR on time perception, and consequently patience in intertemporal choice, where choosing larger later (LL) rewards over smaller sooner (SS) rewards reflects greater patience. Across four studies, we have participants experience the same visual content in either VR or traditional visual media such as a laptop (VM). We find that VR (vs. VM) decreases perceived time pressure, and increases preference for LL over SS in a downstream choice. That is, VR (vs. VM) increases patience. A serial mediation model shows that telepresence mediates the effect of VR (vs. VM) on time pressure, which then mediates the effect on patience. These findings contribute to the extensive stream of research on the antecedents of consumer patience in intertemporal choice (Loewenstein 1996; Thaler 1981; Zauberman et al. 2009), and have important implications for consumer welfare, as we show that not only does VR reduce felt time pressure, but it can push consumers towards choosing better rewards in the future over lesser rewards in the present.

3 - Attributing Store Traffic to Advertising: The Case of Hardware and Home Improvement Stores

Bhoomija Ranjan, Monash University, Melbourne, Australia, Bowen Luo

In this paper, we investigate the role of advertising content and quantity in driving store visits. We use a novel panel of 10 million customers with mobile geo-location data, which tracks their visits to over 8000 stores of four hardware and home improvement retailers across the US in 2017. We supplement these data with advertising expenditures and content for three main media channels (TV, internet and magazines). The industry spends $700 million in advertising annually. We exploit the discontinuity in advertising expenditure at DMA borders (Shapiro, 2018) and study the store visits of consumers living on border counties and border census tracts. We find a positive and significant effect of advertising, and the effect is moderated by customers' distance to store. We also find a positive spillover effect from competitor ads when customers are closer to the focal store. Our results have significant managerial implications on advertising and geo-targeting strategies of retailers.

4 - Demand for Negativity: An Empirical Analysis of Voter Response to Negative and Positive Political Ads

Bowen Luo, University of Rochester, Rochester, NY, United States, Brett R. Gordon, Mitchell J. Lovett, James Reeder

Negative political advertisements, ads that speak about the competition, are ubiquitous, making up over 85% of ads in the 2012 Presidential race. Yet the evidence on whether positive or negative advertising effects are stronger is mixed. We provide new evidence on the effect of positive and negative advertising both on voter turnout and relative candidate choice. To address advertising endogeneity problem in this setting, we leverage recent advances in the use of Waldfogel instruments. Because this produces many potential instruments, we use a method that combines machine learning (LASSO) to select among the many potential instruments motivated by the election context and potential roles of advertising. We apply the approach to a combination of coded advertising data and county-level data on voter choices from the 2000 and 2004 election cycle. We find that both positive and negative advertising play a significant role, that positive advertising is stronger than negative advertising in encouraging turnout, but that when incorporating the effect on candidate preferences, negative ads are stronger. We conclude by providing counterfactual estimates of election outcomes if parties are able to optimize their local tone strategy based using the model estimates.

■ SA08

Aula 08

Digital Marketing 9

Contributed Session

Chair: Chen Jin, Wharton School, 1919 Market Street, Unit 1304, Philadelphia, PA, 19103, United States

1 - Relationship between Consumer Online Search and Sales by focusing on Regression with Autoregressive Errors

Woo Chan Sim, Korea University, Seoul, Korea, Republic of, Sang Yong Kim

Thanks to search query volume data provided by the Internet search engine providers such as Google and Naver, marketing researchers and practitioners are able to capture and monitor consumers' shopping interest instantaneously with only internet access cost. Many of studies that utilize search query volume data (e.g., Google Trends) in Marketing and Econometrics analyze the relationship between sales and consumers' online search in the context of U.S. automotive market and their proposed models are based on a conventional univariate time series model well known as a seasonal AR model or a market response model. In addition, by incorporating previous sales as independent variables (i.e., AR (1) and AR (12)) into their model, the extent studies successfully capture and explain the carryover effect and seasonal effect of the previous sales. However, as earlier econometricians criticized, including lagged dependent variables as regressors is still controversial, because this can cause critical problems related to model misspecification such as multicollinearity, loss of powers, and serial correlation in the disturbance. Consequently, the authors suggest an alternative univariate time series model, regression with autoregressive, for capturing the current effect of consumer search as well as precise carryover effect or seasonal effect regarding model misspecification issues. Furthermore, this study shows important advantages of the suggested model by comparing with the existing models and discuss general univariate time series modeling framework by modifying the method of Box and Jenkins. Lastly, the authors validate the estimated parameters from the suggested model by utilizing the method of Gibbs sampling.

2 - Network Effects in B2C Platform Entry

Ruobing Ling, National University of Singapore, Singapore, Singapore, Junhong Chu

This paper studies the importance of network effects in the entry of the business side on B2C platforms. We build a dynamic discrete choice model to investigate how the business side make their entry decision. Using a unique individual level detailing panel from a B2C platform for health checkups based in China, we empirically test the localized network effects and non-network effects on hospitals' entry. To address the potential endogenous issue, we model the discount level hospitals offer to the platform and their decision to enter into the platform simultaneously. Our results indicate a dynamic and negative direct-network effect (DNE) with an increasing trend over time, and a relatively stable and positive cross-network effect (CNE) from the customer side. We further explore the heterogeneity of network effects and the results suggest that DNE varies in terms of hospital characteristics: the competition is more intense for hospitals with private nature or more branches. For the non-network factors, our results indicate that existing neighbors on the platform impedes entry through intensified competition. In addition, discount level does not deter entry because it potentially stimulates growth in demand.

3 - To Brush or Not to Brush: Product Rankings, Customer Search, and Fake Orders

Chen Jin, Assistant Professor, National University of Singapore, Singapore, Luyi Yang, Kartik Hosanagar

"Brushing"-the practice of online merchants placing orders of their own products to artificially inflates sales on e-commerce platforms-has recently received widespread public attention. On one hand, brushing enables merchants to boost their rankings in search results, because products with higher sales volume are often ranked higher. On the other hand, rankings matter because search frictions faced by customers narrow their attention to only a few products that show up at the top. Thus, fake orders from brushing may affect customer choice. We build a stylized model to understand merchants' strategic brushing behavior and its welfare implications. We consider two competing merchants selling substitutable products (one of high quality, the other of low quality) in an evolutionary sales-based ranking system that assigns a higher ranking to a product with higher sales. In principle, such an adaptive system improves customer welfare relative to a case in which products are randomly ranked, but it also triggers brushing as an unintended consequence. Since the high-quality merchant receives a favorable bias in the sales-based ranking, he mainly has a defensive brushing incentive, whereas the low-quality merchant mostly has an offensive brushing incentive. As a result, brushing is a double-edged sword for customers. It may lead customer welfare to be even lower than what it would be in a random-ranking system, but in some other cases, it can surprisingly improve customer welfare. If brushing is more difficult for merchants (e.g., due to tougher regulations), it may make customers worse off as it attenuates brushing by the high-quality merchant but induces the low-quality one to brush more aggressively. If search is easier for customers, it can actually hurt them as it may discourage the high-quality merchant from brushing disproportionately more than it does the low-quality one.

4 - Softening Online Retailer Competition with Referral Services

Kihoon Kim, Associate Professor, Korea University Business School, Seoul, Korea, Republic of

This paper investigates the conditions under which an online referral service can be adopted by two competing online retailers. One online retailer offers a fixed referral fee rate and the other one decides whether or not to join the referral service. Once the other online retailer joins the referral service, the former becomes a price infomediary and collects a referral fee when its visitors buy a good from the referred retailer on its website. In general, the referral service can be adopted unless the infomediary retailer has a large group of loyal consumers and a significant proportion of them are willing to use the referral service. We also show that as long as the referral service increases the expected profit of the infomediary retailer, its equilibrium price distribution with the referral service has first-order stochastic dominance over that without the referral service.

■ SA09

Aula 09

Methods 2

Contributed Session

Chair: Constant Pieters, Tilburgh University, Warandelaan 2, Tilburg, 5037AB, Netherlands

1 - Sequential Optimal Inference for Experiments with Bayesian Particle Filters: An Application to Conjoint Analysis

Remi Daviet, Wharton, University of Pennsylvania, Philadelphia, PA, United States

In experiments and surveys of consumer preferences (e.g., via conjoint analysis), the number of questions that researchers can ask is typically bounded by time considerations. For example, surveys used for understanding consumer preferences might require asking a large number of questions in order to reach the desired statistical accuracy, which increases costs and induces fatigue in the participants. In such cases, optimizing the amount of relevant information with each question becomes critical. Recently, several "adaptive" Bayesian methods gained popularity by proposing to optimally select the next question to ask based on the answers to the preceding questions. However, current methods are computationally expensive and might require a long waiting period between questions. Moreover, current methods are often tailored to a particular model and a particular objective (parameter estimation, prediction or model selection), leaving the researcher with the burden of extending these approaches to other models by deriving a suitable Bayesian inference method. We propose to apply the Sequential Monte Carlo (SMC) framework to solve both the inference problem and the optimal experimental design problem. This new method, called Sequential Optimal Inference (SOI) provides gains in computational efficiency and allows for the use of a broad class of complex models and objectives. We demonstrate its effectiveness with simulation studies and an experimental study eliciting preferences for bagged tea products. Results show a significant reduction in the number of questions needed to obtain a desired inference accuracy, both in terms of preference recovery (posterior variance) and out of sample prediction (marginal likelihood).

2 - Lottery Rewards in Incentive-aligned Choice-based Conjoint Studies

Narine Yegoryan, Humboldt University Berlin, Berlin, Daniel Klapper

Several studies in marketing literature have proposed different incentive-alignment mechanisms for choice-based conjoint (CBC) studies, which aim at inducing respondents to state their true preferences and reduce the hypothetical bias. In order to decrease high implementation costs, particularly when it comes to durable goods, irrespective of the specific mechanism used, lottery rewards are often employed, i.e., the probability of each respondent to receive the prize (e.g., product and potentially money) is more than zero but smaller than one. Behavioral decision-making literature, however, informs us that the framing of the probabilities may affect the outcomes. Moreover, use of uncertain probabilities (e.g., "there will be one randomly drawn winner") may induce such belief-based biases as overoptimism, which can provide further motivation for truth-telling. This study draws from the literature on risk and uncertainty and investigates in a large empirical application the role and effectiveness of different presentation formats of lottery rewards in the context of incentive-aligned CBC. The contribution of this study is twofold. First, it aims at extending our understanding of the role of behavioral phenomena such as framing and overoptimism in the context of incentive-aligned CBC. Second, it provides additional guidelines on how to increase respondents' perceived (subjective) probability of winning the prize (i.e., the choices made would be consequential), ensuring truth-telling and meanwhile retaining the financial feasibility of the CBC study.

3 - Incorporating Group-Level Uncovered Structural Patterns in Estimation of Individual-Level Preferences: A Convex Optimization Approach

Mohammad Ghaderi, Assistant Professor, Pompeu Fabra University (UPF), Barcelona, Spain, Milosz Kadzinski

We introduce an analytical framework for joint estimation of preferences of a group of decision makers from their choice examples, through uncovering structural patterns that regulate general shape of value functions. Uncovered structural patterns at the group-level are incorporated in estimation of preferences at the individual- level, while capturing heterogeneity in preferences at a maximal level. Effectiveness of the methodology, in terms of predictive validity, is examined through an exhaustive and carefully-designed experiment based on simulation, and analysis of preferences from real decision makers. Our results demonstrate a substantial improvement in predictions — in both ranking and choice problems — when accounting for structural patterns. The method is particularly beneficial when individuals preference information, e.g. choice examples, is scarce. Other appealing features of the introduced analytical framework include: i) it does not make any prior assumption on the shape of value functions, ii) its effectiveness is not influenced by the level of complexity neither level of heterogeneity in decision makers' preferences, iii) it is computationally efficient and applicable to decision problems of realistic size.

4 - How Different are Marketing Elasticities between Emerging and Developed Countries?

Hannes Datta, Tilburg University, Tilburg, Netherlands, Harald Van Heerde, Marnik G. Dekimpe, Jan-Benedict Steenkamp

Consumption expenditures world-wide are on the rise, and emerging markets are largely responsible for this growth. Accordingly, global brand manufacturers from developed markets refocus on emerging markets, while domestic brand manufacturers from emerging markets increasingly expand abroad. Within the recent academic literature, a series of (mostly conceptual) articles underscores the importance of emerging markets to marketing theory and practice, listing various reasons why emerging markets may differ greatly from developed markets that have received most attention in prior research. Yet, solid empirical evidence on the uniformity or divergence of marketing elasticities between emerging and developed markets is largely missing. To study differences in marketing elasticities between emerging and developed countries, we systematically investigate the market-share elasticities of (i) four key marketing-mix instruments (price, distribution, line length and new-product activity), for (ii) 300+ global and domestic brands, across (iii) 13 durable categories (covering both more recent categories such as tablets and smartphones, and more mature ones such as microwaves and refrigerators) in (iv) 14 different countries from the South-East Asia and Pacific region, over (v) a time frame of more than a decade. Importantly, countries in our sample cover both high-income ("developed") economies (e.g., Australia, Japan, Singapore, South Korea) and middle-income ("emerging") markets (e.g. China, India, Malaysia, Vietnam). After controlling for potential moderators at the category and brand level (e.g., brand equity, category concentration), we find that response elasticities—apart from distribution—are largely the same between emerging and developed countries. We discuss the implications for marketing theory and marketing practice.

5 - Comparing Six Methods for Moderation Analysis in Marketing

Constant Pieters, Tilburg University, Tilburg, Netherlands, Rik Pieters, Aurélie Lemmens

It is common in marketing research to examine the moderation of the effect of a variable X on a variable Y by a variable Z, where one or more of these variables are measured with multiple indicators. Such a setup makes it possible to statistically account for measurement error in the variables. This article describes and compares the performance of six methods for such moderation analyses in the presence of measurement error. Two of them, simple means and multi-group, in fact do not correct for measurement error to estimate the moderation effect, which potentially biases the results. A literature review of 504 moderation tests published in the Journal of Marketing and the Journal of Marketing Research between 2000-2017 reveals that 89% used one of these two methods. Four methods do correct for measurement error: factor scores, corrected simple means, product indicators, and the structural approach. Monte Carlo simulations show that even when the interacting variables have reliabilities of .80, the moderation effects estimated by the simple means and multi-group methods are biased downwards by more than 30%. The structural approach is least biased and has the highest statistical power, but is rarely used (only in 5 of the 504 cases). Surprisingly, using factor scores is a simple and well-performing alternative to the more complex and less accessible structural approach. This reveals the importance of accounting for measurement error in moderation analysis and that a straightforward method already performs well. This has implications for theory testing and marketing research practice.

■ SA10

Aula 10

Machine Learning 9

Contributed Session

Chair: Johannes Haupt, Humboldt-University Berlin, Spandauer Str 1, Berlin, Germany

1 - Seller Show vs Buyer Show: Utilizing Online Images Posted by Customers and Stores to Predict Product Returns

Xueli Zhang, Nanyang Technological University, Singapore, Singapore, Liu Liu, Sadat Reza, Kai Ren

Product return has become a more and more important problem for firms to address, as main shopping platforms are gradually transferring from traditional brick-and-mortar stores to online markets and firms often offer lenient return policies (such as free return). It has a significant impact on firms' profitability. In this article, we developed and deployed a system that predicts return rate together with conversion ratio via a multi-task learning framework at JD.com, one of the largest B2C online retailers in China, and investigated the predictive power of the differences between product images posted by firms and image reviews from consumers on product return across many product categories through extensive experiments. The differences between seller-generated images and user-generated images reflect the differences between the expected and realized product quality. To quantify the differences, we extract features from online product images by using traditional image aesthetics measures and advanced deep learning techniques. Our results show that the estimated differences between the two types of images have statistically significant predictive power for product returns. Our research contributes to the literature on products returns and on user-generated contents. To the best of our knowledge, this is the first research that uses both seller and user-generated image contents for predicting product returns. The ability to better predict the product returns is also economically significant for the e-commerce platforms, since such returns typically constitute 2%-5% of the revenue, depending on the product category. Therefore, our proposed methodology can lead to firm operational efficiency gains.

2 - When Does Beauty Pay? Role of Beliefs and Preferences in Workplace Bias

Param Vir Singh, Carnegie Mellon University, Pittsburgh, PA, United States, Nikhil Malik, Kannan Srinivasan, Dokyun Lee

Beauty bias literature has demonstrated facial attractiveness related discrimination in across personal marketing, election voting, hiring and promotions. Most of these studies are experimental, thus lack external validity as they can not imitate long term real world interactions. They establish discrimination but do not investigate the source or dynamics of beauty bias. In this paper, we show how dynamics of discrimination can be used to identify the source of beauty bias in professional settings. We investigate two sources - preference based and belief based. Belief bias exist because evaluators have priors about the group the subject belongs to. These priors are overcome as evaluator gets objective signals of performance. Preference bias exist because evaluators have inherent taste for social, romantic or marital relationship with attractive subjects. While belief biases can diminishes over time, preference biases can persist longer term. We use one of the largest archival longitudinal data (22,157 career profiles) in this area of research to identify these two sources. We find that beauty bias leads to 3-5% beauty gap over a 15 year career. This gap is a result of preference bias which creates yearly beauty gap of 0.6%. On the other hand, belief bias has no significant role in post MBA profession careers. We show robustness of our results to self-selection dropout issues typical in labor markets as well as a variety of observed and unobserved controls on education and on the job training received by an individual. We also overcome challenges with unstructured profile picture and career description text data. This is a significant finding because, belief bias could have been minimized by providing rich performance related information upfront. However preference biases, often taking form of perverse favoritism or even sexual harrasment at workplace, are much harder to remove.

3 - Understanding Product Competition with Representation Learning

Fanglin Chen, New York University, New York, NY, United States, Xiao Liu, Davide Proserpio, Isamar Troncoso

Identifying key competitors is essential to a firm’s pricing, product design, and brand positioning strategies. In mature markets, companies often have long product lines with numerous products under the same brand. As a result, competition does not only occur among brands but also among different products or UPCs within a brand. Studying competition at the UPC level can provide firms with insights on cannibalization, cross-category competition, and product line optimization. However, prior methods for mapping competitive relationships (i.e., choice models) focused on measuring brand-level competition, overlooking competition at the UPC level. This choice was mainly driven by computational constraints because incorporating the intrinsic preference for a myriad of UPCs will explode the parameter space and make estimation intractable. In this paper, we overcome the limitations of traditional choice models by combining them with a machine learning technique - representation learning. The proposed model is highly scalable, allowing us to analyze competition among hundreds of thousands of products with a few hours. The representation learning technique maps products to N-dimensional vector space such that products close in the vector space are more likely to compete with each other than products that are far apart. We demonstrate how to use this model to uncover both inter-brand and intra-brand competition, as well as address the price endogeneity concern arising from the data-driven approach. Compared with static choice models and sequential probabilistic models, our method achieves a higher hit rate in a shorter running time.

4 - Generative Adversarial Networks for Imbalanced Learning in Customer Scoring

Johannes Haupt, Humboldt-University of Berlin, Berlin, Germany, Stefan Lessmann

Machine Learning based models are widely used for customer scoring in marketing. They predict customer-level behavior probabilities using data from past customer interactions. Since the customers of interest, e.g. those who respond to a marketing message, are often a small fraction of all customers, classification performance of many scoring models is adversely affected by absolute and relative sparsity of the minority classes. A common strategy to mitigate class imbalance is the generation of synthetic minority cases. However, existing nearest-neighbor-based methods are ineffective for high-dimensional data. Generative Adversarial Networks (GAN) are a promising solution because they use deep neural networks to explicitly learn a non-parametric approximation of the unknown original data distribution. Since GANs were developed for large image datasets, their application to marketing datasets with few minority observations and categorical variables poses a challenge. Our contribution is two-fold. First, we effectively generate data for representative customer scoring datasets, which contain continuous variables and categorical variables with high cardinality. The proposed architecture ensures robustness and usability by avoiding two-stage estimation procedures. Second, we make use of all available data when estimating the generative model, rather than approximating the data distribution for each minority class separately. Joint estimation reduces the effect of noise variables and data scarcity by information sharing between classes. We evaluate the proposed approach to identify settings in which the GAN outperforms existing approaches for synthetic data generation. These results provide a stepping stone for the application of GANs in a wide range of marketing settings beyond imbalanced learning.

■ SA11

Aula 11

Decision Making 3

Contributed Session

Chair: Jimi Park, Hawaii Pacific University, Honolulu, HI, 96813, United States

1 - The Effects of Package Design on Post-purchase Behavior: How Do Package Size and Format Influence Food Consumption Quantity?

Haruka Kozuka, Keio University Graduate School, Tokyo, Japan

Researchers, especially consumer psychologists have often focused on understanding the mechanisms that influence food choice more than on understanding what influences food consumption quantity (Wansink and Chandon, 2014). Current studies show package size seem to play a major role in changing consumption quantity and indicated that larger served portions lead people to overeating (Rolls, Roe, Kral, Meengs and Wall, 2004; Zlatevska, Dubelaar, and Holden, 2014). In addition, package format (e.g. bite-size pieces in one package, each piece wrapped one by one) are effective to prevent large intake (Do Vale, Pieters, and Zeelenberg, 2008; Holden and Zlatevska, 2015). There are research showing whether package influences consumers’ intake or not. On the other hand, few studies pay attention to “how” it affects food intake. In this study, we focus on package size and format (partitioned or not) and show how they influence consumption quantity. We hypothesize that package influences on eating behavior, such as monitoring their intake (Geier et al., 2012), and varies food intake due to changing the accuracy of monitoring. As the results of mediation analysis, package size and format influences consumers’ monitoring and food intake. The accuracy of monitoring is mediated by package design and decreases consumption quantity. We contribute to present the mechanism how package design affects consumption quantity.

2 - Risky Choice in Dynamic Decision Environments

Sreyaa Guha, IE Business School, IE University, Madrid, Spain, Matthias Seifert, Canan Ulu

We study risky choice in dynamic markets. Integrating prospect theory with system neglect, our model predicts a fourfold pattern of over-/underreaction in pricing behavior: in stable environments where the probability of regime shifts is low and individuals observe noisy signals, we expect decision behavior to be primarily driven by cumulative prospect theory, whereas in unstable environments where the shift probability is high and individuals observe precise signals, we suggest that individuals’ responses result from system neglect. Moreover, we show how the desirability of regime shifts critically determines decision making under risk. We test our model predictions in two experiments, in which we observe the trading behavior of buyers and sellers in insurance and asset markets. We discuss implications for managerial practice in organizational contexts that are characterized by continuous change.

3 - How Does the Sequential Swings Across Different Competitive Reactions Affect on the Profit-erosion Process?

Jimi Park, Hawaii Pacific University, Honolulu, HI, United States, Shijin Yoo, Joseph Ha

Some firms show stronger profit persistence than others. We ask why profit persistence differs across firms and claim that competitive reaction volatility (CRV) is one of the missing drivers that make this difference. Our empirical results show if a firm change the types of competitive reaction (e.g., accommodation versus retaliation versus non-reaction) over time, its superior (subnormal) profit tends to converge more slowly (quickly) toward a long-term mean level than firms with consistent competitive reactions. CRV, may cause a delay in competitive response since rivals cannot promptly react to competitive attacks with the routine and familiar problem-solving mechanism. Our results suggest that firms should swing between the different CR types to prolong the superior profit and/or to make a speedy recovery from the subnormal profit.

■ SA12

Aula 12

Mobile Marketing 3

Contributed Session

Chair: Xuebin Cui, Tsinghua University, Beijing, China

1 - Privacy and Children: What Drives Digital Data Protection for Very Young Children?

Vincent Lefrere, Institut Mines Telecom Business School, Paris, France, Grazia Cecere, Catherine Tucker, Pai Ling Yin, Fabrice Le guel

Internet content and educational apps provide wonderful opportunities for children which spends huge amounts of time playing on apps. Developers can easily commercialize apps . Using an original dataset of apps commercialized in US targeted at children, we explore the types and scope of data that are collected via children’s use of online mobile applications. While regulation is imposed to all developers, collection of sensitive data varies with the developer’s geographical location and size of developers. More precisely, the decision to opt in into the official Google program encourages compliance with USA child privacy regulation unless developers come from countries with weak privacy regulation. However, big developers from weak regulation countries which comply with self regulation program collect less sensitive data suggesting that they can bear the cost of privacy regulation.

2 - It Pays to Pay Smart: Impact of Branded Mobile Payments on Purchase Behavior

Matilda Dorotic, Associate Professor, BI Norwegian Business School, OSLO, Norway, Koen Pauwels

As of 2017, a third of internet users worldwide has "used a mobile payment service in the last month", with forecasts projecting over 1.1 billion proximity mobile payment users worldwide by 2021 (Statista, 2019). Mobile payment methods and apps are key technologies of interest to managers, who are unsure about the business impact. This paper uses causal inference to analyze the impact of adopting branded mobile payments on customer purchase behavior. In particular, this is one of the first studies to differentiate between different forms of cashless mobile payments: SMS mobile payment only, SMS mobile payers who downloaded the app but never switched to app mobile wallet, and mobile wallet users. For a large, international beverage brand sold in vending machines, difference-in-difference-in-differences (DDD) methodology reveals that adopting app-based branded mobile increases purchase amounts by 586% in the week of adoption and the week after, going down to 74% within the first month, and remain on average higher by 18% in the periods after 5 weeks. In contrast, only downloading the app (but not switching to the mobile wallet functionality) only increases purchase amount by 5,7% and frequency by 2%. Prior literature mostly associated lift in purchases to the app adoption. The effects of branded mobile wallet adoption become stronger for early adopters and initial low-spenders. Methodologically, this study uses covariate balancing propensity scores (CBPS) methodlogy and triplets matching (it moves beyond the standard binary matching algorithms) to produce better non-binary matching for DDD analysis. We compare the method with existing approaches in marketing to show the improvement in insights. Finally, theoretically, this study integrates the unified theory of acceptance and use of technology (UTAUT) with pain-of-paying and digital marketing literature, while augmenting the customer transaction data with surveys of customers to provide a better understanding of the mobile payments' impact.

3 - Complementary or Substitution: The Impact of Branded Application on Offline Purchases

Xia Wang, Renmin University of China, Beijing, China, Qi Wang, Chang Hee Park

Despite brands have introduced massive mobile applications into the markets, whether the newly emerged mobile channel can cannibalize or complement their brick-and-mortar stores is not known. Addressing this gap, the article propose and empirically demonstrate the impacts of branded application on consumers' offline purchase. Employing a novel dataset from a shopping mall, the authors find two opposite effects of branded application in general: complementary for experiential products and substitution for functional products. The timing of adoption will influence the relationships between branded application and offline purchases, such that the complementary effect of branded application on experiential products purchases is stronger for late adopters, whereas the substitution effect of branded application on functional products purchases is stronger for early adopters. The authors discuss the implications of these findings for online to offline retailing as well as mobile marketing management.

4 - Augmented Reality in Mobile Retail

Sandeep R. Chandukala, Singapore Management University, Singapore, Singapore, Yong Chin Tan, Srinivas Reddy

Augmented Reality (AR) is a technology that superimposes virtual graphics onto a live view of the physical environment, helping users visualize how these virtual objects fit into their physical reality. From a retail perspective, a promising application of this technology is letting customers experience products virtually before making a purchase, especially in online contexts where customers have no access to physical products. While marketing managers are keen to invest in AR, research documenting customers' responses to this technology in real-world contexts is limited. The present study examines if AR increases customers' in-app engagement and purchase likelihood in online retail. Additionally, we investigate if virtual product experience on AR reduces barriers to purchasing online, promotes product exploration, and affects the role of price, brand, and item popularity in product choices. We obtained app interaction and purchase data from an international cosmetics retailer who introduced AR in their mobile app, enabling customers to try cosmetic products virtually. Introduction time for the AR feature was staggered by product categories, providing a natural experiment for our research. Our sample includes close to 200,000 browsing sessions for over 60,500 customers and 2,800 unique products, allowing us to examine how the influence of AR differ across customer and product characteristics. Findings indicate that AR draws in new category users and encourages existing users to purchase products and brands they have never purchased before. Furthermore, AR disproportionately benefits lower-priced products and less popular brands. We conclude by discussing potential implications of AR for online retailers.

5 - Mobile Payment: A Friend or Foe of Traditional Banking?

Xuebin Cui, Tsinghua University, Beijing, China, Yubo Chen

Mobile Payment, as an important innovation of Fintech, is becoming widely penetrated in individual's daily life. Despite the popularity of mobile payment, its effect on customer's traditional banking behaviors remains unclear. It is of paramount importance for bank managers to understand how mobile payment affects their own customers' banking behaviors. In this paper, we understand and measure the causal impacts of mobile payment on customer transaction and retention in the bank industry. We rely on a unique individual-level transaction dataset from a major Chinese bank, and leverage a quasi-experimental framework to empirically identify our results. We find that mobile payment significantly decreases the customer's saving balance in the bank, and however, significantly increases the customer's overall interaction frequency with the bank. Our findings suggest that mobile payment will benefit the bank's customer retention while it can potentially harm the bank's profit since customer's savings are important profit source of the bank. Furthermore, we also examine the heterogeneous treatment effects and mechanisms. Our findings have important theoretical contributions and managerial implications to bank managers.

■ SA13

Aula 14

Dynamic Models 1

Contributed Session

Chair: Shih-Wei Fu, National Taiwan University, Roosevelt Rd., Taipei, 10617, Taiwan

1 - Consumer Learning, Forgetting, and Trial Purchase

Minjung Kwon, Syracuse University, Syracuse, NY, United States, Masakazu Ishihara, Andrew Ching, Makoto Mizuno

Previous literature on forward-looking Bayesian learning models has assumed consumers don't forget information about brand quality once learned (e.g., Erdem and Keane 1996). However, given that our memory is often imperfect, the existing models potentially overestimate the role of the trial purchase by strategic consumers; that is, consumers may forgo current utility to gain from trial information about the brand quality. We propose and estimate a dynamic structural model of consumer learning and forgetting using beer category where one can observe seasonal and limited release products that are typically unavailable for an extended period between seasons. The periodic availability of those products provides a unique opportunity to examine the role of forgetting over time. Early on in each season, consumers are likely to make trial purchases, even if the uncertainty about the brand quality had been resolved in the previous season. In addition, we propose a novel empirical identification strategy for forgetting. Extending the existing approach to distinguish between informative and prestige advertising effects (Ackerberg 2003), we rely on the variation in the advertising effects over two consecutive seasons to identify the forgetting of the previous use experience. Under the perfect recall of product quality, the advertising effects should remain constant over time, conveying only prestige effects after the initial use experience despite an extended period of the products being unavailable. By contrast, if the use experience is forgotten during the off-season, the addition of informative effects should increase advertising effects in the beginning of the subsequent season.

2 - A State-space Representation for Modeling Dynamics of Individual Response

Eiji Motohashi, Yokohama National University, Yokohama, Japan, Sotaro Katsumata, Akihiro Nishimoto

We propose a state-space representation that models dynamics of individual response using various types of marketing data. Market response is one of the main topics in marketing, and many studies have been conducted from the viewpoint of consumer and time heterogeneity. In recent decades, market response has become complicated through various stimuli such as marketing activities, purchasing experiences and consumer interactions. Mass advertisements such as TV commercials not only directly affect purchasing behavior but also indirectly influence purchasing behavior through WOM etc. As WOM's impact on purchasing decisions has increased, it is necessary to consider consumer interactions to accurately measure marketing activities. On the other hand, since various types of marketing data, such as purchase history data, audience rating data and consciousness data, are accumulated, a method for effectively combining them is required. We use particle filter to estimate model parameters and apply our method to scanner panel data in empirical analysis. This study shows that individual response is changing over time. We find that models that ignore dynamic mechanism in individual response can yield misleading inferences about the impact of marketing variables.

3 - Funnel-Stage-Dependent, Complex Interactions between Offline and Online Media

Florian Dost, Lancaster University Management School, Lancaster, United Kingdom, Ulrike Phieler

Growing an online platform can be supported with marketing communication, but knowledge about how a combination of media affects different stages in the adoption funnel is incomplete. Extant marketing research suggests multiple interrelations: (non-linear) interaction effects between different media (e.g., synergy between online and offline media), differing media effects by stage of the adoption funnel (e.g., offline media affecting early funnel stages), and even changing effects over time (e.g., decreasing effectiveness of offline media). Together, these expectations present formidable empirical challenges as they violate many assumptions in a linear, equilibrium-based, stochastic marketing modeling framework. To address these empirical challenges, this research uses empirical dynamic models, a novel non-linear methodology from ecology, developed for complex system conditions. The methodology learns system manifolds from aggregate time-series data and predicts how the system variables evolve jointly. We use the method to estimate interacting marginal media and funnel effects for three stages of a platform adoption funnel (search, visit, sign-up). Results show that offline advertising (TV, print) affects the early funnel stages, while online advertising (display) and micro influencers (firm-created word of mouth) affect the later stages. In addition, offline media creates a backdrop for interaction effects between media at later stages of the funnel. Furthermore, media effects seem to depend on the states of funnel variables in that they support the funnel when organic progression is low, but not when the platform converts well on its own. For managers, these findings provide with a mix of synergies and tradeoffs to consider when optimizing a supporting media plan.

4 - Analyzing Market Competition Through the Lens of Competitor's Customer Base Acquisition and Attrition: A VAR Approach

Shih-Wei Fu, National Taiwan University, Taipei, Taiwan, Chun-Yao Huang

Identifying the target competitors in the market, analyzing their influences, and responding properly to competitors' actions are critical to marketers. Although we have seen an array of related modeling efforts in the literature, it is interesting to note that no prior study addresses such issues by looking at the dynamics of customer acquisition and attrition among competitors. In this study we propose a systematic modeling framework to analyze competition from the angles of customer acquisition and attrition. Utilizing data of credit card marketers' customer bases, a vector autoregressive model was developed to examine the changes of customer bases among dynamic competition of firms. Our analysis has revealed some interesting patterns of the acquisition-attrition relationships in the competition. Firstly, the lagged credit card acquisitions have a significant positive association with most competitors' acquisitions, and lagged attrition is negative associated with competitor's acquisitions. Secondly, we found the competitors who react to acquisitions positively would have greater and stronger persistence effects. This study therefore provides a new approach to understanding market competition through the analysis of the interplay across competitors' customer bases.

■ SA14

Aula 15

Cognition

Behavioral Track

Chair: Yizhe Lin, University of Calgary, Calgary, AB, T2N0R5, Canad

1 - How Celebrity Endorsement Works in an Interactive Media? Do Celebrity Worship and Need for Cognition Matter?

Debasis Pradhan, Ph.d., XLRI, Jamshedpur, Tapas Ranjan Moharana, Partha Sarathi Das

The factors that influence (or rather should influence) the selection of celebrity endorsers remain debatable for both managers and academia. While, arguably, multiple factors contribute collectively to the success of celebrity endorsement in a media characterized by a high degree of interactivity, the evidence and justifications available in the extant literature are insufficient. Celebrity worship (hereafter, CW) and need for cognition (hereafter, NFC) are two prominent psychological constructs that explain consumers' emotional and cognitive capabilities respectively. However, hitherto, there is no conclusive evidence in endorsement literature of a relationship among CW, NFC, and celebrity-product congruence in the presence of an interactive media. Addressing this gap, the current study through its experimental investigation examines the interrelationships between CW, NFC, and media interactivity and subsequently offers a causal explanation for the impact of celebrity-product congruence on consumers' choice of endorsed products. The study measures endorsement effectiveness by actual product choice behavior as opposed to self-reported measures such as attitude towards product/brand, attitude towards advertisement or purchase intentions. Across three experiments, the study demonstrates that high celebrity-product congruent advertisements lead to higher chance of choosing endorsed products for consumers endowed with high NFC than their counterparts with low NFC. In addition to investigating the interactive effect of NFC (cognitive component) with all the three congruent (high, moderate, and low) conditions, the study also provides insights on the mediating role of CW in explaining the underlying mechanism of endorsement effectiveness.

2 - Acceptance of Really New Technologies: The Role of Consumer Inferences on Extremely Incongruity

Akihiro Nishimoto, Kwansei Gakuin University, Nishinomiya, Japan, Sotaro Katsumata

The purpose of this study is to investigate consumer inferences for facilitating the acceptance of really new technology. We can often see that digital technologies improve our lifestyle. However, it doesn't be diffused immediately. Because we recognize that really new technologies have possibility of changing our lifestyle to unfavorable condition. We perceive some kind of risk to such really new technologies. There are many previous researches on consumer behavior that mentioned the difficulty of diffusing really new technologies. They have verified that consumer has tended to prefer incrementally new technologies to really new ones empirically. The reason why such results have been verified is based on the assumption of schema congruity. Most of previous research has supposed that consumers accept really new technologies by the extent to which their schema consistent with it based on existing features and categories. However, consumers' acceptance of really new technologies are not only based on schema congruity. The other well-known assumption is that when consumer encounter extremely incongruity, they try to resolve it by accommodating existing knowledge structures in light of the new information. They infer the usefulness of it through various cues. This study conducts some experiments to investigate how marketer enhance the acceptance of really new technologies by facilitating consumers' inferences. Its findings would be able to help marketers successfully diffuse really new technologies.

3 - Effects of the Direction of a Product's Cast-shadow on Product Preference and Processing Fluency

Mayuko Nishii, Waseda University, Tokyo, Japan, Takeshi Moriguchi

There is some evidence that product images which consumers can process the information easily induce their positive responses. For example, Shen and Rao (2016) focused on eye movement (e.g., making consumers watch an animated stimuli) and found that the positive effect on processing fluency and product preference. However, there is a remaining issue about the written direction of a product's name. Looking to product images such as, on online shopping site, advertisement, most of products' images are attached their cast-shadows for appealing authenticity. Our motivation is to investigate how the relationship of directions between a product's cast-shadow and product's name written on the package can influence consumers' processing fluency and product evaluation. Consumers often read a product's name on the package while they move their eyes. At that time, the relationship of directions between product's cast-shadow and the product name written on the product package may affect consumers' processing fluency and product's evaluation, but the interaction is unclear. Based on the above considerations, we conducted a single factor design study (cast-shadow: upper-right, lower-right, upper-left, lower-left, no shadow) between-subjects test. The participants were Japanese, who also has top-to-bottom writing system. Participants evaluated two kinds of images. One of them was the product image in which the product name was written from top-to-bottom and right-to-left on the package. The other one was a Japanese sentence written from top-to-bottom and right-to-left. These images had cast-shadows. The results showed that processing fluency and product evaluation were highest when participants saw the image with a cast-shadow attached to the upper-right (namely, it was near the start point of the characters) compared to other conditions. The findings may provide new suggestion that the interaction of two directions between a product's name written on the package and the cast-shadow can affect consumers' processing fluency and product evaluation.

4 - Striking (Liquid) Gold: Windfalls and Consumption

Benjamin Levine, Columbia Business School, New York, NY, United States

This research examines the impact of wealth shocks on the composition of consumer expenditures. For wealth shocks, I exploit the unanticipated technological breakthroughs that triggered both shale oil development and large, unexpected payments to landholders across U.S. counties from 2004-2016. For consumer expenditures, I use individual-level data capturing 5 million online purchase incidences. While controlling for time- and county-fixed effects, preliminary results show that positive wealth shocks: (a) increase total expenditures, (b) boost the share of consumer expenditures spent on flights, hotels, and pet supplies, and (c) within those product categories, consumers spend differently; they purchase flights to destinations closer to the equator and are more likely to purchase "deluxe," "luxury," or "premium" hotel packages and pet supplies. This research is the first to use observational data to examine the impact of windfalls on the composition of spending, which sheds new empirical light on debates concerning consumer behavior.

5 - Consumers' Reward Redemption in the Loyalty Programs: A Goal Theory Perspective

Yizhe Lin, University of Calgary, Calgary, AB, Canada

Loyalty programs (LPs) have become vastly popular in the hospitality, transportation, and retail industries, being considered as a key component of customer relationship management (Capizzi and Ferguson 2005). Dorotic et al. (2014) observed that reward redemptions encourage both pre-reward and post-reward purchases (i.e., redemption momentum), and thus they advocated active influences on redemption incidence and amount. However, LP members are inclined to stockpile points despite several economic incentives against it (Stourm, Bradlow, and Fader 2015). Thus, understanding how to encourage the redemption is significant meaningful to managers running LPs. This study analyzes the impact of the structure and the messages of the loyalty program on consumers' redemption decisions. Specifically, the study argues that the redemption is a goal switch from the focal goal to inhibited goal when a satisfactory goal progress is perceived. In LPs, members' focal goal is the most valuable reward, and less valuable but easily accessible rewards are inhibited in the pursuit of this focal reward. Thus, the structure of the reward chart influences members' determination to pursuit for the focal goal. Also, the monthly report reminds members their current status in the program, which is perceived as either a goal progress or a goal commitment. Thus, the style of the report alters consumers' likelihood to switch to the inhibited goal. This study extends the LP literature by investigating the members' behavior from a goal theory perspective. It also provides practitioners an alternative solution to encourage more reward redemptions and to activate more the redemption momentum.

■ SA15

Aula 16

Competition 1

Contributed Session

Chair: Chamna Yoon, KAIST College of Business, Dongdaemun-gu, Seoul, 02455, Korea, Republic of

1 - Hassle Savings as a Strategic Variable

Purushottam Papatla, University of Wisconsin-Milwaukee, School of Business Administration, Milwaukee, WI, 53201-0742, United States, Prashanth Ravula

The demand for services by sharing economy providers (SEP's) like Uber and Airbnb has grown significantly. The growth is driven by technology that can eliminate frictions in the consummation of transactions with legacy providers of such services. Such reductions offer monetary savings as well as savings from reduced effort and/or time that consumers need to search, identify, and transact with providers. Thus, a consumer does not have to wait for a taxi to pass by and can instead hail a ride on Uber. A traveler can find an accommodation at a preferred spot in a city easily even in the absence of traditional hotels at that spot. We label such reductions in the disutility of transactions due to the time and/or effort needed as hassle savings. While they may not be able to compete on monetary savings, legacy providers (LP's) like taxis can still provide hassle savings. For instance, although they may cost more, traditional cabs can shorten the time to hail and wait for Uber by being more readily available. Hassle savings can, therefore, be a strategic variable for both LP's and SEP's. We empirically examine if this is the case empirically in three contexts: Uber vs. yellow taxis in New York City, first use of AirBNB by travelers, and the price premium obtained by AirBNB hosts with favorable ratings. In all three cases, we find that hassle savings give an advantage to providers that offer them. We also discuss the implications of our findings for LP-SEP competition.

2 - Bitcoin Disruption in Payments - Winners and Losers

Manmohan Aseri, Visiting Assistant Professor, Carnegie Mellon University, Pittsburgh, PA, United States, Nikhil Malik, Param Vir Singh, Kannan Srinivasan

Bitcoin is a P2P alternative to traditional payment channels like Visa/Master Card/SWIFT. Bitcoin and traditional channels are horizontally differentiated on post-transaction services (e.g., reversal of an unintended or fraudulent transaction). Traditional channels are often bound by regulations to provide such services and safeguards to consumers. On the other extreme, Bitcoin has no provision for such services by design. Thus, we show a filtering effect: the proportion of consumers needing post-transactions services increases on the traditional channel. Since such services are costly, the transaction fee charged by the traditional channel increases. Bitcoin and traditional channels also differ on the fee structure. Consumers or merchants pay a fixed and proportional fee on traditional channels. On the other hand, Bitcoin applies only a fixed fee, endogenously determined by competition among consumers. Consumers with high-value transactions prefer Bitcoin owing to this fixed fee structure. Naively, one would have expected the entry of Bitcoin to increase competition among payment channels; thus, reducing fees. However, the entry of Bitcoin drives out service insensitive consumer from traditional channels; this incentivizes payment channels to horizontally differentiate further on services rather than compete on prices. This technology disruption results in greater consumer segmentation and, thus, a greater pricing power for firms. Paradoxically, it's the consumers that face increased competition from their peers. Consumers with high-value payments and low utility for post-transaction services are the only ones to benefit from Bitcoin. A boon for large scale gambling and drug trade operations on Bitcoin is, therefore, no surprise.

3 - Should Browsers Limit Users' Exposure to Ads? A Game-Theoretic Analysis

Mark Bender, Assistant Professor, University of South Florida, Tampa, FL, United States, Shivendu Shivendu

Google made headlines in February 2018 when it started limiting intrusive ads for users of its browser, Google Chrome, and again in January 2019 when it announced its latest build would make it more difficult for users to install ad-blocking extensions. Browsers such as Chrome may generate revenue through users when their users make search inquiries, but may also play a supporting role for their company's revenue derived from advertising on websites. We develop an analytical model to study a browser's strategic decision to limit the intrusiveness, or intensity, of advertisements seen by its users. Users experiencing higher advertising intensity have the potential to generate more revenue for the company with respect to advertising revenues. However, the browser must also consider the impact advertising intensity may have on driving potential users away to either ad-blocking software or a rival browser. We provide characterization of equilibria under various environments: the browser operates as a monopoly, the browser competes with a rival browser, a fraction of the population is aware of ad-blocking software and may utilize it if advertising becomes too much of a nuisance, etc. We show that the browser may have incentives to mute the level of advertising intensity, because websites might choose to over-advertise due to a tragedy-of-the-commons situation, to prevent users from ad-blocking completely.

- Personalized Pricing and Product Differentiation

Xi Li, City University of Hong Kong, Hong Kong

We study competitive positioning and pricing decisions when firms can implement personalized pricing (PP). We find that, when the firms make their positioning decisions before making their PP decisions, the cost of implementing of PP has a non-monotone impact on product differentiation, firm profits, and social welfare. When the cost of implementing PP is low, the firms cannot help implementing PP and engaging in fierce price competition, thereby constituting a conventional prisoner's dilemma. Moveover, firms also reduce their product differentiation compared to the case without PP, which makes the price competition even fiercer. When the cost of implementing PP is moderate, the firms do not implement PP; however, they have to reduce their product differentiation to commit to not implementing PP. When the cost of implementing PP is high, the firms increase their product differentiation and do not implement PP. As a result, firm profits can be higher compared to the case without PP. We also find that, when the firms make their positioning decisions after making their PP decisions, the firms never implement PP, thereby escaping from the prisoner's dilemma. These results underscore the nontrivial effects of positioning decisions on firms' PP and pricing strategies.

5 - Does Airbnb Make the Hotel Industry More Competitive?

Chamna Yoon, KAIST College of Business, Seoul, Korea, Republic of

Most recently, the rapid growth of the sharing economy has attracted increasing attention from researchers and consequently its business and economic impacts have been studied in various aspects. In particular, it was emphasized that the sharing economy enables lower price for consumers in an adjacent or related traditional industry. However, there has not yet been an in-depth empirical discussion as to how the intensified competition affects firms and how they respond to changing economic conditions. Therefore, focusing on the hotel industry, we examine whether Airbnb makes hotels take the strategy of either low price or high quality, or both. By exploiting the monthly establishment-level data, we evaluate the impact of Airbnb on hotel room price and service quality. It is found that a diffusion of Airbnb leads to a decline in room price but increase in hotel service quality, which is robust regardless of hotel types. Moreover, we find qualitatively the same results for price, even after we resolve the endogeneity problem due to unobservable factors correlated with entry of Airbnb. Also, the increase in Airbnb supply decreases the revenue from room rentals and increases that from other sources (e.g., food and beverage service). Overall, the revenue of total does not change in the short run. We contribute to economic and marketing literature as follows: First, we revisit the competition effect of Airbnb not only on room price but also service quality in the hotel industry. Second, we access the monthly-level high-quality data that cover the nationwide population in the Korea' hotel industry. Last, we obtain more rigorous results using the instrument.

■ SA16

Aula 17

Visual

Behavioral Track

Chair: Stefania Farace, Eastern Connecticut State University

1 - Research on the Influence of the Vividness of Anthropomorphic Advertising on Consumers'Attitudes Towards Products-based on Different Visual Object Structures

Wei Li, School of Economics and Management, Southwest Jiaotong University, chengdu, China, Yushi Jiang, Miao Miao, Yuling Wang, Chenya Ma

Anthropomorphism refers to making products have the language, movements, thoughts and emotions of human beings. Anthropomorphism advertising has an important influence on consumers' attitudes towards products. Based on Information Processing Theory, Social Presence Theory, Elaboration Likelihood Model and Stimulus-Organism-Response Model, we established a structural equation model to verify the intrinsic mechanism of the impact of vividness of anthropomorphism advertising on consumers' attitudes towards products through situational experiments. The results show that the vividness of anthropomorphic advertising has a positive effect on consumers' attitudes towards products.The vividness of the anthropomorphic advertising has a positive effect on consumers' cognitive fluency, perceived trust and perceived psychological distance.Cognitive fluency, perceived trust and psychological distance have positive effect on consumer product attitudes.Cognitive fluency, perceived trust and perceived psychological distance play a mediating role in the influence of vividness of anthropomorphic advertising on consumers' attitudes towards products.Visual object structures play a moderating role in the relationship between vividness and cognitive fluency, perceived trust and perceived psychological distance. In the high vivid situation, juxtaposition of the anthropomorphic image will produce higher cognitive fluency than the fusion of the anthropomorphic image.Fusion of the anthropomorphic image will produce higher perceived trust than the juxtaposition of the anthropomorphic image.Juxtaposition of the anthropomorphic image will produce higher product attitudes than the fusion of the anthropomorphic image.Juxtaposition of the anthropomorphic image will produce closer perceived psychological distance than the fusion of the anthropomorphic image.

2 - The Effect of Local Trends on Consumer's Graphical Information Processing

Julia B. Reinhard, University of Cologne, Cologne, Germany, Hernán A. Bruno

Line graphs are used in the media and in marketing material to communicate changes of a magnitude over time or space. Firms, non-profit organizations, and governments use graphs to persuade consumers about a developing process, or generally the state of world. Consumers use this graphical information to make decisions in various contexts such as health (e.g., product effectiveness over time), personal finance (e.g., interest rates), politics (e.g., immigration) or climate change (e.g., global temperatures). From past research, we know that individuals use heuristics to make inferences about trends and future values of the data portrayed in graphs. For instance, they consider the slope of the last two data points to predict future data points. We systematically generalize these results to show that consumers rely relatively more on local trends, and ignore the information about uncertainty and global trends available in the whole data being presented. In study 1 we introduced different local trends (the slope of the last third of the data, 20 out of 60 time periods), while keeping the overall trend the same. While these stimuli had the same statistical prediction when extrapolated 20 periods into the future, respondents relied on the local trend producing forecasts that were either significantly higher or lower than the statistical forecast. We propose that this effect is a result of chunk processing of graphical information. In a second study, we manipulate the chunking by introducing a moderate disturbance at one data point and evaluate the changes in prediction. Our preliminary results show that local trends can significantly bias consumer behavior. These results add to the literature on visual information processing and judgmental forecasting, and have implications for the communication of quantitative information and public policy.

3 - Relevance of Visual Complexity in Online Shopping Cart Abandonment

Dominik Hettich, Goethe University Frankfurt, Frankfurt am Main, Germany, Stefan Hattula, Torsten Bornemann, Cornelia Hattula, Linda Gebhardt, Alexandra Durst

Increasing rates of shopping cart abandonment (i.e. placing items in the online shopping cart without actual purchase) constitute a major challenge for online retailers. A common belief is that this behavior is motivated by visually complex shopping cart designs which make the shopping experience aversive. However, related research has actually found no relationship, or even a negative relationship between visual website complexity and shopping cart abandonment, indicating the need to unveil conditions under which shopping cart complexity is harmful and when it might pay off. Based on suggestions from related literature, we study the motivation for engaging in online shopping to explain the differential complexity effects. We propose and empirically show in two studies that the assumed negative complexity effects only apply to recreation-oriented shoppers, who seek for pleasure while shopping. In contrast, increased visual complexity reduces shopping cart abandonment of task-oriented individuals, who receive fulfillment from the outcome of the shopping activity (purchase of needed product). The richer information environment of visually more complex shopping carts enables them to monitor whether the purchase goal is sufficiently attained before leaving for check out. Thus, we contribute by providing an explanation for the controversial findings on the impact of website complexity on shopping cart abandonment. Moreover, this research provides orientation on how to design online shopping carts such that shopping cart abandonment can be reduced by more than 20% when considering the motivational orientation of consumers.

4 - Patterns in Motion. How the Visual Pattern Shown in the Ad Impact Product Evaluations

Stefania Farace, Assistant Professor, ECSU, Willimantic, CT, United States

Patterns in Motion: How the Visual Pattern Shown in the Ad Impact Product Evaluations Abstract Visual patterns, or the way products are aligned visually, are critical decisions for ad designers who develop images aimed at promoting products across various marketing contexts (ads, web design, online assortments, merchandising displays). This article investigates the combined influence of the visual patterns and ad headlines, on consumer evaluations. We investigate headlines which convey "motion" (e.g., move, quick, walk), and demonstrate that when a regular visual pattern is shown, this results in strong product evaluations than if an irregular visual pattern is shown. The empirical part of the article consists of two experiments and a field study. Study 1 reveals that if the regular visual pattern (cf. irregular) shown in an ad is matched with verbal information conveying motion consumers' product evaluations are higher. Study 2 goes beyond these findings by demonstrating that the regular pattern creates mental simulation, where consumers can image experiencing the product, and that that mental simulation mediates the relationship between visual patterns and consumer's product evaluations. In the Field study we aim at corroborating our findings by using text mining and image annotation of 1,034 Twitter posts generated by a leading consumer brand. Our results suggest that for ads that are encouraging motion, advertisers can increase product evaluations by facilitating mental simulation of using the product, through the arrangement of visual elements.

■ SA17

Aula 18

Consumer Perseption

Behavioral Track

Chair: Lucas Stich, Ludwig-Maximilians-Universität, Amalienstr. 34, Mÿnchen, 80799, Germany

1 - The Effect of Disclosing Labor Cost on Consumer Preference

Lucas Stich, Ludwig-Maximilians-Universität München, München, Germany, Christoph Ungemach, Christoph Fuchs, Martin Spann

Firms are usually reluctant to disclose information regarding the costs of producing their products to consumers. Yet, being transparent about the price components of a good or service can create value for consumers and firms. In the present research, we investigate consumer reactions to disclosing labor cost of a service. We examine whether, and if so, under which circumstances making labor cost transparent can lead to favorable (or unfavorable) consumer responses. Specifically, we argue and empirically show in labor-intensive service contexts that paying the human service provider a fair share of the service's price can increase consumers' preference for that service if this information is disclosed to consumers. Overall, this research contributes to a better understanding of the behavioral consequences of disclosing the cost of labor in a service setting. Our findings suggest that firms should disclose labor cost - the share of the service provider - to consumers, when these are sufficiently high and thus perceived as fair by consumers.

2 - Asymmetrically Increasing Subjective Probabilities: Evidence from Lottery Sales Data

Janghyuk Lee, Professor, Korea University, Seoul, Korea, Republic of, Hee-Kyung Ahn, Cecile Kyung-Ah Cho

Using daily lottery sales data at the store level, we show that lottery purchase accelerates as the date of winning lottery ticket announcement approaches. While the reason why people buy lottery tickets when there is virtually no chance of winning has previously been examined, we focus on a hitherto unexamined temporal dimension, asymmetrically increasing willingness to take the risk as the winner announcement nears. We draw on the psychology's desirability bias (Windschitl, Smith, Rose and Krizan 2009) due to arousal to explain the phenomenon. In particular, we propose that as the date of lottery draw nears over the course of the 1-week period, the subjective probability of winning becomes asymmetrically inflated due to an acceleration in the level of arousal felt by the buyer. We also test and find a significant impact of two moderators: lucky store effect (Guryan and Kearney 2007) and income (Donkers, Melenberg and van Soest 2001), which lend further support to our main proposition that the asymmetric increase in the purchase is due to a likewise asymmetric increase the level of desirability bias.

3 - Daydreaming Effect: A Wandering Mind Enriches Consumption Experience

Xian Wang, Tsinghua University, Beijing, China, Chao Yu

Mind wandering, the opposite of mindfulness or experiencing attention mode, is a type of daydreaming activity occurring when people drift their attention to personal and unrelated thoughts, feelings and images decoupled from one's current context while engaging in a specific task (Smallwood & Schooler, 2006; Rahinel & Ahluwalia, 2015; Peorio et al., 2015; Singer and Schonbar, 1961). Scholars have found out that people spend 47% of their time wandering their mind, which indicates that mind wandering or daydreaming is a common phenomenon among people's daily life (Killingsworth & Gilbert, 2010). In marketing research, mindfulness is a buzz word but mind wandering as its antonym has only received limited attention. Although daydreaming occurring during consumption has been recognized as an important part of consumption experience (Holbrook and Hirschman, 1982; Jenkins, Nixon, Molesworth, 2011; Belk et al., 2003), there is no empirical research about the effect of mind wandering on consumption experience. By conducting qualitative interviews and two experiments, we demonstrate that that mind wandering increases consumption enjoyment by improving feeling of enrichment. Indeed, Mind wandering has long been regarded as a negative activity due to the fact that most scholars focus on its negative sides (e.g. Smallwood et al., 2008; Delaney et al., 2010; Ralph et al., 2017). This study reveals the positive impacts of mind wandering and deepens our understanding of the essence of mind wandering in consumption contexts.

4 - Lifting the Veil: The Benefits of Cost Transparency

Bhavya Mohan, University of San Francisco, San Francisco, CA, United States, Ryan Buell, Leslie John

Firms do not typically disclose information on their costs to produce a good to consumers. However, we provide evidence of when and why doing so can increase consumers' purchase interest. Building on the psychology of disclosure and trust, we posit that cost transparency, insofar as it represents an act of sensitive disclosure, fosters trust. In turn, this heightened trust enhances consumers' willingness to purchase from that firm. This account was supported in four studies. A pre-registered field experiment (N = 9,277) indicated that diners were 21.1% more likely to buy a bowl of chicken noodle soup when a sign revealing the ingredients of the soup also included the cafeteria's costs to make the soup (Study 1). Three subsequent lab experiments shed light on when and why the beneficial effect of cost transparency emerges. Specifically, after a pre-test demonstrating that cost transparency is perceived as a form of sensitive disclosure, Study 2 (N = 612) showed that its tendency to increase purchase interest is mediated by firm trustworthiness. Next, Study 3 (N = 454) demonstrated the critical role of the voluntary nature of the disclosure, showing that cost transparency boosts purchase interest only when instated voluntarily by the firm, as opposed to involuntarily (e.g., as required by law). Finally, Study 4 (N = 689) provided converging evidence for the trust mechanism underlying the beneficial effect of cost transparency, showing that it explains variance above and beyond perceptions of price fairness. Taken together, these studies imply that the proactive revelation of costs can improve a firm's bottom line.

5 - Using Won Awards in New Venture Product Communication: The Role of Customer Cognitive Legitimacy

Miriam Lohrmann, GGS (German Graduate School of Management and Law), Heilbronn, Germany, Tomás Bayón

To reduce the customer's insecurity about a new venture, many new ventures have visibly published their won awards on their webpages or in advertisements and have started using them to market their company and their products. In a new venture context, this strategy seems beneficial, because customers only have limited information to assess the venture. Prior research has shown that won awards are used as quality signals to increase customer satisfaction and purchase intention. In addition, it has been suggested that won awards may increase customer cognitive legitimacy, which is essential to avoid new venture failure. Customer cognitive legitimacy refers to the customer's interest in generating knowledge about the company and the product, their belief in the future existence of the company and its products, and the perception of the manager's competence. We build on this research and theorize that customer cognitive legitimacy is crucial to the effect of won awards on customer response. First, we focus on the way in which the effects of won awards on customer satisfaction and purchase intention are mediated by customer cognitive legitimacy. Moreover, as knowledge creation is related to high levels of involvement, we suggest that the effect of won awards on customer cognitive legitimacy is moderated by the customer's interest in the product category. We test our hypotheses within 2 experimental settings with student and consumer samples. The results support our hypotheses and show that new ventures benefit from using their won awards in communicating their products and company to potential customers.

■ SA18

Aula 19

Behavioral Games 1

Contributed Session

Chair: Jiong Sun, Purdue University, West Lafayette, IN, 47907, United States

1 - The Blessing of Bounded Rationality in Distributional Channels

Lei Zhuang, University of Minnesota, Minneapolis, MN, United States, Haitao Cui, Yusong Wang

The extensive adoption of cost-plus pricing by retailers in distribution channels is a puzzling phenomenon, considering that retailers can always improve their profits by best-responding to wholesale prices announced by their suppliers/manufacturers. In contrast to a dyadic channel with full rationality, where the best-response pricing is optimal for the retailer and a deadweight loss is incurred, we find that a simple cost-plus pricing can be a blessing if the retailer is bounded rational. More interestingly, we characterize the condition under which all channel members, including the retailer himself, can benefit from the cost-plus pricing. Such a result is robust when either firm is the Stackelberg leader in the channel. Thus, bounded rationality by firms provides a natural mechanism for the retailer to commit to cost-plus pricing decision that benefits firms and the channel.

2 - Moderating Effect of Attitude Confidence on Consumer Correction for Endorser Bias

Chung-Chiang Hsiao, NTNU, Taipei, Taiwan, Yi-Wen Chien

The use of attractive endorsers has been found to bias consumers' judgments every day. However, it has also been found that consumers can develop their own strategies to cope with these persuasive attempts when they are aware of the potential of the endorser bias and have high involvement in making accurate decisions. The current research is aimed to examine whether high-involvement consumers, if made aware of the endorser bias by bias-prompting taglines embedded within the ad itself, are able to remove the endorser's influences from their product judgments. More important, we would like to examine whether such corrections will be moderated by attitude confidence. According to the naïve theory-based bias correction models, corrective processes are driven by social perceivers' use of naive theories. That is, people generate perceptions of the bias(es) at work and correct their judgments in a direction opposite to their perceived biasing direction and with the amount identical to their perceived biasing amount. We believe that consumers who possess a higher level of attitude confidence on their target judgments, their corrections for the endorser bias would be less. It is because these consumers perceive their judgments should be less likely to be contaminated by the irrelevant endorser. The current study contributes to bias correction and consumer research literature by providing more insights to the processes explaining consumers' correction likelihood and degree. It also offers important implications to marketers by suggesting enhancing target consumers' confidence in their initial attitudes through promotions would be important in reducing their corrections for positive marketing attempts.

3 - Price Advertising with Loss Aversion

Kun Qian, University of Texas at Dallas, Richardson, TX, United States

This paper examines how a firm would choose the advertised price for a vertical differentiated product line when consumers are loss averse. The author incorporates the choice-set dependent preference of consumers into an advertising game. First, the author shows a firm always advertises the low-end product when consumers are not loss averse. Second, the author finds that the firm would advertise the high-end product when consumers are loss averse and a large proportion of consumers are quality-conscious. Third, the author identifies that the firm has an incentive to give a discount for the advertised product and consumer surplus can increase when a large proportion of consumers can anticipate their loss aversion. Finally, the author finds that consumers' loss aversion may increase firms' profitability in a duopoly model.

4 - Consumer Targeting and Dynamic Innovation

Jiong Sun, Purdue University, West Lafayette, IN, United States, Yingchen Yan

Consumers' purchase histories allow firms to adopt behavior-based price discrimination when introducing an upgraded product to the consumers who have previously adopted an early version. In this paper, we investigate when the firm benefits from consumer targeting in dynamic innovation and how consumer targeting affects innovation profitability and functional improvement. The main result is that the firm benefits from consumer targeting only when the new product functional improvement is sufficiently low such that offering the original product to newly-arriving consumers is not a profitable strategy. Second, differing from the literature, we find that in the context of dynamic innovation, consumers may not get hurt by being targeted. Third, consumer targeting may enhance or hinder the new product improvement level. The firm's commitment power is also considered.

■ SA19

Aula 20

UGC 1

Contributed Session

Chair: Nils Wloemert, Vienna University of Economics and Business, Institute for Interactive, Vienna, 1020, Australia

1 - The Men Who Closed the Bar: The Unexpected Gender Disparity in Effectiveness of Online Reviews

Sina Damangir, San Francisco State University, San Francisco, CA, United States

In this research, we present the evidence that the reviews and online ratings by men are more effective than those by women in predicting the failure of a business. We used the data from a sample of approximately 200,000 businesses and 6.5 Million online reviews on Yelp. The data covers several business categories and extends across several cities across the US and Canada. Then, we used natural language processing (NLP) techniques to explore the difference in language patterns used by men vs. women in online reviews. Using NLP results, we hypothesize that such differences in language patterns can partly explain the effectiveness of online reviews by men.

2 - Learning from Self and the Crowd: the Informational Role of User-Generated Content for Frequently Purchased Products

Qingliang Wang, Assistant Professor, Northwestern Polytechnical University, Xi'an, China

With the rapidly increasing popularity of online social media, user-generated content (UGC) has supplemented the traditional information channels and has become an important information source for consumers. In this study, we examine how consumers' experiential learning moderates the informational role of online UGC on an individual consumer's purchase decision regarding frequently purchased products. We propose a structural model to capture consumer learning from both online UGC and consumption experiences. Adopting the Bayesian updating framework, we demonstrate how individual consumers perceive and interpret the information embedded in online UGC to update their quality perceptions of products. We apply our model to the context of consumer dining choice by combining data from online reviews of restaurants and consumers' restaurant dining records. Our analysis leads to two important findings. First, consumers are able to learn restaurant quality from both online UGC and their own consumption experiences regarding dining choice. There is a significant amount of consumer learning from the consumers' own consumption experiences, indeed, much more than from online UGC. Second, neglecting consumers' experiential learning can result in over-estimation of the impact of online UGC on consumers' restaurant choice. We demonstrate how our model can be used for firms' decisions on word-of-mouth marketing on social media platforms. Our policy simulation results suggest that the impact of online UGC on consumer decisions decreases with the number of consumers' consumption trips. Thus, online UGC promotions may be influential only for new products and it is possible that the impact would be of short duration.

3 - Investigating Causal Relationship of Service Quality using Text-mining

Juhwan Lim, Master Degree, Korea Advanced Institute of Science and Technology, Daejeon-si, Korea, Republic of, Hyejin Kim

Customer-generated online reviews have become informative resources for marketers to observe customer perceptions in the service industry. Various studies have mainly focused on customers' experiences and feedback on services or firms' performance. However, these studies have remained mostly exploratory and there is difficulty in how to interpret reviews to represent different dimensions of service quality. The aim of this paper is to explore online customer reviews to establish causal relationships among service quality, customer satisfaction, and behavioral intention, and identify different customer segments. This paper demonstrates that latent dirichlet allocation (LDA) extracts service attributes from online reviews and that ratings and recommendations measure customer satisfaction and behavioral intention, respectively. The data set includes 33,193 online reviews for 84 airlines operating in 46 countries and including 23 low-cost carriers. After validation procedures, LDA identifies service attributes that affect dimensions of customer satisfaction, and in turn, these dimensions influence behavioral intention. Managerially, marketers are provided with insights to focus on specific service attributes to improve each dimensions of customer satisfaction and behavioral intention, based on identified customer segments.

4 - Monetary Consequences of User Generated Content Platforms for Content Industries – Evidence from Video Music Streaming Services

Nils Wlömert, Vienna University of Economics and Business, Vienna, Austria, Dominik Papies, Michel Clement, Martin Spann

User generated content (UGC) platforms such as YouTube enjoy enormous popularity worldwide. The majority of content on these platforms is uploaded by users who do not hold the copyright for this content, and the platforms are not liable for restricting users from uploading it. This raises the question of whether these platforms are beneficial for rights holders. On the one hand, UGC platforms pay fees to rights holders, even if the content was provided by third parties, but these fees are only a fraction of what other streaming services (e.g., Spotify) pay. Further, UGC platforms claim that they divert consumers from illegal piracy sites. On the other hand, consumption on UGC platforms may substitute music purchases or paid streaming adoption and it is unclear whether the fees paid by UGC platforms to the rights holders are sufficient to offset these substitution effects. Therefore, we investigate how UGC video music streaming services impact the consumption of music content in other channels (i.e., on-demand audio streaming services, paid downloads, piracy) and total recorded music revenues. We rely on a unique dataset from the German music market, covering all major consumption channels for more than 4,000 music tracks over a period of more than two years. The results indicate that, although UGC video streaming services cannibalize piracy and generate income, their effect on total revenues is negative because of the cannibalization of paid downloads and other streaming channels. Policy makers and content managers may use the results to design measures to ensure the fair compensation of rights holders.

■ SA20

Sala delle Lauree

Retailing 6

Contributed Session

Chair: Els Breugelmans, KU Leuven, Antwerp, 2000, Belgium

1 - Transformational Leadership of Store Managers and Its Impact on Employee Sales Performance

Hongwei He, PhD, University of Manchester, Manchester, United Kingdom, Weiyue Wang, Yansong Hu

Transformational leadership (TL) has been found to be beneficial for a range of employee outcomes, including employee performance. This is achieved by transformational leaders' inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence. Research has started to examine how transformational leadership can influence employees' sale performance. However, this body of literature remains relatively thin and fragmented in terms of how and when TL influences employees' sales performance, particularly in the retail sector. This research aims to address this issue by testing its different mediation mechanisms (i.e., psychological empowerment, customer orientation, and organizational identification) and how its effect and mechanisms differ for employees with different personality traits. Based on a primary dataset involving 50 stores and about 1000 employees, we conducted multi-level moderated mediation analyses to show that: a) store managers' TL indeed positively relates to employees' sales performance; b) this effect is mediated by psychological empowerment and customer orientation, but not by organizational identification; c) the effect of TL on the mechanism of customer orientation (hence sales performance) is stronger particularly for employees with lower conscientiousness, emotional instability, or agreeableness; and d) the effect of TL on the mechanism of psychological empowerment (hence sales performance) is stronger for employees with also lower emotional instability, but higher openness to experience. This research contributes to the literature on how TL impacts on sales performance in the retail sector in particular, and the literature of TL on employee performance in general, by testing the relative importance of different psychological mechanisms and personal differences in their susceptibility to TL's impact.

2 - When and How Sales Signals Work? – Evidence from TV Infomercials

Kitty Wang, University of Houston, Houston, TX, United States, Sam K. Hui, Ming Chen

Both academic literature and industry practice support the use of sales signals, but we are yet to gain further understanding on the role of sales signals in consumers' decision making process. In this study, the type of "signal" is a sales signal the firm provides that contains no actual information of a product, but consumers may use it to infer something about the product. These are persuasive sales signals - to persuade consumers to purchase. We coded TV infomercial shows over two months period from one of the largest US based TV shopping channels to answer the following research questions:1). Do sales signal shift sales over time or do they increase overall sales? 2). When using these signals are more effective? and 3). Test the mechanism of why different sales signals work better at different times.

3 - Fulfill by an Online Marketplace: Consumer Search and Assortment Competition

Qingwei Jin, Zhejiang University, Hangzhou, China, Lin Liu, Yi Yang

In this paper, we will explore how different search patterns (parallel vs. sequential) affect firms' assortment competition and how a profit-maximizing online marketplace optimally chooses fulfillment fees. Our results show that, depending on market parameters (e.g., search cost and the number of firms in the market), parallel or sequential pattern might each lead to higher assortment level for firms. Correspondingly, the marketplace will choose a different level of fulfillment fees to maximize its own profit. Our results also show how market parameters affect assortment and fulfillment fees.

4 - Store Re-Invention: How are Sales Performance and Existing Customers' Shopping Patterns Impacted?

Els Breugelmans, KU Leuven, Antwerp, Belgium,
Marleen Hermans, Manfred Krafft, Mirja Kroschke,
Murali K. Mantrala

Traditional brick-and-mortar retailers are under pressure and need to re-think their offerings and appearance in order to retain and grow their customer bases. Often, retailers respond to these challenges with a re-invention some of their stores. A re-invention is a radical transformation of the servicescape as well as the positioning while remaining at the same location. So far, it is unclear how such a store re-invention affects a retailer's sales performance and existing customers' shopping patterns, both at the focal store and at other (untransformed) stores of the focal chain in the proximity. To answer these questions we use both transaction sales data (study 1) as well as customer level data of loyalty program (LP) members (study 2) from a natural experiment, where a major German grocery retailer re-invented one of its stores. More precisely, in study 1, we investigate the overall impact of a store re-invention on sales of the focal and other stores in the close vicinity, and assess differences between sales from LP and non-LP members. We show that a store re-invention has a positive sales effect for the focal store that mainly comes from non-LP members. Surprisingly, for other stores in the proximity, we also found a positive effect, mainly driven by LP members that switch away from the new store to another store with an old concept. In study 2, we zoom in on LP members, and examine how store re-invention affects store choice and basket size. Our results suggest that a store re-invention influences shopping patterns both positively and negatively, with some LP members being more likely to stay at the focal store or to switch to another store of the chain, based on their prior shopping behavior and distance to the store.

5 - Defining the Leader and the Follower in a Two-Sided Market: An Inactivity Analysis in the Food Waste Industry

Shantanu Mullick, Assistant Professor, Eindhoven University of Technology, Eindhoven, Netherlands, Néomie Raassens, Ed Nijssen

A large percent of food produced is wasted, which has detrimental environmental, social, and economic consequences. Consequently, different actors within the food chain have implemented various initiatives to tackle food waste. Particularly retailers, who are keen on reducing food waste because it lowers their profitability, have started selling perishable food, e.g. fruits and vegetables, close to the recommended expiration date at discounted prices. However, information about these discounts do not always reach consumers, leading to the creation of platforms, which are manifested as mobile applications for consumers, that facilitate information flow from retailers to consumers. While these platforms reduce information asymmetry, they suffer from the problem of two-sided networks in that both parties need to remain active for the platform to be sustained. In order to sustain the activity on the platform, the main challenge lies in identifying which party is the leader and which one is the follower, a challenge which is taken up in this study. By using a combination of a panel VAR model and an impulse response function, along with data from a food waste reducing platform with gradually dwindling activity, we examine to which group the increasing inactivity can be attributed: the retailers or the consumers. Our data span 52 weeks and contain 900,000 distinct product uploads from 235 supermarkets to the platform which has 21,600 active users. We find that consumers play a larger role than retailers in the rising inactivity on the platform dedicated to reducing food waste. We discuss the implications of our findings for policy makers.

Saturday, 11:00AM - 12:30PM

■ SB01

Aula 01

Marketing Finance Interface 1

Contributed Session

Chair: P.V. Balakrishnan, PhD, University of Washington, Bothell School of Business, Bothell, WA, 98011-8246, United States

1 - How Brand Equity Management Leads to Debt-Holder-Risk

Domitilla Magni, University of Roma Tre, Roma, Italy,
Luca Petruzzellis, Alberto Pezzi

Managers have many ways available to increase firm's value, including reducing company risk with cash flow (Rappaport, 1997; Srivastata et al., 1998). Several studies have argued that brands have a significant impact on financial market performance (Madden, et al., 2006; Fehle et al., 2008), and have predicted that brands not only succeed in increasing firms' returns, but also reduce the risk, thus increasing the firm's value (Fornell et al., 2006). In literature, marketing costs are viewed as short term expenses and minimized and rarely considered long-term financial investments (Rust et al., 2004). Just few studies (Rego et al., 2009; Minz, 2014) have highlighted that firms with strong brand equity have lower total equity risk. This paper empirically examines the relationship between brand equity management and the risk to the firm's debt-holders and equity-holders, using panel data from 2010-2018 of 46 US listed companies from COMPUSTAT database, data on brand equity from BrandFinance database, and a measure of credit ratings as proxy of Debt-Holder-Risk. The findings demonstrate that brand equity mitigates the effect of market movements (overall total and unsystematic risk), and reduce the variable of debt-holder-risk. Firms with strong brand equity have relatively lower volatility than equity returns during market downturns, which implies that, under unfavorable economic conditions, investors consider them as a safer investment. This paper suggests that branding can affect both the vulnerability of cash flows as reflected in risk evaluations to debt repayments and the variability of cash flows as reflected in stock return variations. Branding contributes to firm performance by managing firm risk. This has important implications for marketers to persuade chief financial officers on the value of branding investments. The investment can be justified by the reduction of the cost of capital in the payback, while the maintenance of branding expenditures during recession periods can be justified by the fact that a reduction of the investment increases the firm risk.

2 - Strategic Orientation & the Risk of Failure

Ashkan Faramarzi, PhD Student of Marketing, HEC Paris, Jouy en Josas, France, Abhi Bhattacharya

The purpose of this article is to investigate the effects of strategic market orientation and capabilities on shareholder value and bankruptcy risk. Specifically, in this paper we address two main questions: (1) How do a firm's strategic orientation and capabilities affect bankruptcy risk and shareholder value? (2) What are the most important moderators in this relationship?. We use multiple secondary data sources for American firms in 90 industries between 1994 and 2009. We integrate different econometric methods to examine the relationships and the impact on shareholder value and bankruptcy risk. In order to account for simultaneity, reverse causality, and endogeneity, we propose a system of simultaneous equations estimated sequentially using a control function approach. We show that firms mainly benefit from focusing on capabilities because of the significant negative effect on bankruptcy risk and the positive effect on shareholder value. On the other hand, the effect of strategic orientation can be controversial. In addition, we find that firms with the right strategic orientation and capabilities have a higher chance to survive and create value compared to their competitors in a turbulent and concentrated market.

3 - How Organizational Aspirations Shape Marketing Decisions: Influence of Self and Social-based Performance on Advertising Spending

Jooseop Lim, Associate Professor, Concordia University, Montreal, QC, Canada, Philip Bromiley, Imran Currim, Yu Zhang

Although prior research on organizational aspirations has employed own firm's (self-based) and comparable firms' (social-based) performance measures to explain the influence of organizational aspirations on various decisions such as R&D spending, its influence on marketing has not been addressed. This study employs the behavioral theory of the firm to hypothesize how attainment discrepancy, i.e., performance relative to self and social-reference points (termed aspiration levels), affects advertising spending decisions. Using data on advertising spending and cash flow return on assets of 2,210 publicly listed U.S. firms, authors present two main findings. First, following expectations, firms performing below self and social-aspirations increase advertising spending while firms performing above social-based aspirations cut advertising spending. However, in contrast to expectations, those performing above self-aspirations increase advertising spending. We discuss the phenomenon of slack search which can lead to increasing advertising when performing above self-aspirations. These new results demonstrate that the role of organizational aspirations in driving marketing spending decisions has been understated heretofore.

4 - An Anomalous Trading Behavior: Impact of the Index Investors on Stock Markets

P.V. (Sundar) Balakrishnan, Professor & Associate Dean, University of Washington, Bothell, WA, United States, James M. Miller, Gowri Shankar

The preponderance of marketing research on exchange behavior in the consumer goods and services markets has resulted in a long neglect of the fascinating and important trader behavior in Stock markets. For most of history, investors have actively bought or sold (stocks) based on their relative merits or demerits (as in any other consumer markets). However, the advent of S&P 500 index funds in the mid-1970's created a new segment, namely, index fund investors. These investors buy and sell entire baskets of stocks in the index without regard to the valuation of individual stocks. The role of index fund investors has grown substantially accounting for as much as 35% of the dollar volume. We study how the behavior of the new class of index fund investors has affected the distribution of trading volumes in S&P 500 stocks from 1960 to 2018. We follow the seminal paper by Balakrishnan, Miller and Shankar (2008), who employing a power law model documented the phenomenon that trading is becoming increasingly concentrated in a subset of stocks. Investors would focus on a few, popular stocks resulting in high trading volumes; for most other 'neglected' stocks, the trading volumes would be relatively light. However, in markets dominated by index investors, we would expect to find a more even distribution of trading volumes across all the index stocks, with the volumes reflecting the market capitalizations. We present the interesting results of our analysis on the trading concentration in S&P 500 stocks.

■ SB03

Aula 03

New Products 3

Contributed Session

Chair: Rajdeep Chakraborti, IE Business School, Madrid, 28006, Spain

1 - The Sequencing Effect in Promoting Adoption of User-Innovation

Helen SI Wang, The University of Hong Kong, Hong Kong, Bennett Yim

User-innovations (i.e., innovations invented by individual users for their own benefits rather than mass market's needs), have been shifting the innovation paradigm for many industries (Gambardella et al 2016). However, driven by individual users' own needs, user-innovations are often perceived to be irrelevant by the mass market, even though it is inherently beneficial to many (De Jong et al. 2015). As a result, many user-innovations remain as isolated, one-time applications for the inventors (Heinerth et al. 2013). In this research, we examine how to promote diverse adoption of user-innovations among domain and non-domain adopters by evoking the perceived value for the user-innovation. Prominent consumer decision-making theories suggest that establishing a positive association between consumers' consumption goals and the innovation's unique attributes is the key to consumer learning and choices (Moreau et al 2001). In practice, mangers often present the information about the goal and attributes of the innovation together, yet arbitrarily determining the sequence of presentation. Drawing from query theory (Johnson et al. 2007), we posit that the sequence of goal attribute presentation matters for adoption of user-innovation. In particular, a goal-then-attribute presentation sequence drives domain consumers' adoption, whereas an attribute-then-go presentation sequence drives non-domain consumers' adoption. This effect is mediated by a positive goal-attribute association about the innovation. Furthermore, the timing of new product pre-announcement and openness to customer participation moderated this sequencing effect. Empirically, we conducted four field and controlled experiments and validated our hypotheses. Our findings have significant theoretical and managerial implications on adoption of user-innovation.

2 - Bildungsroman of Software as a Service on the Cloud: Complementary Capabilities and Firm Growth, Return and Risk

Sundar G. Bharadwaj, University of Georgia, Athens, GA, United States, Yuanyuan Chen, Anandhi Bharadwaj

We study how the transition to software-as-a-service (SaaS) affects software vendors' operational and financial performance and how vendor capabilities moderate the impacts. Using a panel data of over 300 software vendors from 2003 to 2016, we examine the operational, financial and market performance (return and risk) outcomes of the transition to SaaS: sales growth, return on asset (ROA), operating margin, cash flow volatility, and Tobin's q. The results reveal that software vendors encounter a contraction in sales growth, ROA, and operating margin and carry a burden of greater risk (increasing cash flow volatility) in the early period of transiting to SaaS. However, the performance downtrend is reversed several years after the transition, with the average reversal occurring about six years after the transition. We also find that shifting to SaaS increases firms' market value (Tobin's q) initially, but this effect flattens out in the subsequent years as the affect is incorporated into the stock price. Vendor specific capabilities augment the transition to SaaS by reducing the number of years a SaaS firm takes to recover from the initial downturn. On average, firms with greater marketing and service capabilities can regain sales growth 1-2 years earlier. Marketing capability also helps in achieving higher margins and financial market valuation. Operations capability is significant in mitigating cash flow volatility and in obtaining higher operating margins. The results of our study are significant from a theoretical and practical standpoint in understanding and managing technology transitions.

3 - Launch Strategies for New Product Survival: Waterfall, Sprinkler, or Niche?

Sajeev Nair, University of Southern California, Los Angeles, CA, United States, Siddarth Sivaramakrishnan, Gerard J. Tellis

Past research suggests that the type of launch strategy used influences new product success. Researchers have examined mainly two types of new product launch strategies - waterfall and sprinkler. But, almost all the previous studies are related to global launch of consumer durables. Previous literature has not examined within-country launch strategy of consumer-packaged goods (CPG). Also, limited studies have explicitly considered launch strategy as a driver of new product success. We address the following questions in the current study: Are there distinct geographical patterns of within-country launch for CPG products? Which launch strategy is associated with longer survival time for new products? Does the association differ by product category? We analyzed data on more than 500 new products launched in 5 categories in the US. We use these products' market entry patterns in the first 12 weeks to define the launch strategies. We then test survival of the products in the subsequent 190 weeks. We identify a new launch strategy - niche - that is quite prevalent in CPG industry, but not highlighted in past literature. Unlike findings from several past studies, we find that, on average on the pooled sample of products, waterfall strategy has the longest survival. The sprinkler strategy has the highest hazard of failure of all three strategies. This result is counter-intuitive because one would expect products launched using sprinkler strategy, which gives widest early penetration, to survive the longest. Moreover, we find that a niche launch strategy has longest survival in two product categories.

4 - Adoption of Multi-generational Products: The Interplay of Pre-launch Post-launch Pricing in a Duopoly Market

Rajdeep Chakraborti, IE Business School, Madrid, Spain, Shameek Sinha

For multi-generational products, pre-launch pricing strategy helps marketers to identify the market potential for the yet to be launched product and to gain access to financial capital even before the product is launched. Existing studies have mostly been silent about the determination of pre-launch sales prices and its interplay with post-launch pricing as mechanisms to ensure optimum adoption level across both sales periods. This study attempts to fill this gap. This paper considers a market consisting of two competing firms (with differential reputations) that sell two generations of products, each with pre-launch and post-launch sales periods. It is also assumed that the expected demand for any one of the products in the post-launch period depends on its own demand as well as that of its competitors' demand in the pre-launch period. On the basis of these assumptions, this article proposes an empirical model that captures the effect of the pre-launch price on the demand in the post-launch period for the multi-generation product. Thereby it not only captures the dependency of pricing in the pre and post-launch sales periods, but also the interplay of demand in those two periods. This study showcases the importance of: a) customers' valuation of products; b) the pre-launch strategies on adoption for each product generation and how these factors influence post-launch market outcomes in consecutive time periods. Additionally, the findings of this study provide the marketers and manufacturers crucial insights on how to influence the demand for their offerings using pre-launch pricing strategies and also on how to counter the pre-launch pricing strategies undertaken by the competitors.

■ SB04

Aula 04

Platform Competition, Strategies, and Analytics

Special Session

Chair: Lingling Zhang, University of Maryland-College Park, College Park, MD, 20742, United States

1 - Spatial Network Effects in the Ride-sharing Market: A Comparative Study of Uber and Lyft in NYC

Vineet Kumar, Yale School of Management, New Haven, CT, 06511, United States

This paper uses both empirical and theoretical methods to conduct the first cross-platform study in the ride-sharing market. We start by empirically documenting that Estimated Arrival Times (ETAs) of Uber and Lyft have demonstrably different geographical patterns across the city of New York. We empirically argue that this pattern difference stems neither from different prices nor from different rider behaviors. We then build a parsimonious theoretical model that explains this geographical inter-platform disparity as well as multiple other patterns in the data based on driver behavior. It posits that a driver enjoys positive network externality from driving where there are other drivers of the same platform, since this lowers the chance of getting asked to do a far away pickup. This positive externality is stronger for smaller platforms and forces their drivers to cluster relatively more. We use this model to answer the following practical questions: (1) Would force-downsizing of ride-sharing platforms in a city skew drivers' location distribution towards more clustering? (2) Should a small platform try to correct its drivers' clustering behavior through its pricing?

2 - The Comprehensive Effects of a Digital Paywall Sales Strategy

Doug J. Chung, Harvard Business School, Boston, MA, 02163, United States, Ho Kim, Reo Song

This paper explores the multiple and comprehensive effects of a digital paywall sales strategy, an increasingly common means of go-to-market for media outlets. Specifically, we examine the effects of paywall on a media outlet's two sources of income—subscription and advertising—across its two channels—traditional and digital. We compile a unique data set from multiple sources—which include detailed data on 79 major U.S. newspapers—and, for causal inference, utilize a synthetic control method to distinguish the true effect from naturally occurring time trends. In addition, we take into account demand substitution across channels and factors that moderate such substitution effects. Although heterogeneous across media outlets, we find that a paywall sales strategy leads to positive demand substitution from digital to traditional channels, especially for outlets that have large circulation and uniqueness in content. Furthermore, uniqueness in content reduces the decline in digital demand, moderating the loss in digital advertising revenue while increasing digital subscription revenue. Overall, while an adoption of a paywall leads mostly to a positive net outcome, the source by channel of income vary across media outlets with different characteristics.

3 - Unpacking the Deep Learning Black-Box: Exploring the Picture Data Analogy in Generative Adversarial Networks

Clarence Lee, Cornell University, 401b, Sage Hall, Ithaca, NY, 14853, United States

Deep learning algorithms have a bad reputation for its “black box” nature. In this paper, I attempt to unpack this black box by examining data generating distributions from the Generative Adversarial Network (GAN) using the lens of the Picture-Data Analogy. By specifying how various types of network architectures could generate different types of data, such as data generated by a discrete choice model, I explore the connections between common deep-learning building blocks, such as convolutional layers, dropout and autoencoders, with concepts that marketers often use, such as heterogeneity, dynamics, and data sparsity.

4 - Estimating Competition of Heterogeneousand Fast-Updating Product Assortments

Lingling Zhang, University of Maryland-College Park, College Park, MD, 20742, United States, Fan Feng, Pallassana K. Kannan

For many platform businesses, identifying competition by brand name is no longer viable because of the constantly-evolving product and service assortment. For example, the supply on platforms featuring apparel, events, and deals is different on almost a daily basis. In this research, we employ machine learning algorithms on product descriptions to explore the inherent relationship among products based on what each product or service is. However, product descriptions tend to be short, making it difficult to apply classic text mining tools such as LDA. To overcome this, we adopt the word vector representation that incorporates semantic similarity between words, instead of treating words as distinct labels. We compile a unique dataset in collaboration with a platform company selling events and activities for children. Our data include 1.4 million transactions from more than 400,000 users. We specify two alternative models to estimate demand. In the first model, we group products using clustering analysis and specify a nested logit model to estimate the substitution pattern. In the second model, we formulate a probabilistic topic model and fit a generalized logit model with overlapping clusters. This research has implications for how platforms can estimate competition among highly heterogeneous products and thus improve the assortment design and firm performance.

■ SB05

Aula 05

#MeToo and You: Perceptions of Stigmatized Individuals and Stigmatized Behaviors

Special Session

Chair: Broderick Turner, Northwestern University

1 - Use of Identity Labels for Stigmatized Groups: Person- versus Identity-First Language

Esther Uduehi, University of Pennsylvania, 1414 S Penn Square, 11G, Philadelphia, PA, 19102, United States, Americus Reed

Regulatory agencies suggest recommendations on referring to stigmatized groups. This is the first study systematically exploring these subtle language choices across several stigmatized groups. We find placing a person first in descriptions is perceived to be more acceptable in addressing stigmatized groups, but how people actually address stigmatized groups varies based on various factors. Highly stigmatized disorders (but not less stigmatized) cause people to choose person-first language when the labeler believes that the person labeled could not control the condition or was willing to improve it. Also, use of person-first conveys empathy for the person labeled, while identity-first conveys accountability. Across a pilot test and four studies, we find that more stigmatized medical disorders were more likely to contain condition-first language (Pilot Study). Next, we find that the less offensive way to address stigmatized groups is using person-first language, but the actual language used depends on the specific disorder (Study 1). Also, for highly stigmatized disorders (but not less stigmatized disorders), people are more likely to use person-first language when they believe that the disorder is not within the person’s control (Study 2) and when the person is described as willing to change in order to improve the condition (Study 3). Study 4 shows that people perceive person-first language as more empathetic and conveying the changeability of the disorder, while identity-first language shows negative judgment and holds the individual accountable for their disorder.

2 - Empathy Shifts Giving from the More and Toward the Less Vulnerable

Broderick Turner, Northwestern University, Canada, Aparna A. Labroo

Charities often highlight vulnerability of victims to evoke empathy among donors and to encourage giving. However, raising support for such causes remains a major challenge for charitable organizations. In this research, we posit that evoking empathy for the most vulnerable—the poor, the sick, and the victimized—can actually backfire and lead to reduced donations. We test our theory that the needs of a donation recipient enact reasons for one to give and feelings about the giving scenario. Empathy increases reliance on feelings when making donation judgements, which leads to an aversion towards the most vulnerable, and compassion towards the least vulnerable. The result is a divergent pattern of pro-social behavior toward the strong and the weak. We test this theory among six distinct donor bases (n = 1900) with a with a variety of giving scenarios with actual monetary decisions.

3 - Tainted by Stigma: The Interplay of Stigma and Morality in Health Persuasion

Nidhi Agrawal, University of Washington, Seattle, WA, United States, Chethana Achar, Lea Dunn George

Health messages are designed to help consumers recognize risk factors and take advocated actions. This research shows that seemingly innocuous health behaviors (e.g., screening for lung cancer, vaccination for cervical cancer) can become tainted by the stigma associated with potential health risk factors (e.g., smoking, having multiple sexual partners). We bring together the literatures on health and morality to identify when and how stigmatized risk factors impact health persuasion. We theorize that stigma associated with a health behavior is threatening to a salient moral self, resulting in defensive processing and reduced message effectiveness. Five studies show that the presence of stigmatized risk factors in a health message undermines persuasion for consumers with high moral identity, but not for those with low moral identity. The negative effect of stigma can be attenuated by affirming the self in an unrelated domain, or by a messaging intervention that reduces stigma. These findings highlight stigma’s role in health consumption and document how morality influences consumer decisions beyond moral, prosocial, and ethical domains. We also contribute to the health persuasion literature by showing that resistance to health persuasion could arise from factors (e.g., stigma) that go beyond health threat and offering a potential messaging intervention to address this effect.

4 - Perceptions of your #MeToo post: Men and Women See it Differently

Wendy De La Rosa, Stanford University, Stanford, CA, United States, Solene Delencourt, Sarah Soule

Sexual assault victims are often marginalized and shamed into keeping silence about their assault. Yet, in recent times, the “MeToo” movement has encouraged women across the world to share their sexual assault stories through social media. Despite the prevalence of the #MetToo movement, little is known about how this type of self-disclosure is perceived, especially in the context of seller-buyer interactions. The current research demonstrate that women and men respond differently when viewing a seller’s social media profile containing self-disclosure about a sexual assault. Compared to a control, women offer 23.9% less for a $100 Amazon gift card when they see that the seller’s Facebook profile contains a #MeToo post, while men offer 13.5% more. This effect seems to be driven a difference in perceived status, not by competence, trustworthiness, or threatening perceptions. We find that women (men) perceive the seller to have lower (higher) status if their Facebook profile contains a #MeToo post.

■ SB06

Aula 06

Insight into Online Communities and Peer Influence

Special Session

Chair: Martina Pocchiari, Rotterdam School of Management, Erasmus University, Rotterdam, 3062 PA, Netherlands

Co-Chair: Yaniv Dover, The Jerusalem School of Business Administration, Jerusalem, Israel

1 - The Effects of Community and Activity Characteristics on Participation Intentions: Evidence from Meetup.com

Martina Pocchiari, Rotterdam School of Management, Erasmus University, Rotterdam, 3062 PA, Netherlands

Thanks to recent technological advancements, the number of communities using the Internet to facilitate interactions among their members has grown enormously. For each of these groups, active participation among its members is crucial for whether the community is successful and sustainable in the long-term. Several community characteristics encourage or hinder active participation to the life of social groups. Previous research has identified antecedents of active participation using self-reported measures, and in narrow empirical settings, resulting in limited causal evidence. Therefore, this study aims at understanding what causes members to participate actively in their communities, using real world data and including different kinds of groups, organizers, and participants. Using repeated observations of an ecosystem of communities on an event-based social network, the study covers 33 different interest categories, such as technology, business, and well-being. The study includes online and offline activities, and commercially oriented groups. The results complement and expand the existing literature about community participation and management. Understanding the impact of community, activity, and individual characteristics on active participation has important implications for community managers. Active participation ensures constant quality of shared services, and entails benefits for companies managing commercially oriented communities, such as enabling and facilitating consumer experiences, contributing to the overall engagement of users with brands, and higher revenue and margin growth.

2 - Social Contagion in Music Sampling

Weiyi Deng, Rotterdam School of Management, Erasmus University, Rotterdam, Netherlands, Maciej Szymanowski

Consumers increasingly acquire access to music via online streaming rather than purchasing physical media. Major music streaming services usually charge a flat fee for an unlimited access to its entire music library consisting of tens of millions of tracks. For consumers, the attractiveness of such service is a function of utility from discovering new music, therefore music distributors seek ways to facilitate such new music discovery. In this paper we focus on the role of social network in music discovery. We estimate the effect of social contagion, a process of consumers adopting new products they observe others use, and study the variation of social contagion across artists. Identifying social contagion poses a challenge which stems from the necessity to account for the fact that non-random network structure results in similar behaviors of social ties even in the absence of social contagion. Our approach to control for these confounds is to generate a control variable based on behavior of similar users who are not social ties. Using data on individual-level music listening over 10 years coming from a music community website, we find a positive and significant effect of sampling by peers on user's likelihood to sample new music. We also find significant effect of some music product characteristics on the strength of social contagion. We discuss implications for music distributors.

3 - Promotional Reviews, Social Influence, and the Information Content of Online Reviews

Leif Brandes, University of Lucerne, Rosa Cacabelos, Egon Franck

Popular press and recent survey results suggest that promotional, or fake reviews are on the rise. However, to date there exists little evidence on the extent to which such reviews actually undermine the information content of aggregate review scores, and the factors that moderate this extent. In this paper, we focus on the review funnel design and its potential for social influence effects as an important moderator under the firm's control. We report the results from a novel, real-effort experiment, in which participants tested a reference management software. During this test, participants entered journal articles into the software, and received a piece-rate payment for each correct entry at the end of the test. We randomly manipulated the quality of the software across participants: in the 'buggy' version, some entries were deleted, but not in the 'stable' version. Participants then had to write and submit an online review for their software experience. We show that exposure to fake reviews, i.e., positive (negative) reviews for the buggy (stable) version, during review provision significantly biases participants' submitted reviews, which are no longer informative about the relative quality of a software version. In contrast, reviews provided in the absence of fake reviews are informative. We show that this social influence effect of fake reviews operates, no matter whether participants see these reviews prior to writing the review, or only after clicking a preview button. Letting participants actively choose their software version based on the fake ratings prior to the start of the test does not change these results. Overall, our results link review funnel design to firm incentives for promotional reviews, and shed new light on the persistence and moderators of the impact of promotional review activity on the information content of online reviews.

4 - Sustainable Online Communities Exhibit Distinct Hierarchical Structures Across Scales of Size

Yaniv Dover, The Jerusalem School of Business Administration, Hebrew University, Jerusalem, Israel, Daniel Shapira, Jacob Goldenberg

Online communities exist in many forms and sizes. Yet, there is limited insight into why some online communities are sustainable, while others disappear. We find that in order to maintain sustainability, online communities exhibit a typical hierarchical social circle structure that balances cohesiveness across size scales. We develop a method that maps social groups (circles) across size scales, from the level of small network cliques to the level of the whole community. We then use this method to map 10,122 real-life online communities, with a total of 134,747 members, over a period of more than a decade. We find that there is a "stability valley" that marks a range of mapping profiles in which communities preserve sustainability. Moreover, it turns out that mapping profiles based only on the first 30 days of a community's lifetime can predict the community size up to ten years in the future.

■ SB07

Aula 07

Online Advertising, Social Sharing and Group Search

Special Session

Chair: Amin Sayedi, University of Washington, Seattle, WA, 98195, United States

1 - Search Advertising or Personalized Recommendation? A Dilemma of an Online Retailing Platform

Michelle Y. Lu, McGill University, Desautels Faculty of Management, Montreal, H3A 1P2, Canada, T. Tony Ke, Song Lin

To an online retailing platform, monetizing prominent product placement is a key revenue-generator. In general, an online retailer capitalizes on prominent product placement through two ways: advertising auctions (e.g., sponsored search advertising) and increased sales from personalized (organic) product recommendations. This research compares these two strategies in a setting where two manufacturers each sell one product on an online retailing platform. We show that the retailer faces the tradeoff between advertising revenue and direct control of retail margins when deciding between these two strategies. With recent developments in big data analytics, an online retailer can recommend consumers with better fitting products, and thereby enhance its retail margins. In contrast, search advertising revenue largely relies on bringing in more consumer demand on the table to intensify bidding competition in ad auctions, which implies retailing pricing should not be too high. Moreover, manufacturers' strategic wholesale pricing decisions even further complicate the problem since wholesale pricing essentially influences the retail margin. We show that a retailer may recommend a product consumers do not like under exogenous retail prices; however, a retailer's incentive is always aligned with consumers under endogenous retail prices. Nonetheless, under sponsored search advertising, consumers do not get their favorite product even under endogenous retail prices. However, consumer surplus can be higher under auctions than under personalized recommendations due to low retail prices.

2 - Group Search Strategy

Yuting Zhu, Massachusetts Institute of Technology, Cambridge, MA, 02142, United States, Xinyu Cao

It is prevalent in the real life that a group of people need to search and make a decision together, such as when a family search and purchase a house or a car. Since group members may have different preferences, it can be harder for group search to come to a decision. Thus, the group search strategy may differ from single-agent search strategy. Specifically, though it is widely believed that sequential search strategy dominates fixed-sample search strategy for single-agent search, this may not be true for group search. In this paper, we model group search under fixed-sample strategy and sequential strategy, and we show that when the search cost (relative to the dispersion of the value distribution) is very small or large enough, fixed-sample strategy is better than sequential strategy. This reflects a trade-off between the information advantage of sequential strategy and the commitment advantage of fixed-sample strategy. Due to the divergence of preferences in group search, the information advantage of sequential strategy is reduced, whereas the commitment advantage of fixed-sample strategy becomes more salient, especially when the search cost is very small or large enough. We further show that our result is robust to a change in distribution assumption or in the group size.

3 - Social Sharing with Competition

Yuanchen Su, University of Minnesota, Minneapolis, MN, 55414, United States, Yi Zhu, Anthony Dukes

As part of their marketing strategy, many firms encourage their customers to voluntarily share their product experiences with their social contacts - social sharing. Marketers hope to increase demand and profits when consumers share positive experiences with their products. This research builds a stylized model to examine the effect of social sharing on consumers purchase decisions, firms' competitive pricing strategy and profitability, to identify conditions under which positive social sharing may backfire. There are two socially connected consumers who have correlated preferences for products. Consumers sequentially search for product information from two firms before purchase. After the first consumer shared the information of the purchased one, the second consumer learns the information and then update her belief about the product. We find social sharing can have two effects on the second consumer's preference: mean shifting effect that sharing makes the competing products more differentiated and variance diminishing effect that sharing could bring less differentiation to two products. Our findings indicate (1) If the firms pledge the prices before sharing, the mean shifting effect and variance diminishing effect exactly cancel out. As a result, firms' pricing decision is unchanged despite expectation of social sharing. (2) If the firms can modify the price after sharing, then (a) the correlation of preferences between two consumers has non-monotone effects on firms' optimal price and profits; (b) while negative product sharing always make a firm worse off, sharing positive information about a firm's product may hurt the firm too, especially when the correlation is strong.

4 - Private and Open Exchanges in Display Advertising

Amin Sayedi, University of Washington-Seattle, Michael G. Foster School of Business, Seattle, WA, 98195, United States

Display advertising impressions in real-time bidding are bought and sold in two types of marketplaces: open exchanges and private exchanges. An open exchange is accessible to all advertisers and publishers whereas private exchanges give access only to a pre-selected and pre-screened set of advertisers and publishers. In an open exchange, publishers can sell their impressions to a larger set of advertisers; however, they have less control over who buys their ad space. Similarly, advertisers cannot even verify the identity of the publisher and may buy fake traffic. A private exchange does not have these problems, but it creates market inefficiency by softening competition through entry barriers. In this paper, we use a game theory model to analyze advertisers' and publishers' strategies in open and private exchanges. We find that, in equilibrium, publishers set relatively high reserve prices in private exchanges prioritize them; i.e., an impression is allocated to the winner of an open exchange only if the impression is left unsold in the private exchange. This strategy protects publishers from the lack of sufficient competition in private exchanges while also allows them to price-discriminate against premium advertisers with high valuation. We show that an advertiser should not bid for the same impression in both open and private exchanges at the same time. If the advertiser's value for the impression is sufficiently high, it should buy it in the private exchange; otherwise, it should bid for it in an open exchange. We find that the owner of an open exchange benefits from lowering advertisers' fraud; interestingly, however, it does not benefit from lowering publishers' fraud.

■ SB08

Aula 08

Digital Marketing 10

Contributed Session

Chair: Yashar Bashirzadeh, Grenoble Ecole de Management, Grenoble, 38000, France

1 - Fake Media Content and Cognitive Dissonance

Prabirendra Chatterjee, Cardiff University, Cardiff, United Kingdom

In this paper we present an analytical model that studies the strategic role of fake media content in a media market. We first find the conditions under which a monopoly media platform would publish fake media content. Then we show that certain opposite patterns exist in a competitive environment. Our results suggest that media platforms may find optimal profitability in publishing apparently less credible fake media content if the fake content can resolve consumers' cognitive dissonance. We find the exact equilibrium conditions under which both the platforms in a duopoly setting will find publishing fake media content as the optimal strategy. Additionally, we show that under specific conditions both platforms publishing fake media content can turn out to be a Prisoner's dilemma equilibrium. We also compute the relevant consumer surplus. Lastly, we use experiments to validate some of the results established by the analytical model.

2 - Effects of Communication in Social Networks and Implications for Customer Selection Strategy

Hwang Kim, Chinese University of Hong Kong, Shatin, Hong Kong, Vithala R. Rao

This study investigates the effects of social communications in a mobile social network platform and applies it to customer valuation and segmentation. We first develop a measure of the social communication effects, integrating the network structure as well as the peer-to-peer communications using Bayesian variable selection method. Then, we propose an integrated model of visit, retention, conversion and purchase amount in which the measure of social communication effects between network members is embedded. Then, using the integrated model, we represent customer value by individual value (intrinsic value in the absence of network members) and network value (influence on network members' value through social communications) and conduct a simulation study to measure social value of customers. Finally, based on the combinations of the proposed customer values, we propose a method to select important customers in social networks. We apply the model to the data from a mobile social network game wherein we can observe daily level visit, purchase, and peer-to-peer communication activities. Our results reveal that social communication is effective in increasing visit, retention and conversion rates, but not in purchase amount. Also, we find that customer value built through social communicative activities varies markedly when incorporating network influence and this identifies important customers in a unique way. Our study provides valuable managerial implications for precisely allocating a marketing budget and for understanding and managing customers in social networks.

3 - How should a Firm Respond to Online Reviews?

B.P.S. Murthi, Professor, University of Texas-Dallas, Richardson, TX, United States, Jong Min Kim, Qiang Ye

The study of management response to online reviews is a relatively new topic and raises interesting issues. Previous literature suggests that management response can be a mechanism for managing the online reputation of a firm by focusing on addressing negative customer reviews. The underlying theory relies on the service recovery literature that addresses how to gain a customer's loyalty following a service failure. However, in practice, we observe that management responds to all reviews - positive, neutral, and negative - to the same degree. Service recovery paradigm alone cannot explain the observed practice of responding to positive and neutral comments. Therefore, we employ social exchange theory to explain why response to positive reviews could also improve customer satisfaction. Using data from a large online travel website, we assess the relative effects of the two response strategies. Further, we also assess how much management response styles (that is, a cursory or a detailed response) play a role in affecting customer satisfaction. We employ a difference-in-differences (DID) model and find that management response has a positive impact on customer satisfaction for both positive and for negative reviews. Further, while a generic cursory response is adequate for positive reviews, such a response to negative customer reviews does not improve future ratings for a given customer. However, a specific detailed response does significantly improve future ratings. The results have significant implications for a firm's response strategy to online reviews.

4 - The Role of Clustering in Viral Processes – A Curse in Disguise?

Neta Livneh, The Hebrew University of Jerusalem, Jerusalem, Israel, Lev Muchnik, Jacob Goldenberg

In recent years, a number of online platforms have successfully combined an e-commerce platform with an active social network. One notable example is Steam, the world's largest video game platform. On Steam, users can purchase PC games, create friendships with other users, and play on the platform. Perhaps a natural expectation is that such a combination would prompt certain products to "go viral" - to propagate in the embedded social network. Some studies show that such viral processes could contribute to more rapid adoption of products by the platform users. On the other hand, several studies on diffusion of information show that both network connectivity and adoption velocity may be unrelated, or even negatively correlated, with rapid product growth. In this work, we empirically examine whether certain products gain popularity from being adopted by users from the same network cluster, or do products "lose" potential adopters from not being spread across the network. To answer this question, we collected a rich dataset consisting of a detailed social network and product adoption behavior of 88M users of Steam over a period of 6 months. We analyzed the adoption patterns of more than 1,000 new games (i.e., products) launched in that period. Surprisingly, our results show that adopter clustering is negatively correlated with the total number of adoptions, for both free and paid games. We hypothesize that certain products that rely on virality become trapped in a dense cluster of adopters: while initial adoption is accelerated, adopter clustering prevents product exposure to a larger pool of users, effectively locking products within a relatively small, isolated section of the social network. These results may suggest that virality may signal product failure rather than product popularity.

5 - Gaining More with Less: Investigating the Effects of Sales Promotional Strategies in the Freemium Context through Field Experiments

Yashar Bashirzadeh, Grenoble Ecole de Management, Grenoble, France, Andrew Petersen, Corinne Faure

The freemium business model, in which basic services are offered free of charge and premium services are offered for a fee, is widely adopted in the mobile application industry. With low proportions of in-app purchasers, it is common for freemium mobile apps to engage in various types of sales promotion activities to stimulate in-app purchase. In this research, we empirically compare the effectiveness of two key types of sales promotion strategies: price discounts (PD) in which quantity is unchanged but price is reduced and bonus packs (BP) in which the price is unchanged, but quantity offered is increased. The marketing literature comparing the use of PD offers with that of BP offers has yielded mixed results as to which promotional strategy is superior. This research aims to answer the following key research questions: (1) What are the impact of PD and BP promotional strategies on the short-term behavior of customers (purchase)? (2) What are the impact of PD and BP promotional strategies on the long-term behavior of purchasing customers (post-promotion purchases, retention, in-app consumption)? (3) What are the impact of PD and BP promotional strategies on the long-term behavior of non-purchasing customers (those who were exposed to the promotion but did not purchase)? To answer these questions, we conducted three separate large-scale randomized field experiments in cooperation with a freemium game app. We find that, in the short-term, PD greatly outperforms BP regarding purchase instance, conversion, and consumption. In the long term, we only find a slight negative effect on retention in the PD group compared to the control group.

■ SB09

Aula 09

Non Profit 1

Contributed Session

Chair: Hyeong-Tak Lee, University of North Carolina at Chapel Hill, Kenan-Flagler Business School, McColl Building, Chapel Hill, NC, 27599, United States

1 - Is the U.S. Still the Land of Opportunity for Higher Education?

Hyeong-Tak Lee, Assistant Professor of Marketing, University of Iowa, Iowa City, IA, United States, Sriram Venkataraman

International students contribute substantially to the U.S. economy and support a half million domestic jobs. However, since 2001, the share of international students in the U.S. dropped by 4 percent. This trend is concerning to universities, especially those that are reliant on international students to remain financially viable. Policymakers are also concerned because recruiting international students is important for the U.S. to remain globally competitive.

We study the demand for higher education in the U.S. amongst international students. We do so by empirically investigating the set of universities to which an international student applies for higher education. Specifically, we investigate how consideration sets vary with applicant characteristics, the macroeconomic conditions of the country of origin of the applicant, universities' admissions criteria/selectivity, and the socio-economic characteristics of the local market of the university (e.g., religious orientation, racial and ethnic mix, etc.). Our findings provide valuable insights into the drivers of the demand for higher education in the U.S., which are of interest to university administrators and policymakers alike.

2 - When are People More Pro-environment? Evidence from a Field Experiment

Yuqian Chang, Temple University, Philadelphia, PA, United States, Xueming Luo, Zheng Fang

Due to a drastic escalation in environmental problems, governments and organizations have extensively invested to stimulate for pro-environment behaviors. However, there is a stark inconsistency between the enormous macro-level attention to pollution and the meager micro-level individual responses. One plausible explanation is that the "weak signal" issue of environment protection: the macro pollution threat is not salient for lay people in their daily life at the micro individual level. To tackle this problem, we leveraged recent pollution experience to overwhelm the "weak signal" problem. A large-scale field experiment was executed by sending mobile text messages to company employees, calling for biking to work. The study was a 2 (appeal type: pro-environment vs. self-benefiting) × 2 (pollution experience: treated vs. not) × 2 (pollution city: treated vs. not) between-subjects design. Sample subjects were randomly selected to receive one of two automated messages (pro-environment appeal vs. self-benefiting appeal) in two cities on two days. When people do not experience pollution (in no pollution city or on no pollution day), pro-environment appeal is less effective than self-benefiting appeal in instantiating pro-environment behaviors. However, the former is 2.5 times as effective as the latter when people have a recent experience of air pollution (on pollution day in pollution city). These findings could spur more effective environment protection appeals concerned by government and organizations and save related financial costs substantially. Environment relevant agencies (e.g. NGO, government) should release more call-for-action appeals directly after people's pollution experience. This may increase the call-for-action effectiveness by 2.5 times and save over half of the environmental protection cost.

3 - Predicting Behavior of Current and Future Donors: Are Geographic Profiles an Alternative to Past Donation Behavior?

Shameek Sinha, Assistant Professor, IE Business School, IE University, Madrid, Spain, Sumit Malik, Frenkel Ter Hofstede, Vijay Mahajan

With competing nonprofits, who solicit donations for diverse causes, vying for donor attention, abysmal response rates to solicitations and meagre potential donation possibilities, challenge their objective of meeting fundraising goals. Nonprofits simultaneously need to retain current donors and acquire future donors to maintain steady flow of donations. Their targeting strategies are often inefficient because while current donors' expected behavior can be predicted using model-based predictions from past donation data, such predictions are unlikely to be made for future donors who have no history with the nonprofit. In this research, we propose that nonprofits could use publicly available data on geographic profiles (demographic, socio-economic, financial and psychographic characteristics) of future donors to predict their expected behavior in absence of behavioral information (using donation response models for incidence and amount). This premise is rationalized by the argument that individuals not only tend to exhibit geographic clustering in terms of their profiles, but also that pro-social behavior often shows concentration within certain geographic boundaries. This is primarily because donation behavior is motivated more by social influence rather than by individual rationality. Specifically, we find that historical behavior and geographic profile-based prediction of donations do not differ in statistical accuracy for alternative performance metrics. This implies that profile variables, which explain the observed heterogeneity distribution in donation behavior, could be used to predict the expected behavior of future donors as well. We find that in some scenarios, prediction of behavior of future donors might improve with the use of their geographic profiles compared to behavioral information, available from current donors. Thus, there is indeed geographic clustering of pro-social behavior, which when considered simultaneously with concentration of donors' profiles within geographic boundaries, leads to relatively accurate predictions.

4 - "Values" Voters and their Brands

Natalie Mizik, University of Washington, UW Foster Business School, Seattle, WA, 98195-3226, United States, Eugene Pavlov

We propose and validate a construct of brand Political Positioning (PP), and suggest it has implications for firm financial performance. We calculate PP of a brand based on distance of this brand's personality profile (profile of perceived values that brand reflects) to personalities of Democratic and Republican parties. We examine economic impact of the PP using announcement of 2016 presidential election results in an event study. We find that brands highly associated with Democratic (vs. Republican) party suffered a 2.6% decrease in valuation following the presidential election. Past research attributed positive financial returns to firms affiliated with the winning party to preferential treatment by the new administration. We suggest a different, consumer-driven mechanism: brands reflecting the values of the winning (losing) party become more (less) desirable to consumers. Importantly, we find a -4.2% gap in sales between brands perceived as highly Democratic (vs Republican) immediately following the election (i.e., in 2016Q4 and the subsequent quarter), well before any preferential treatment by the new administration can materialize.

5 - Paradoxical Effects of NPD Partnership with Competitor on Firm Performances

Tony Garrett, Korea University Business School, Anam-Dong, Seongbuk-Gu, Seoul, 136-701, Korea, Republic of, Sungkyu Lee, Jong-Ho Lee

The growth of the competitor as an NPD partner has raised the need for richer discussion on the nature and influence of a focal firm's coopetition capability. This research aims to investigate the key antecedents and outcomes of coopetition capability on the competitor partnership for new product development. The key research question is whether a paradox of coopetition leads a focal firm's coopetition capability. In particular, this research argues how the strength and balance of cooperation and competition lead to coopetition capability, in turn, firm performances. The empirical study consists of a survey conducted among a manager or a member of the NPD project team for Korean manufacturing firms which have developed a new product with a competitor partner through the NPD project. The findings of this research show that stronger cooperative behaviors lead to a higher level of coopetition capability. Competitive behaviors do not raise significant differences in the level of coopetition capability. Moreover, the result proves that balanced-strong coopetition is better than competition-dominated coopetition, to build stronger coopetition capability. The level of influence on building coopetition capability did not differ between balanced-strong coopetition and cooperation-dominated coopetition. Therefore, having a highly cooperative relationship with competitor partners is essential to improve the firm's coopetition capability, regardless of levels of a partner's competitive actions. In particular, the direct effect of coopetition and indirect effect of coopetition, which is mediated by coopetition capability, on firm performances were observed. Thereby, effective management of coopetition paradox leads to achieve firm performances.

■ SB10

Aula 10

Machine Learning 10

Contributed Session

Chair: Zoltan Puha, Tilburg University, Warandelaan 2, Tilburg, 2611EB, Netherlands

1 - The Role of Language Structure in Persuasive Communication

A. Selin Atalay, Professor, Frankfurt School of Finance & Management, Frankfurt am Main, Siham El Kihal, Florian Ellsaesser

Marketing communications such as product descriptions or blog posts are designed to either persuade consumers or change their existing attitudes. Language is the tool used to express the message and each message is a function of “what is said”, and “how it is said”. Both these elements are expected to impact the persuasiveness of the marketing communication. The goal of this paper is to explore the role of language in the context of persuasive message communication, and predict how persuasive a message is. We develop a machine learning approach to predict the persuasiveness of marketing messages as a function of the language used. We use a unique dataset which is comprised of 134 debates on different topics adding up to ~250.000 sentences. Attitudes of the audience were measured both before and after the debate. We build a model to predict the audience’s attitude change as a function of initial attitudes, the topic discussed, “what is said”, and “how it is said”. We find that “how it is said” or in other words the language structure elements have a significant and strong impact on persuasion: When the language structure is more complex compared to when the language structure is less complex, persuasiveness of the message is diminished. Moreover, we find that including the language structure element to the model as a predictor, in addition to the “what is said” element, improves the accuracy of predicting the persuasiveness of a message by about10%, highlighting the importance of language structure.

2 - Fairness, Accountability, Trust and Diversity in Public Service Recommendation Engines

Christopher Berry, Director, Product Intelligence, Canadian Broadcasting Corporation, Toronto, ON, Canada

Recommendation engines make choices about opportunity using an optimization objective. They use this optimization objective as a basis to learn and become better. In private media, the optimization objective of recommendation engines is often to increase the clickthrough rate. In the context of public media, the optimization objective is not always as simple as a clickthrough rate. Public broadcasters seek to increase social cohesion and enlightenment in service to their respective citizenry. The impact they have on their societies is in part a function of their reach and engagement, and also in how they distribute opportunities to be seen and engaged with. How can public media do this while respecting Fairness, Accountability, Transparency, and Diversity is of considerable importance to public broadcasters and their citizenry, with direct managerial implications on how to manage narrow machine intelligence and recommendation engines.

3 - Recommendation Systems for Sequential Decisions with Time Sensitive Choice

Xiang Zhou, The Chinese University of Hong Kong, Shatin, Hong Kong, Mantian Hu, Irwin King

Although literature on recommendation systems in marketing has demonstrated the value of introducing consumer behavior models to improve the performance, most of them have focused on the situation in which choices are simultaneously available such as recommendations on Amazon. In this paper, we propose a recommendation system for sequential decision-making scenarios in which choices are time sensitive (will expire in a short time) and made sequentially available and the quality of future choices is uncertain, for example, recommendations on daily deal websites. The proposed recommendation system is grounded in the search literature of Economics and we develop a new machine learning algorithm to solve the search model. In particular, we leverage the means of Semi-parametric Gaussian copula (SGC) to generate a complex joint distribution among variables including individual characteristics, choice features, sequential temporal factor and purchase decisions. Recommendations are made based on the purchase likelihood of each available deal on a specific day for an individual calculated by the conditional posterior of the joint distribution. The authors apply the model to a proprietary dataset from Groupon customers’ clickstream data and demonstrate the superior performance of the proposed approach by comparing it to other traditional or sequential based recommendation algorithms, including collaborative filtering methods and multi-armed bandit models. The system facilitates companies’ efforts to target the right customers with the right product at the right time.

4 - What Customer and Firm Characteristics Lead to More Successful Profiling?

Nico Neumann, Melbourne Business School, Melbourne, Australia, Catherine Tucker

Third-party data aggregators often use online browsing records and other indicators of customer behavior to create pre-built digital audience segments that can be bought by marketers for ad targeting. There is a strong variation in data accuracy and availability among suppliers of audience data (Neumann, Tucker and Whitfield 2018, DeBruyn and Otter 2017). In this paper, we explore what customer and firm characteristics lead to more or successful profiling of consumers. We use field-test data across a sample of 30,000 online users. We explore how audience-segment characteristics, such as the price and consumer characteristics affect the ability to correctly profile people across websites. In addition, we also explore how firm characteristics of data brokers, such as size, age, and access to a variety of data sources influence a data broker’s ability to predict online users’ attributes. Our work contributes to the policy discussion regarding the consequences of the big data economy for consumers. This is the first paper to our knowledge which tries to find systematic evidence about what kind of consumers are more likely to be profiled accurately and therefore may experiencing privacy concerns. It also relates how profiling accuracy is related to the price of the underlying data. From a managerial perspective, we try and assess what types of data brokers in what types of contexts are more likely to provide accurate information for advertisers.

5 - Directed Experimentation Using Observational Causal Effect Estimates

Zoltan Puha, Tilburg University, Tilburg, Netherlands, Aurelie Lemmens, Maurits C Kaptein

Optimal targeting policies require a proper estimation of the heterogeneous treatment effect (aka conditional average treatment effect) of a marketing intervention for all customers. Recent developments in machine learning (causal trees, uplift random forests, or uplift k-nearest neighbors) have made possible to estimate these effects using randomized field experiments where a specific marketing intervention is randomly targeted towards a subset of customers. Despite these promising developments, companies still struggle setting such randomized trials. Randomized data can be expensive and/or impractical. Our discussions with companies often point out to the difficulty of isolating a group of customers from any other marketing intervention during a sufficiently long time period needed for causal inference. Moreover, another concern they often evoke are the recent legal developments on the preservation of customer privacy that are now forcing companies to keep data for the shortest amount of time. In contrast, companies usually sit on a huge amount of observational data containing past interventions of many kinds. A key feature of such data is that the treatment allocation is not random, making causal inference more difficult. In this paper, we show how Bayesian methods (particularly Bayesian Additive Regression Trees (BART)) can be used in such settings. We evaluate models based on their area under the uplift curve (AUCC) which is a frequently used metric for comparing uplift models. We demonstrate the effectiveness of BART for marketing practitioners. Additionally, we explore how the posterior predictive uncertainty given by the model can be used to design cost-efficient experiments. We define an efficient campaign as one where less resources are spent on non-converting customers and more on converting ones. Our method can help companies to use past observational data to set up new experiments without the need of a random experimentation.

■ SB11

Aula 11

Game Theory 1

Contributed Session

Chair: Tinglong Dai, Johns Hopkins University, Baltimore, MD, 21202, United States

1 - Multi-level Modelling as a Tool Governing Consumer Buying Behavior

Anastasia Nedelko, National Research University Higher School of Economics, Moscow, Russian Federation, Alexander Grigoriev, Niels Holtrop, Kelly Geyskens

Since the 2000s, interest in the problem of public health is increasing, as far as worldwide obesity has tripled since 1975. Unsurprisingly, policy makers look for ways to overcome this problem. One possible way to decrease consumption of unhealthy products is implementation of sugar tax. Despite popularity, it remains unclear whether existing sugar tax schemes affect consumption of sugar-containing drinks. Furthermore, most publications mention consumers’ interests, ignoring government and companies which are also involved in the value chain towards improving public health and consumer well-being. In contrast, we propose a method that considers interests of all stakeholders (consumers, companies, and government). The purpose of this study is to calculate optimal sugar tax rate based on consumer’s preferences and company’s decisions. We created a framework to compute optimal taxation scheme and prices to maximize social welfare. Actions of three stakeholders were incorporated, taking into account interests of each group. For this purpose, we used a multi-level modeling approach. For testing the model, we obtained data from existing research with consumers’ demand, utility functions, and products’ prices.The proposed method helps to maximize the utility on each level and, as a result, social welfare. The model relies on information on both consumer buying behavior and company revenues. It should be noted that consumer well-being has become a hot topic among academics for the last few years. Nevertheless, most articles consider consumers separately, ignoring other value chain participants - government and companies. In contrast, in our model we pay attention to individual consumer well-being as well as to social welfare, and include companies as an often overlooked actor in tax execution. Additionally, we propose a tool that policy makers can use to evaluate different tax schemes, and assists in determining the optimal one.

2 - Retailer Recommendations, Channel Interactions and Product Variety

Abhinav Uppal, Indian School of Business, Mohali, India, Kinshuk Jerath, Jagmohan S. Raju

Retailers worldwide employ different selling formats characterized by the degree to which they can recommend products to customers in-store. We build a game-theory model to study how a retailer's ability to selectively recommend products to consumers affects manufacturer strategies and profit sharing within the channel. We model two horizontally differentiated products being offered by either a single manufacturer or two competing manufactures. We find that even when both products are being offered by a single manufacturer, the retailer is able to extract the entire extra surplus generated by its ability to selectively recommend products to its customers. However, if this ability is too high, the manufacturer may reduce its product variety to handicap the retailer and share this extra surplus. In certain cases, the retailer commits to not recommending either product, thereby handicapping itself, in order to receive a larger product variety from the manufacturer. When the two products are being offered by competing manufacturers, the retailer may use its ability to selectively recommend products to further increase competition between the two manufacturers, in order to increase its share of profits.

3 - Luxury Brand Licensing: Free Money or Brand Dilution?

Kenan Arifoglu, University College London, London, United Kingdom, Christopher Tang

Licensing enables luxury brands to reach out to their aspirational, low-end consumers ('followers') who value a brand more when more high-end consumers ('snobs') use it. However, over-licensing might dilute the brand for snobs who value brand exclusivity. We develop a game-theoretic model to study these two countervailing forces of licensing. When a brand charges its licensee an upfront fixed fee, we find that the monopolist brand should not license when snobs' desire for exclusivity is high. However, in a duopoly, fixed-fee contracts soften price competition so that licensing (even for free) is always profitable for both brands. Interestingly, in equilibrium, competing brands may still prefer not to license even though both would be better off if they could commit to licensing. We also analyze a duopoly where brands charge their licensees a royalty fee per unit sold and find that brands may become worse off under royalty contracts because, relative to fixed-fee contracts, royalty contracts intensify price competition. Finally, we compare a decentralized system with fixed-fee licensing and a centralized system with umbrella branding. We find that umbrella branding intensifies price competition and fixed-fee contracts are more profitable when followers' aspiration is strong, which implies that a decentralized licensing system can be more efficient.

4 - A Dual-self Model of Environmental Consumption: Theory and Empirical Findings

Wujin Chu, Seoul National University, Seoul, Korea, Republic of

Both marketing academics and behavioral economists have examined the "impatience" phenomenon of economic agents. In economics, impatience has been modeled simply as the discount rate, which is assume to be time-invariant. While it is logically consistent to assume a constant discount, psychologists have put forth the idea that discount rate could decrease over time (i.e., declining impatience or "present bias"). Modeling of present bias in economics has taken two directions. One direction was the hyperbolic discounting theory pioneered by Laibson (1997) and the other was the dual-self game theoretic approach, which was solved by Fudenberg and Levine (2006). In marketing, the first attempt to model this phenomenon was by Ding (2007). While there has been many behavioral experiments in marketing that examined declining patience in the context of intertemporal utility, modeling of this behavior as a intraperson game is non-existent aside from Ding (2007). In this paper, we apply the dual-self model framework to model consumption of environmentally-friendly products, electrical vehicles (EVs) in particular. As in the dual-self model of Fudenberg and Levine, we assume that a repeated game is played between two selves: the myopic self who wants to maximize current period utility, and the long-run self that wants to maximize the value of the game. In each period, players are presented with a price of the EV, denoted x(t), which is drawn from a distribution F(x). Namely, the assumption is that there is no deterministic trend toward lower or higher EV prices. The stationary equilibrium is to determine x* such that the consumer will purchase the EV if and only if x(t) is less than or equal to x*. We derive such a stationary equilibrium in closed form and examine the comparative statics of the equilibrium cut-off point. We also collected data in US (n=200) and China (n=204) on current owners of EVs. From the data we are able to empirically test the propositions derived in the theoretical model. The managerial and policy implications are also discussed.

5 - Incentive Design for Operations-Marketing Multitasking

Tinglong Dai, Associate Professor, Johns Hopkins University, Baltimore, MD, United States, Rongzhu Ke, Christopher Ryan

A firm hires an agent (e.g., store manager) to undertake both operational and marketing activities for a product. Marketing activities boost demand, but for demand to translate into sales, operational effort is required to maintain adequate inventory. When demand exceeds available inventory, neither the firm nor the agent can observe unmet demand, a phenomenon known as "demand censoring." The firm designs a compensation plan to induce the agent to put appropriate effort into both marketing and operations. We formulate this incentive-design problem using a moral hazard principal-agent framework with a multitasking agent subject to a censored signal. We develop a novel bang-bang control approach, with a general optimality structure applicable to a broad class of incentive-design problems. Using this approach, we characterize the optimal compensation plan as consisting of a base salary and a bonus paid to the agent under one of the following two conditions: (i) all inventory above a predetermined threshold is sold, or (ii) the sales quantity meets a downward-sloping inventory-dependent target. This structure implies non-monotonicity such that given the same sales outcome, the agent can be less likely to receive the bonus for achieving a better inventory outcome. Furthermore, we find that inventory and demand outcomes can act as either complements or substitutes in the compensation plan, where they become substitutes when inventory is sufficiently large. Finally, we rule out the optimality of rudimentary compensation plans that generalize the logic of binary payment schemes from the single-tasking literature, revealing additional subtleties in the multitasking setting.

■ SB12

Aula 12

Mobile Marketing 4

Contributed Session

Chair: Eva-Cosmea Fuhrmann, LMU Munich

1 - Doctor/patient Relationship on M-health Adoption

Lee Ming Chen, National Chung Hsing University, Taichung, Taiwan, Ming Chih Tsai

A desirable doctor/patient communication/relationship is broadly concluded to be able to reduce waste of medical resources and increase the patients' confidence in recovery. Along with the rapid development of internet of things, hospitals have largely used m-health as relationship structure to increase information exchange and relationship between bilateral parties. While relationships vary with degree and incur different impacts, the extant research has not yet systematically investigated the social relationships built by the e-platform and assessed the resultant social impacts on m-health adoption. Theoretical groundings are lacking and statistical evidences are few in patients' perspectives. Drawing on the theories of social exchange and social capital, this study extends technology acceptance model (TAM) to investigate social effects on m-health adoption. 258 valid kidney patient samples were collected with the attending aids of a teaching hospital of Taiwan. The result indicates that the conventional TAM constructs of perceived ease of use (PEOU) and perceived usefulness (PU) of m-health technology are effective in constructing the social capital (mainly relational capital). The social capital is found to be more significant than the utilitarian values generated by PEOU and PU in affecting the m-health adoption. However, the m-health may easily incur dark-side effect due mainly to excessive structure capital that annoys patients, although the effect is of insignificance in affecting adoption.

2 - Do Promotions Increase Health? The Moderating Role of Sales Promotion Among Consumers' Exercise and Purchase Behaviors

Seongsoo Jang, Assistant Professor, Cardiff University, Cardiff, United Kingdom, Hwang Kim, Vithala R. Rao

Sales promotions generate a two-stage decision for mobile exercise app users: whether to increase exercise and whether to purchase products. Longitudinal observations of exercisers' responses to these promotions can help sports brands reflect this information on future promotions. The authors examine the moderating effects of promotional benefits—utilitarian and hedonic—on multiple relationships (1) between purchase and future exercise, (2) between past exercise and future exercise, and (3) between past exercise and future purchase. Using a unique data set of one million exercise logs and shopping transactions created by 7,517 app users for 36 months, the authors develop an integrated model that incorporates exercise (i.e., duration, distance, and calories burned) and purchase (i.e., frequency, quantity, and expenditure) dimensions and test this framework. The results reveal that heavy exercisers increase (decrease) exercise after having purchased promoted (nonpromoted) products, though, overall consumers decrease their future exercise, and increase purchase quantity of exercise products that offer utilitarian promotions. Finally, the authors conduct two simulations to offer important managerial implications on exercise behavior-based promotion strategies.

3 - The Influence of Perceived Value on Omnichannel Adoption Intention and the Moderating Role of Purchase Plan

Lixiao Geng, Huazhong University of Science and Technology, Wuhan, China, Yaping Chang, Jun Yan

Social media, i.e. Facebook and Wechat, has become a major component of omnichannel retailing. Retailers are facing the challenge of integrating multi channels in order to create more value for customers when they are increasingly moving to omnichannel shopping. One of the important prerequisites for solving the problem is to understand why customers are increasingly shifting from single, multi or cross-channel shopping to omnichannel shopping. This study examines the drivers of customers' omnichannel shopping from the perspective of perceived value, and compare the effect between planned and unplanned shopping situations.Empirical data were collected from 257 omnichannel shoppers. The Partial Least Squares technique was used to test the proposed research model. The results show that 1) perceived utilitarian value, hedonic value and social value positively affect customers' omnichannel adoption intention through attitude. "Utilitarian value" is not the main appeal of customers to adopt omnichannel shopping. 2) The "purchase plan" plays a moderating role in the effect of perceived value on attitude. In the "unplanned purchase" context, utilitarian value, hedonic value and social value positively affect customers' attitude toward omnichannel shopping, whereas utilitarian value is not significant in the "planned purchase" context.The present research extends the existing conclusions on perceived value as motivation of customers' adoption of single, multi- or cross-channel by highlighting the role of hedonic value and social value in omnichannel shopping. It points out that retailers should provide consumers with more hedonic and social value when implementing omnichannel integration and the provision of utilitarian value needs to consider consumers' purchase plan. By distinguishing the planned/unplanned shopping situations, the findings fill a boundary gap in the literature of channel adoption that the prior research neglected.

4 - Seamless Customer Experience: What is it? How is it Measured?

Jingwen LI, Huazhong University of Science and Technology, Wuhan, China, Yaping Chang, Jun Yan

Omnichannel shoppers are ubiquitous today. They are pursuing seamless experience, namely, freely moving across multi channels to complete their purchase journeys in a feeling of fluency. Retailers are eager to understand what contributes to customers' evaluations on seamless experience. While few studies pointed out the "seamlessness" feature is the critical factor differentiating the seamless experience from regular customer experience, there is a gap of conceptualization and measurement tool of the seamless experience in omnichannel shopping context. This paper aims to develop a scale to measure the seamless customer experience. After defining the seamless customer experience, the authors identify the dimensions of seamless experience via an innovative operation that collects obstacles to seamless feeling as much as possible from real omnichannel shoppers. Semi-structured interviews and open-ended questionnaires are employed in three large-scaled investigations. Finally, a formative two-order scale with 23 items in 8 reflective first-order dimensions is obtained. The eight reflective first-order dimensions are: availability of links among channels, information visibility, information accuracy, consistency of sales strategy, payment simplicity, timeliness of delivery, flexibility of order fulfillment and convenience of sharing. The study contributes to the customer experience literature by providing a pilot, full-process measure of seamless experience in omnichannel context. For retailers, this study provides them directions to improve design omnichannel system, and a managerial tool to audit their performance of creating and enhancing customers' seamless experience.

5 - The More the Merrier? Balancing Personalization Benefits and Privacy Concerns in the Context of Mobile Promotions

Eva-Cosmea Fuhrmann, LMU Munich, Munich, Germany, Katharina Schlomann

Relevance: The purpose of this study is to analyze the trade-off between personalization benefits and consumers' information privacy concerns in the context of mobile promotions. Thus, we address a highly relevant topic in managerial practice and seek to answer the Marketing Science Institute's call for research on integrated, real-time experiences in context. Methodology: The study uses a mixed method design. We conducted four focus groups (n = 22, four generations) as well as interviews (n = 16, four generations) with German consumers. We are currently running a scenario-based online-experiment to test the previously developed conceptual model. Findings: The two qualitative studies implied rather negative perceptions of personalization strategies across all generations, but especially the younger generations showed a willingness to consider the trade-off between the usefulness (e.g. higher relevance) of personalized promotions and their privacy concerns. The main skepticism relates to the perception of intrusiveness, lack of trust and restriction of autonomy. Furthermore, we identified the most critical personalization strategies (e.g. behavioral targeting, geographical targeting) and prioritized them according to the consumers' perceptions. Contribution: Previous research demonstrated mostly positive impacts of personalized mobile promotions on consumer behavior, e.g. effects of geographical and temporal targeting on purchases. Yet, potential concerns related to personalized mobile promotions received little empirical attention as research on privacy concerns focused on the online environment so far. Thus, we contribute to current research by addressing the research gap related to consumers' responses and potential consumer information privacy concerns as a result of personalization strategies in mobile marketing.

■ SB13

Aula 14

Emerging Markets 1

Contributed Session

Chair: Tanuka Ghoshal, Baruch College, CUNY, 1 Bernard Baruch Way, New York, NY, 10010, United States

1 - Brand Expenditure by Rural Migrant-Sending Households: The Role of Poverty, Remittances and the Duration of Migration

Vishal Narayan, National University of Singapore, Singapore, Shreya Kankanhalli

Developing economies are characterized by substantial consumption of unbranded products, with marketing effort aimed at shifting consumption to brands. We study the effect of having a migrant household member, on the brand expenditure of rural households in developing economies. We collect primary household level expenditure data from 30 villages in India, a country with an estimated 326 million internal migrants. Using propensity score matching, and coarsened exact matching, we find that as compared to matched control households, migrant sending households spend less on branded products, and on unbranded status goods such as meats and domestic help. This negative effect is stronger for households sending short term migrants. The stronger effect of short term migration is consistent with the temporal pattern of migration costs being greater in the short term and migration benefits such as remittances increasing over time. The effect of short term migration is stronger for middle class and lower class households, and for households which send migrants but do not receive remittances. We discuss implications for brand managers, policy makers and migration researchers.

2 - Rural Distribution in India: Mapping Assisted e-Commerce Platforms

Pravat Surya Kar, Goa Institute of Management, Goa, India

Worldwide there are 3.4 billion rural consumers amounting to 45% of mankind, 90% of these consumers reside in the emerging economies. Cumulative potential of the rural consumers is massive but, it is challenging to reach to them efficiently. This is one of the reasons why MNCs often shy away from the rural markets of emerging economies. India is one of the fasted growing large economies and homes world's 27% of rural consumers who are equivalent to 12% of mankind. Therefore, some local pioneers and MNC giants have been adopting innovative approaches to tap the potential of rural India. One of the new initiatives in this context happens to be 'Assisted e-Commerce Platforms' or AEP. This study focuses on how AEP are being operationalised in India for rural distribution? This paper begins with a brief review of Indian rural markets' potential and then lists the key barriers that marketers face in this segment. Next, it discusses the rise of AEP and how these models are bridging the last mile of rural distribution in India. Finally, it reviews six cases of leading AEP in India, maps them and presents the findings. These findings extend literature concerning the 4A framework in general and availability or distribution in rural markets in particular.

3 - A Multilevel Model of Business Model Innovation, Industry Informality, and Sales Performance in Developing Countries.

Yassir Yahya Al Masoudi, Doctoral Candidate, European University Viadrina, Frankfurt Oder, Germany, Sadrac Cenophat

While the literature acknowledges the importance of business model innovation for firm performance, prior research has not explored whether business model innovation is effective in mitigating the impact of industry informality. Industry informality is the prevalence of substandard products/services and uncompetitive practices instigated by unregistered or informal firms in a particular industry. This phenomenon occurs when a country's regulatory and legal obligations can be avoided by unregistered or informal firms. According to the World Bank's Enterprise Surveys Unit, the percentage of firms in emerging economies competing against informal firms is 50%, which suggests that half of the operating firms are informal accounting for 30 to 40 percent of economic activity in developing countries. The lack of consideration for industry informality in the research stream is not surprising since prior research on business model innovation has been largely built on assumptions and theories developed in advanced economies, overlooking the unique context of emerging markets. Research in this tradition were conducted in developed countries and are built on the assumption that competitors are legally-registered companies. Drawing on the dynamic capabilities perspective, the current paper uses data from 8,003 firms in 19 industries to develop and test a multilevel model that explains the effectiveness of business model innovation in attenuating the negative impact of industry informality on sales performance. Our model aims to help managers in developing economies understand how to react to the threats posed by industry informality.

4 - Psychological Drivers of Satisfaction and Repeat Engagement in ESport

Daniele Scarpi, Associate Professor of Marketing, University of Bologna, Bologna, Italy, Francesco Raggiotto

In 2017 there were 191 million eSports enthusiasts worldwide and the “League of Legends” eSport tournament had 12 million more spectators than the NBA finals. ESports are a new research setting for marketing scholars and extant studies are still in an embryonic state. Edgework theory provides a psychology-based explanation of individuals’ voluntary engagement in challenges, dedicating time and effort to overcome voluntarily sought-after difficulties. We apply edgework theory to the context of eSports to understand e-athletes’ satisfaction and repeat engagement. To the best of the authors’ knowledge, this is the first attempt to develop a theoretical frame for understanding of the phenomenon of eSports and for addressing edgework in non-physical settings. Essentially, we hypothesize that e-athletes have a high alienation that leads them to seek sensations in videogames, particularly when they have a high tendency to fantasize. In turn, sensation seeking leads e-athletes to develop stronger feelings of self-enhancement, particularly when they perceive that they control situational risks and challenges. Finally, self-enhancement leads to higher satisfaction and repeat engagement. We develop -and test with PROCESS- a customized multiple moderated sequential mediation model, where sensation seeking mediates the relationship between alienation and self-enhancement, and self-enhancement mediates the sensation seeking- satisfaction and sensation seeking - repeat engagement relationships. And where fantasy proneness moderates the relationship between alienation and sensation seeking, while perceived control moderates the relationship between sensation seeking and self-enhancement.

5 - Is All that Glitters Gold? Toward a Theory of Sensory Flamboyance and Subtlety in Consumption

Tanuka Ghoshal, Assistant Professor, Baruch College, CUNY, New York, NY, United States, Russell Belk

This research proposes that taste distinctions with respect to sensory intensity — specifically, preferences for sensory flamboyance versus subtlety (e.g., bright versus dull colors, loud versus soft music) — may be sociologically structured, more than by individual dispositions. Different levels of cultural capital are associated with unique sensory tastes among members of different classes. Based on an ethnographic study of women in India, a theory is proposed for how social classes develop and refine their sensory preferences. Low cultural capital consumers gravitate toward sensory flamboyance, while high cultural capital consumers gravitate toward the subtle. Our grounded theory finds additional support in fields as diverse as social psychology, clinical psychology, medicine, and the history of the evolution of manners. Flamboyance in terms of flared, radiant clothing, strong scents, loud music, and spicy foods is interpreted as part of a compensatory consumption strategy for embellishing life experiences among members of an economically impoverished and disempowered lower social class. However, it is embodied, rather than reflexive. Meanwhile the proclivity of the upper class towards subtlety is interpreted as an outcome of a prolonged process of refinement and suppression of natural instincts, now reinforced by habitus and deployed as a marker of elite status. This research helps understand consumption dynamics of individuals in emerging economies, where not only are consumers’ discretionary incomes increasing, but so are the demarcations between social classes, with important implications for targeted product and marketing communications design.

■ SB14

Aula 15

Analytics

Contributed Session

Chair: Pooja Mohanty, ESADE Business School

1 - Mindset Migrations

Berk Ataman, Koc University, Istanbul, Turkey, Koen Pauwels, Shuba Srinivasan, Marc Vanhuele

Considerable attention has been paid to the effect of marketing on brand health indicators, specifically on consumer mindset metrics. Although extant work has shown that marketing influences mindset metrics such as brand awareness, consideration, and loyalty, little is known about the process through which such effects materialize. In this project, we model mindset migrations and investigate the role that marketing plays in transitioning groups of consumers across a mindset metrics chain. To that end, we specify an aggregate level model built on the premise that a mindset chain with a predetermined number of stages is a closed system wherein consumers’ movements to and from all stages, i.e. progression and regression, can be identified when expressed as a decomposition. Marketing activities of the focal brand and its competitors facilitate or impede progression and regression. An empirical analysis of 350 brands in 39 products categories observed over a five-year period provides fine-grained insights into the relative importance of various marketing mix instruments on the propensity to move consumers forward (or backward) at different transition points in the chain. The findings of this research help managers better understand the role of the marketing mix in attaining and sustaining brand performance.

2 - ‘Humans versus Machines’ or ‘Humans and Machines’: Evidence from Randomized Control Trials

Tarun Kushwaha, Associate Professor, University of North Carolina, Chapel Hill, NC, United States, Saravanan Kesavan

Firms are increasingly investing in state of the art data analytics and machine learning tools to help managers make effective and efficient decisions. However, there is also strong evidence which suggests that managers either do not use these tools or systematically ignore some recommendations from these tools. In this paper, in context of high dimensional data and complicated organizational purchasing decisions based on sophisticated sales forecasting model, we examine two important research questions. First, what are the profitability implications of such managerial interventions? Second, we also examine moderating role of Product Life Cycle (PLC) stage and supplier dominance, i.e. identify boundary conditions under which managers outperform the machines. We examine proposed research questions by running randomized control trials with one of the largest automotive parts retailers in the US. A unique aspect of our setup is our ability to observe lost sales from products that are removed from stores, i.e. we observe true demand. This permits us to compare managerial action to ‘what would have happened had manager not intervened’. We use panel data regression model with two-way fixed effects to control for buyer and store specific unobserved heterogeneity. We find that financial impact of managerial intervention is most severe: (1) for products in declining stages, i.e. when information asymmetry about performance has been resolved; and (2) for situations where suppliers have greater power to dominate managers (i.e. larger suppliers may influence managers to make more unsound financial decisions).

3 - Stop Product Failure!: Applying Fuzzy TOPSIS and AHP to Define a Framework to Understand Innovator Group Customers in FMCG

Pooja Mohanty, ESADE Business School Barcelona, Sant Cugat del Valles, Spain, Mònica Casabayó, Núria Agell

Globally, 38,000 new products are launched every month in consumer packaged goods and fast-moving consumer goods (FMCG), and despite best efforts of the firms, around 60% of new products fail within the first 3-years of the launch. Marketing Managers tend to hesitate on assigning exact reasons for these failures. The problem may be explored from the customers’ perspective on new product adoption/rejection. Analysing and identifying critical influencing factors for customers’ adoption of innovation is an important topic in marketing research. The extant literature emphasizes the importance of identifying key customer groups based on the time of adoption, and the critical role of Innovator group (IG) customers, earliest two groups of adopters, for success/failure of new product launches. Therefore, the goal of our study is to identify the most important factors affecting adoption decision making of IG customers in FMCG. From our previous study on systematic literature review, 108 variables were identified and grouped into 4 higher-level categories considering retailing sector in general. In this study, to capture FMCG marketing managers’ knowledge on product launches, we conducted a pilot study and asked their opinions on the importance of the considered variables. From their answers, we computed the weights of the 4 categories by employing a fuzzy version of analytic hierarchy process (AHP). Furthermore, experts’ opinions were quantified and aggregated, and the initial set of 108 variables were ranked using Fuzzy Technique for Order Preference by Similarity to Ideal Solution (FTOPSIS). These methods consider a set of linguistic terms represented by fuzzy descriptions to capture hesitancy and subjectiveness inherent in human decision making. Our study reveals the most crucial factors of customer adoption in FMCG, and has managerial implications, such as addressing future product failures, promotion, customized offerings, and target marketing for the IG customers.

■ SB15

Aula 16

Competititon 2

Contributed Session

Chair: Ivy S.N. Chen, Hong Kong Polytechnic University, Dept. of Management & Mktg, M801 Li Ka Shing Twr, Hung Hom, Kowloon, 9999, Hong Kong

1 - How Parental Consumption Decisions Influence Self-Concept Clarity in Preadolescent Children

Xiuping Li, NUS, Singapore, Singapore, Hongyan Jiang, Peizhen Sun

This research investigates how parents’ consumption choices for their preadolescent children (aged 9-12 years) affect the children’s self-concept clarity. In four studies, we demonstrate that making experiential consumption (vs. material consumption) salient may lead to an increase in children’s self-concept clarity, which positively influences their well-being. Furthermore, the influence of consumption type on self-concept clarity and well-being is not monotonic. It is moderated by (1) the extent to which children perceive that their parents’ choice is driven by social influence and (2) whether the children hold high versus low interdependent self-construal. By measuring the proportion of experiential consumption expenses on children at the household level (reported by parents) or experimentally manipulating the salience of different types of consumption, we demonstrate not only the associative but also the causal link between parental choice of consumption type and self-concept clarity in preadolescent children.

2 - An Empirical Analysis of Product Market Choices in the Technology Sector

Sudhir Voleti, Associate Professor, Indian School of Business, Hyderabad, India, Anusha R. Gondi

We aim to uncover the potential relation between firms' performance on the one hand, and firms' Product-Market (P-M) choices, consequent P-M diversification and resultant competition effects on the other. Among the research questions, we set up are: 1. Can the seemingly open-ended product-market choice space of tech sector firms be adequately represented in a condensed, finite dimensional space? If so, how? 2. How diversified in terms of P-M scope are publicly listed US technology sector firms on the average? How does their degree of diversification change over time (a decade, in our data)? 3. How responsive is each firm to competition from other firms sharing proximity in its product-market space? Can we measure the magnitude and direction of each firm's response? 4. How does competition affect a firm's product-market choices and performance over time? We structure our approach to finding answers to the above questions by: [1] building a product-market choices space for the entire US tech sector between 2005-14; [2] by text-mining for latent structure in the Business description section of firms' annual 10-K compliance filings with the SEC; [3] locating each firm in each year in this product-market choices space relative to every other firms' location; [4] computing a diversification index score for each firm based on the number of distinct P-Ms it has significant presence in; [5] identifying responses or movements (measured as displacement) in firm positions in product-market space over time; [6] identifying regions of dense versus sparse competition resulting from firms' product-market choices; [7] and finally, relating all the above in addition to standard control measures within an econometric framework to firm performance impact. Our work is positioned at the intersection of a number of literature streams, both in methodological and in substantive terms. In methodological terms, we draw upon the latent topic modeling literature (see, e.g., Blei et al. 2003; Tirunellai and Tellis 2014).

3 - Emergence of Craft Beer Brands as a Disruption to the Long-run Equilibrium in the Brewing Industry

Joonhwi Joo, The University of Texas at Dallas, Richardson, TX, United States, Jean-Pierre H. Dube, Bart Bronnenberg

American beer market has been long characterized by an oligopoly by a few commercial brewing companies such as Budweiser and Miller, market shares of which used to exceed 90% up to early 2000's. This long-run equilibrium, however, has been disrupted in the last 15 years due to the recent emergence of craft brewers. During the period 2004-2016, the market shares of craft brewers have increased from 5% to 20%, and in the meantime, the commercial brewers shares dropped by more than 15%. The emergence of craft brewers have changed the terrain of the market fundamentally. Craft brewers are small, local, brewing their beers in small batches, with many varieties. Furthermore, craft beers tend to sell in a higher price by 30-40% than the commercial brewers' beers, which suggests that craft beers are considered to be a 'premium' beer segment. In this project, we investigate what caused the recent emergence of craft brewers, using Nielsen Homescan and Retail Management Scanner data in combination with the novel dataset that we collected ourselves. We expect our research to have an implication on the emergence of a premium segment in many different consumer goods industries.

4 - Market Structure and Product Bundling

Evgeniya Victorova, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

Extant research has shown that product bundling is a profitable form of price discrimination and can also help deter entry. However, little is known about how entry and exit impact provisioning of product bundles. For example, how do changes in market structure impact the number and the composition of product bundles that firms provision in a market? We explore these questions in the empirical context of the U.S. cable industry. This industry has experienced drastic consolidation in the past decade, making our study both timely and managerially relevant.

5 - Logistics Service Capabilities: Antecedents, Market Dynamism and Performance

Ivy Siok Chen, Teaching Fellow, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, Patrick Kwok Fung

Capabilities are the primary drivers of performance, yet how firms align these capabilities with changing market environments to obtain superior performance remains unclear. Drawing on the dynamic capability view, this study proposes a model of how organizational learning directly influences operational, adaptive and innovative capabilities and indirectly through supply chain orientation, and how market dynamism moderates the development of capabilities. Partial least squares structural equation modelling was used to analyze data collected from 159 logistics firms. The FIXMIX-PLS procedure identified two sub-groups with distinctive path estimates. Subgroup 1 competed in a dynamic environment that required more complex and specialized technology. This group focused on developing a supply chain orientation and adaptive and innovative capabilities. Subgroup 2, competing in a more stable environment, focused on developing operational capabilities. Market dynamism (e.g. new customers, new demands) is a moderator of operational and innovative capability development. The study advances marketing thought by illustrating the learning processes in modifying firm capabilities in dynamic markets. It shows how market dynamism can exert different effects on the firm's attempts to align its capabilities. The study identifies firms that benefit most from the use of organizational learning and supply chain orientation when they face market dynamism. Organization learning enhances a firm's willingness to change and innovate, helps employees to gain a better understanding of clients' supply chains and possibilities. Supply chain orientation helps the firm to direct its reconfiguration and renewal efforts where the returns are the highest.

■ SB16

Aula 17

Time

Behavioral Track

Chair: Arash Talebi, ESSEC Business School, Cergy-Pontoise, Cergy, 95021, France

1 - Consumer Rational Inattention and Demand Stickiness

Haoying Sun, University of Kentucky, Lexington, KY, United States, Haipeng Chen, Xirong Chen, Zheng Li

Most of the literature on dynamic pricing assumes that consumers process all price information and optimize their purchase quantities according to the current prices. Recent advances in marketing and economics, however, suggest that consumers may be rationally inattentive, i.e., they respond to new information only sporadically and rationally ignore prices in-between (Chen et al. 2012; Reis 2006). Introducing consumers' rational inattention into a dynamic pricing setting, we posit that consumers may not respond to a small price change due to the mental efforts (i.e., optimization costs) they have to expend to process it, generating sticky demand at an aggregated level. We explicitly derive this sticky demand from consumers' utility model accounting for their optimization costs. Then, using eight years of weekly scanner data on two product categories (frozen dinner and frozen entree) from a large U.S. grocery chain, we estimate the magnitude of demand stickiness and demonstrate how the demand stickiness varies with consumer demographics and store characteristics. Finally, we conduct a counterfactual analysis to show a potential increase in retailer's revenue by considering demand stickiness when setting its prices dynamically to clear inventory. To the best of our knowledge, this paper is among the first to formally model consumer's rational inattention in a dynamic pricing setting. This is also the first paper to empirically estimate the magnitude of demand stickiness in a retail environment. Thus, our findings have important theoretical and practical implications regarding how to better leverage consumers' rational inattention in a dynamic pricing setting for higher profits.

2 - Positive Returns to Ambiguity in Future Outcomes

Timothy B. Heath, Professor, University of South Florida-Muma College of Business, Tampa, FL, United States

Many decisions involve future consequences that cannot be predicted precisely. New product sales projections, earnings forecasts, and even the weight people hope to lose from a diet commonly involve ranges of potential outcomes (ambiguity). Such ranges, moreover, are generally disliked, as are payoff delays. Increasing a current payoff's ambiguity from a precise value (e.g., $150) to a range (e.g., $140-$160) typically reduces the payoff's appeal, as does delaying the payoff from now to some future date. Combining these two negatives into an ambiguous future payoff should then prove especially discouraging to decision makers. However, we report five experiments in which adding small ranges to future payoffs increases future payoff appeal, a case of two negatives producing a positive emergent property. This effect generalizes across various choice sets, payoff levels, and delays, and prevails even when a future smaller ambiguous payoff is preferred more than a future larger precise payoff. Two underlying processes are proposed and supported: (1) Payoff ambiguity's explicit risk of receiving a smaller payoff distracts people from the future's larger implicit risk of receiving nothing (the parties might not survive to the payoff date, some parties might forget or be unreachable, etc.), while (2) payoff ambiguity restores some of the excitement lost to the future's psychological distance. The effect, however, is not universal. Larger ranges can reduce and even eliminate the effect, in part with payoffs that approach the levels of alternatives available in the present (boundary conditions). The results implicate potential positive returns to including small-moderate levels of ambiguity in projections of future outcomes.

3 - Delaying the Resolution of Uncertainty: The Role of Discomfort and Excitement in Consumer Decision Making

Arash Talebi, PhD Candidate, ESSEC Business School, Cergy, France, Sonja Prokopec, Ayse Onculer

This research examines whether and how delaying the resolution of positive uncertainty triggers emotional responses that in turn spill over into consumers' appraisal of the stimulus. The results of four experiments using a variety of familiar and unfamiliar brands in an uncertain promotional context show that delayed resolution of uncertainty elicits feelings of discomfort (excitement) under a low (high) level of construal. These emotions affect consumers' purchase likelihood in different ways. Compared to those who won the higher outcome immediately (outright win), low-level construal individuals who faced a delayed resolution experienced heightened discomfort, which had a negative effect on purchase likelihood. Compared to those who won the lower outcome immediately (disappointing win), individuals under high construal level who encountered a delayed resolution showed boosted excitement that had a positive spillover into purchase likelihood. The forces of discomfort and excitement, respectively in low-level and high-level construal individuals, led to a net positive effect of delayed resolution on purchase likelihood at the aggregate level. Hence, delaying the resolution of positive uncertainty could be more effective than an immediate disappointing win and as effective as an outright win. Using a follow-up study, we demonstrated that the positive role of delayed resolution is underappreciated, or unrecognized, by consumers.

■ SB17

Aula 18

Context and Social Influence

Behavioral Track

Chair: Silvia Bellezza, Columbia University

1 - How Misinformation Can Distort the Truth about Luxury Brands among Socially Oriented Consumers

Subimal Chatterjee, Binghamton University, Binghamton, NY, United States, Satadruta Mookherjee

Our research investigates how misinformation, or spreading false information, about brands affect brand attitudes. We propose that misinformation biases brand attitudes more for luxury brands, since luxury brands create strong emotional bonds with consumers and makes it easier to ignore the truth (Sherman and Cohen, 2006). Moreover, we propose that socially oriented consumers, who desire more to connect with others through their consumption, are particularly vulnerable (Wiedmann et al. 2007) since they stress interdependence, which makes it easier for them to accept the false information as the norm (Kastanakis and Balabanis 2012). We conduct a study with four-hundred-eight M-Turk participants. We collect self-reports of social orientation as it relates to their consumption (Tsai, 2005), and thereafter describe the contents of four real brands (watch/perfume). Participants indicate how luxurious these brands feel to them, and verify that they understand these perfumes/watches are not 100% organic/eco-friendly. For example, if they say that a perfume (watch) is 100% organic (eco-friendly), when the description indicates that it is not, we correct their false impressions. Finally, we expose participants to advertisements indicating that the brands are on sale, but deliberately misinform them about the contents. We measure their brand attitudes and if they recognize the deception/misinformation. We find support for a moderated mediation model, where social orientation moderates how recognizing the deception indirectly links luxury perceptions to brand attitudes. Specifically, we find that socially conscious consumers are less likely to recognize deception and more likely to favor brands that misinform the market about their contents.

2 - Salience of Forgone Option and Subsequent Goal Consistent Behavior

Mijin Kwon, Korea University, Seoul, Korea, Republic of, Song-Oh Yoon

The goal literature has immensely explored how the initial goal pursuit affects the subsequent goal pursuit. Past research has focused on what aspects of one’s initial goal pursuit affect whether one continues to pursue the same goal (“goal consistency”) or stops it and indulge in oneself (“goal inconsistency”). However, relatively, little attention has been paid to possibilities that decision contexts in which initial goal pursuit is being made will systematically have an impact on subsequent goal pursuit. Considering that the type of goal tasks has not been seriously taken in previous studies, the current research suggests that the type of initial tasks to attain a goal will have an impact on the degree to which one shows consistency in pursuing the same goal in subsequent tasks. Across three experiments, we find that increased salience of a tradeoff between a goal and a temptation in initial tasks will reduce the effects of a goal on goal consistency in subsequent tasks due to the salience of an unfulfilled goal. Compared to a scenario task (study 1) or an intention rating task (study 2), the choice task in which participants choose between a healthy option and an unhealthy option as an initial task decreases the likelihood of choosing a healthy option in a subsequent task for those who pursue a health goal. Manipulating the presence of a tempting option in a choice set, furthermore, study 3 reveals that the choice task reduces the subsequent choice of a healthy option only if the initial choice of a healthy option involves forgoing an unhealthy option for those who pursue a health goal.

3 - The Effect of Individual and Social Context on Superstitious Behavior

Rajiv Vaidyanathan, Professor, University of Minnesota Duluth, Duluth, MN, United States, Praveen Aggarwal, Marat Bakpayev

Recent models of superstitious behavior have suggested that many people engage in such behavior not because they believe in its effectiveness in influencing outcomes, but for a variety of contextual social and psychological motivations. Using a series of scenarios, we test this proposition and examine whether individuals in a different situations are more or less likely to engage in superstitious behavior. Reactions to descriptive scenarios show that many specific social, psychological, and contextual factors influence how likely it is that individuals engage in a superstitious behavior. Specifically, we examine the effect of the following factors on likelihood of engaging in superstitious behavior: (a) uncertainty in the decision environment, (b) desire for control, (c) stress, (d) perceived luckiness, (e) ability to customize superstitious objects, (f) yearning for outcome, (g) propensity for counterfactual thinking, (h) intent to initiate vs. continue superstitious behavior, (i) social prevalence of behavior, (j) credibility of social information, and (k) need for social assimilation. We show that in each of these scenarios, likelihood of engaging in superstitious behavior is affected irrespective of actual belief in the effectiveness of the superstition. Our results help explain why some people may initiate superstitious behaviors despite a lack of belief in its effectiveness (social factors) as well as why some may continue to engage in such behavior even in the presence of past negative outcomes (counterfactual thinking). Practical implications are also discussed.

4 - Most Read vs. Most Shared: How Persuasion Knowledge Influences Media Engagement

Sokiente W. Dagogo-Jack, Assistant Professor, Boston College, Chestnut Hill, MA, United States, Jared Watson

To capture readers’ attention, and ultimately increase advertising revenue, media outlets often prominently list the most popular content on their websites. By conspicuously listing what other readers are engaging with the most, websites can leverage descriptive norms to facilitate article choice and thus keep visitors around for longer. However, there is a lack of consensus surrounding what type of list most effectively drives clicks: whereas some outlets list the most read articles, others list the most shared articles. Although both lists convey ostensibly similar information, this research uncovers differences in consumers’ preferences for content that many others are reading versus sharing. First, two studies find that consumers generally prefer “most read” articles to “most shared” articles, and this holds for highbrow and lowbrow outlets alike. Illuminating the underlying mechanism, a third study demonstrates that consumers prefer “most read” to “most shared” articles because they perceive “most shared” articles as less trustworthy. As sharing can constitute a persuasion attempt, consumers are typically more suspicious of content that many others have shared (vs. read). However, three additional experiments reveal that when individuals have an affiliation goal—and thus are more open to persuasion—the preference for “most shared” increases. Corroborating the results of these lab studies, a 6-day field experiment involving approximately 60,000 subscribers to an e-newsletter (363,204 observations in total) found that people were more likely to click on articles when they were listed among the most read (vs. shared) articles. Altogether, our results provide important insights regarding how media outlets can increase website engagement.

5 - Feeling Wealthy, Spending Less: The Interplay of Objective and Subjective Wealth on Consumption

Silvia Bellezza, Columbia Business School, New York, NY, United States, Joe Gladstone

In this research, we investigate the interaction between objective wealth (e.g., income, savings, and investments) and subjective wealth (e.g., ultimate financial satisfaction, perceived ability to make ends meet) on consumer spending. While objectively wealthier consumers have more financial resources to spend than poorer consumers, leading them to spend more, less is known about how subjective wealth influences spending at various levels of objective wealth. Through two field studies (12 months of transaction data from a money management app and a large retail bank), two longitudinal large-scale public surveys (representative samples of America and Kenya), and one lab experiment manipulating subjective wealth, we demonstrate that the relationship between objective wealth and spending is moderated by subjective wealth. Focusing on those with above average wealth, those who are objectively well-off, but who feel poorer, spend more. Conversely, those who are objectively well-off, but who feel rich, spend less. We show this effect both for total spending and for spending on high-status goods. Moreover, we find evidence that the effect can be explained, at least in part, by inter-personal influence, that is the need to identify with or enhance one’s image in the opinion of significant others through the acquisition and use of products and brands (Bearden, Netemeyer, Teel 1989). Specifically, holding objective wealth constant, we show that those who are highly influenced by what others think of them spend more than those who are as objectively wealthy but more independent.

■ SB18

Aula 19

Behavioral Games 2

Contributed Session

Chair: Lin Liu, University of Central Florida, 4000 Central Florida Boulevard, Orlando, FL, 32816, United States

1 - Service Scripts and Service Employees with Two Jobs

Gianfranco Walsh, Professor of General Management and Marketing, Friedrich-Schiller-University Jena, Jena, Germany, Mario Schaarschmidt

Many service firms use service scripts to ensure a service is executed in the same way each time it is delivered to customers - regardless of which employee actually delivers the service. The pertinent literature details certain negative outcomes of service script usage for employees' such as emotional exhaustion. However, despite an increasing number of service employees is working two jobs, no research addresses service script usage for dually-employed service employees. This research argues that having to adhere to service scripts in two jobs diminishes employees' available resources and affects job autonomy. A decrease in job autonomy is expected to lead to a deterioration of important employee outcomes, such as innovative work behavior in the primary job. Furthermore, this study assesses whether service script usage in a second job acts as a moderator of the link from service script usage in a first job to job autonomy in the first job. We employed a predictive survey design and separated data collection for measures concerning script usage (time1) from measures concerning job autonomy and innovative work behavior (time2) and a crowdsourcing platform to survey dual jobholders. A series of attention check questions and several control questions were used to exclude inattentive persons and single service job holders. In a first round, we received answers from 228 dual jobbers. Two weeks later, we sent out a second survey to the same set of people with a slightly higher incentive. Overall, 127 respondents completed the survey in both waves (i.e., in time0 and time1). We find a negative effect of service-script adherence in the primary job on job autonomy. This finding is consistent with the idea that service scripts represent organizational control mechanisms, which employees perceive as constraining. Using the Johnson-Neyman-technique for identifying regions of significance, we find that service script usage in a second job dampens the negative effect of script usage in the primary job on job autonomy. These findings have implications for services marketing theory and management.

2 - Recency: Predicting with Smart Data

Florian Artinger, Max Planck Institute for Human Development, Berlin, Germany, Nikita Kozodoi, Gerd Gigerenzer, Florian Wangenheim

Since the early 1910s, marketing managers have used a simple recency-based decision strategy, the hiatus heuristic, to identify valuable customers. This study analyses the predictive power of this heuristic using a library of 60 data sets from business and other areas including weather, sports and medicine. We find that the heuristic can outperform complex statistical algorithms such as random forest, linear regression and stochastic models in many of these environments. Moreover, including further variables apart from recency in complex models does not improve their aggregate performance enough to beat the heuristic. We analyze factors affecting the relative accuracy of these methods and show that the results are not so much driven by limited sample sizes rather than by the dominant role that recency plays in most of the environments.

3 - An Experimental Study of Selling Expert Advice

James Dearden, Professor of Economics, Lehigh University, Bethlehem, PA, United States, Ernest Lai, Qichao Shi

This study explores the interaction between a product expert, who offers to sell a product ranking, and an incompletely informed consumer. The consumer considers acquiring the expert's product ranking not only because the expert has superior information about the quality of the products the consumer is considering and knows the consumer's utility function, but also because the expert can directly influence consumer utility of a product by the product's rank. As Dearden, Grewal, and Lilien (Journal of Marketing Research, forthcoming) demonstrate in a related theoretical model, there are multiple equilibria in this setting with strategic information transmission: ones in which the expert ranks products in a manner that is consistent with the consumer's pre-ranking utilities, which depend exclusively on the products themselves, and ones in which the expert does not. In this research we design a laboratory experiment to investigate which equilibrium an expert and consumer play. Across the three treatments we examine, which vary by the consumer's possible pre-ranking utilities, we find evidence that product experts are likely to select a ranking methodology that involves considerable uncertainty about the final product ranking, even though doing so involves ranking products in a manner that is inconsistent with consumer pre-ranking utilities.

4 - Do You Need an Organizational Formality for Key Account Management? A Service Industry Context

Sheng-Rong Chiu, National Chung Hsing University, Kaohsiung, Taiwan, Ming-Chih Tsai

Key accounts are important assets of firms. Performances of managing key accounts lies with intra-organizational formality and inter-organizational behaviors with customers. However, the alignments are few examined in spite of being called for by industry. Additionally, extant studies have argued assessments of key account management (KAM) are subjective in the absence of customer/supplier bilateral perspectives. Thus, this study draws on social exchange theory to evaluate KAM performance by developing an analytic model that treats KAM formality as a moderating variable to be interacted with two independent variables, including role of sale team and relationship strategy that are assessed by customers. On the other hand, KAM performance is indicated by extent to which the customers are preferred through suppliers' customer attractiveness assessment. As extant KAM studies lack service contexts, we use air forwarders as a case study. Based on our study design, one globally well-known forwarder with KAM structure and the other indigenous forwarder with hidden KAM provide 105 key account data for analysis. As services are invisible and not standardized, a sale team with flexibility and empathy can broaden relationship strategies for better KAM performance. Result indicates that the moderating and dependent variables are all effective in affecting KAM performance while role of sale team is more significant than relationship strategy. Conversely, KAM formality plays a lesser effect in performance and this justifies why most of companies still maintain hidden KAM in their organizational structures.

5 - Price-based Prominence: the Implications on Quality Investment and Consumer Benefit

Lin Liu, University of Central Florida, Orlando, FL, United States, Zhong Chen, Yi Yang

In this paper, we will explore how price-based prominence (e.g., lower price better attracts consumers' attention) affects competing firms' investment in quality. Our results show that price-based prominence might incentivize the low-quality firm (the winner of the prominent position due to its lower price) to improve its quality, but always reduces the high-quality firm's quality investment. This implies that the quality variety in the market shrinks. In addition, our results show that the low-quality firm improves its profit due to the possession of the prominent position. However, the high-quality firm's profit reduces.

■ SB19

Aula 20

UCG 2

Contributed Session

Chair: Xuefeng Liu, Loyola University Maryland, Baltimore, MD, 21210, United States

1 - Sentiment Analysis of User-Generated Content at the Aspect Level

Ning Zhong, Pennsylvania State University, University Park, PA, United States

Quantifying and Measuring the impact of marketing campaigns on the online word-of-mouth surrounding a brand is a necessary but challenging task for both practitioners and researchers. A simple sentiment analysis provides the polarity of the text that reveals the valence of the holistic emotion underlying each social media post. However, each piece of social media posts may contain the consumer's perception on multiple aspects of a brand. We develop a method of aspect-based sentiment analysis that disentangles the sentiment associated with each aspect of a brand from each other and allows the aspect-based sentiments to be time-varying. We apply the model to multiple categories of products and examine how the aspect-based evaluation of these products change after the launch of the marketing campaigns. This method enables managers to track the impact of marketing campaigns at a more granular level.

2 - The Influence of the Reply to Online Review on Observing Customer

Ping-Yu Liu, National Taiwan University, Taipei City, Taiwan

The Internet nowadays has become an important source of information for consumers to make purchase decision. Remedial management is as important as front-line management since now every consumer has an easy opportunity to write a complaint that can negatively affect the observing customers' perceived satisfaction, business reputation, and repurchase intentions. Although abundant studies concern about online reviews in existing literature over last decade, there is scarcity of studies explore the issue of how the replies to online reviews by the management influence observing customers' evaluation. It would be highly interested by researchers, especially practitioners. We choose the hotel category because it represents a kind of experience products that quality is difficult to assess in advance, and therefore consumers highly depend on online review to make booking decisions. In our empirical analysis, we utilized text analysis and General Inquirer (GI) dictionary to identify and tag the sentiment categories of words in the textual content of scraping actual consumer online review data. Furthermore, we explored how the management responses to consumer reviews posted on online review platforms influence observing customers' evaluation. Our empirical research reveals that the positive consequences of replying by the hotel management to negative consumer reviews on online platforms. Moreover, the response to positive or neutral online reviews has no statistically significant correlation with the subsequent review. Overall, our result demonstrates that a simple, systematic and cost-effective computerized content analysis approach to measure the consequences of service recovery by using public information on the Internet for online complaint management research.

3 - The Power of Fake News on User Generated Content

Sumitro Banerjee, Associate Professor of Marketing, Grenoble Ecole de Management, Grenoble, France, David Soberman

Many websites like Wikipedia and free open source software (FOSS) developers rely on contributions from users without offering them any monetary compensation. These websites face a trade-off between the quality and the quantity of content generated by users. When there are many users with the knowledge and skill to generate particular content, they "compete" to generate the same content, e.g., in case of FOSS, this leads to high quality and quantity of user contribution (e.g., Linux). In contrast, online encyclopaedias like Wikipedia rely on a broader and diverse set of users whose knowledge and skills are less certain; in addition, the quality of contributions and whether a contribution is up to date are difficult to verify. Nonetheless, Wikipedia continues to grow as the largest and the most accurate encyclopedia there is. We consider the effect of user-interactions (through the visible content on such websites) on the accuracy and quantity of user generated content. Our model seeks to explain the success of such websites in creating large volumes of highly accurate user generated content. Because users with pre-requisite knowledge react to inaccuracies or "fake news", the greater the inaccuracy, the greater the motivation to rectify the inaccuracy. In addition, the impact of having contributions revised or replaced affects the motivation of others to contribute. This dynamic stimulates the activity of more knowledgeable users, and leads to the publications of new and more accurate content. The model shows that inaccurate contributions are as important as accurate contributions to the success of the website. This explains why many of the incentives publicized by Wikipedia are designed to stimulate contributions from people who are novice contributors.

4 - Did You Find this Content Helpful? Linking Brand Specific Review Contents to Helpfulness of a Product Review

Nadine Schröder, University of Regensburg, Regensburg, Germany

For marketers it is important to know what their customers think about their products and services and whether or not many other (potential) customers share or value these opinions. One readily available source of customer opinions about a product is online customer review data. We analyze a data set from Amazon that contains reviews on various brands of tablet computers. We use the Latent Dirichlet Allocation (LDA) to identify topics within reviews and investigate how the various topics affect the number of helpful votes of reviews for tablet computer brands. This way, we like to shed light into two types of research questions: First, which particular review contents/topics affect the number of helpful votes of a review and if so, is the effect positive or negative? Second, which type of count model best models this relationship? The modeling is carried out as follows: The identified topics serve as predictors for the various types of count models, such as Poisson, Negative Binomial models, and others. From our LDA, we identify seven different content categories like, e.g., usage behavior or brand comparison. We base our decision on the optimal count model on model criteria. Some review contents (e.g., usage behavior like reading) have a positive impact on helpfulness for one brand but no effect for another brand. Based on these results, we give some examples on how marketers can benefit from our findings.

5 - The Effects of Rewards on User Reviews: Evidences from Amazon

Xuefeng Liu, Assistant professor, Loyola University-Maryland, Baltimore, MD, United States, Jason Zhang, Jibo He

Online user reviews have been found to be able to impact consumer purchase substantially. Although ubiquitous, they still could be under-provisioned due to the nature of being public goods (i.e., the use of user reviews does not actually or potentially reduce the amount available to other users). In fact, many products sold online do not get any reviews long after they are lunched to the market. Nowadays, an increasing number of retailers and manufacturers use conditional samples as incentives to increase the supply of online user reviews. In this study, condition samples are defined as product samples (e.g., goods and services) that receivers get once they meet the requests predetermined by givers. For instance, Amazon runs a Vine program, in which Amazon invites customers to become Vine Voices, and provides them with free products if they review the products within 30 days of delivery of these products. In this paper, we focus on examining how conditional samples impact the valence of resultant reviews. By drawing on the regulatory focus theory, we hypothesize that the responsibility of providing a review after receiving product samples induce reviewers to think more about what they "ought" to do and thus trigger a prevention focus motivation. Consequently, they would be more sensitive to potential risks associated with the purchase of the focal product and thus evaluate it more negatively. We assembled a large data set pertaining to more than 100,000 products from Amazon and conducted a lab experiment. Both studies show that, conditional samples lead to lower ratings than regular reviews, and this is true even after we have controlled product heterogeneity and reviewer heterogeneity. The second study supports the mediating effect of prevention focus. Our paper contributes to the literature by showing how rewards impact the valence of user reviews. Besides, this paper suggests that managers need to make trade-offs between getting more reviews and getting more favorable reviews when deciding whether to use conditional samples.

■ SB20

Sala delle Lauree

Retailing 7

Contributed Session

Chair: Keyvan Dehmamy, University of Groningen, Nettelbosje 2, Groningen, 9747, Netherlands

1 - Extended Warranty Decisions in the Face of Multiple Sources of Uncertainty

Moein Khanlari, Assistant Professor of Marketing, University of New Hampshire, Durham, NH, United States

Buyers of durable goods are often faced with the decision to buy an extended warranty to protect their purchase beyond manufacturer warranties. However, extended warranty purchase rates remain generally low despite their availability for many product categories. While personal factors, such as risk or loss aversion, play an important role in these purchase decisions, low purchase rates can also be attributed to several sources of uncertainty that dissuade buyers from buying extended warranties. In this paper, I study several sources of uncertainty that buyers face in their extended warranty purchase decisions and assess their impact on purchase decisions using a series of choice experiments. The findings shed light on the relative influence of these uncertainties and their interactions with other decision attributes to shape extended warranty purchase decisions. These insights can help retailers prioritize to mitigate uncertainties and improve their extended warranty purchase rates.

2 - Do Conflict Delistings Always Harm Firm Value? An Investigation of the Role of Conflict and Firm Characteristics

Marleen Hermans, KU Leuven, Antwerpen, Belgium, Néomie Raassens, Kathleen Cleeren

Negotiations between manufacturers and retailers often go sour. In an attempt to stand their ground in the negotiation process, manufacturers and retailers may decide to delist products until the conflict is resolved. Despite their frequent occurrence, both academics and practitioners lack information on the (financial) performance implications of these conflict delistings. The authors examine the effect of conflict delistings on firm value (stock return). Results from the event study show that, on average, conflict delistings severely damage firm value although some firms seem to profit from the event. The direction and magnitude of the stock market reaction is contingent upon (i) conflict and (ii) firm characteristics. If the number of delisted brands or the amount of publicity surrounding the conflict delisting increases, firm value of the focal firm is reduced. A conflict delisting is more beneficial to firms if the involved manufacturer or retailer has a strong brand but is detrimental if the brand strength of the partner firm is high.

3 - When Technology Hurts: Unexpected Evidences from a Multi-Method Analysis in High-contact Services

Anastasia Nanni, Bocconi University, MILANO, Italy, Andrea Ordanini

Many technological tools shaped the service encounter changing the way in which several services are delivered and affecting how customers interact with them. Literature refers to this phenomenon as technology infusion. Extant studies mostly suggest technology infusion have a positive impact on customers and the firm. Despite this evidence, we found two possible gaps in the previous literature:(1) large part of studies focuses on the so-called 'self-service technologies' in which the service setting only includes the customer interacting with the technology, mostly disregarding the so-called 'high contact' service settings, in which customers-employees interaction is essential (2) the majority of the studies on the topic regards the effects on service quality, overlooking the holistic nature of customer experience that involves different customers' responses to the retailer.The present research aims to fill these gaps investigating the extent to which technology infusion impacts on customer experience and, consequently, on customer expense in high-contact settings. We secured the collaboration of a chain of high-end fashion stores located in Italy. In its stores, the apparel company recently integrated a technological tool to one of their services that is the focus of our investigation. We use a multi-method approach, including field experiments, on-site surveys, and direct observations. Our findings suggest that, contrary to the positive effects found in previous studies in high contact contexts they have a negative effect on customer experience and on customer expense. Indeed, technology is a sort of barrier that prevents customers interacting with employees.

4 - How Walmart Closing Stores Impacts Consumer Behavior

Qiaoni Shi, University of Pittsburgh, Pittsburgh, PA, United States, Jeffrey J. Inman, Dinesh Gauri

Over the past several years, multistore retailers have closed a myriad of stores. In 2017 alone, 105 million square feet of retail space was closed (Thomas 2018). The closing of a retail store directly impacts the households who shop there and creates an unusual opportunity for competitors. Despite the huge practical impact, surprisingly little research has examined the impact of retail store closings. In this study, we leverage two disruptive events - Walmart's closure of 154 stores in the United States in early 2016 and Sams Club's closure of 63 stores in early 2018 - and apply a difference-in-difference approach to empirically investigate the impact of store closings on affected households as well as nearby retailers. Particularly, we are interested in how consumers shift their household-level shopping basket to other options such as other Walmart stores, alternative retail formats, or the online channels after the events. We aim to make two contributions. First, this study provides managerial implications for retailers to develop and evaluate their store closing strategies as well as for other impacted retailers to form a reactive strategy responding to their competitors' store closings. Second, we analyze the behavior change of affected households to form a better understanding of consumer behavior under store closing and to aid the development of relevant social policy.

5 - Who is in Control? Building Hierarchy in the Dynamics of Marketing Mix Variables

Keyvan Dehmamy, University of Groningen, Groningen, Netherlands, Jaap Wieringa

Price and advertisement are common marketing mix variables, which supermarket-stores use to affect their sales. However, not only own marketing mix determine the sales, but also external factors, including marketing mix of the competitors. When the stores try to influence their own sales, they are countered by the competitors' reactions. To adjust optimally, the retailing managers need to know how the competitors react. This strongly depends at which level of retailing-hierarchy these adjustments are being made. In this paper, we use data on lemonades sold in major Dutch-supermarkets, to illustrate that this responsibility strongly depends on the chain and the brand. By using a dynamic hierarchical factor model, we show how to predict the marketing mix, helping managers to know more about competition. The extracted factors at different levels can describe and predict sale variations. Impulse response analyses show adjustments of marketing mix variables in case of unforeseen shocks to the market, identifying robust brands and chains in terms of marketing mix adjustments.

Saturday, 2:00PM - 3:30PM

■ SC01

Aula 01

Sales Force 1

Contributed Session

Chair: Eunsoo Kim, Ann Arbor, MI, 48103, United States

1 - Compensation Inequality and Turnover of Heterogeneous Salespeople: A Multilevel Study of the Moderating Effects of Environmental, Industrial and Organizational Factors

Alireza Keshavarz, University College Dublin, Blackrock, Ireland

Conventionally, sales scholars have examined sales-force turnover without considering the heterogeneity of salespeople. One of the main factors that prevent organizations from forming effective policies to address the turnover of heterogeneous salespeople is that this issue is often treated in isolation from other sales management processes. The empirical research on sales-force compensation is mostly based on agency theory and has primarily focused on the incentive-setting and pay for performance aspects. One of the direct effects of agency theoretic incentive-based compensation policies is the increase in pay inequality. Naturally, pay inequality has implications for job satisfaction and turnover of heterogeneous salespeople. Using a 4-year longitudinal data on more than 1000 sales organizations across various industries and applying a multilevel (HLM) analysis, we find that pay inequality within sales organizations has a positive, nil and negative effect on the turnover of low, middle and high performers, respectively. Furthermore, we find that this direct effect is moderated by different environmental (availability of substitute salespeople in the environment), industrial (industry dynamism, innovativeness), and organizational (average compensation level relative to the industry, innovativeness, promotion prospect) factors. This study complements the scant but growing body of research that tries to bridge the gap between compensation and turnover literature in salesforce management by establishing a link between compensation policies and turnover of heterogeneous salespeople under several environmental, industrial and organizational conditions.

2 - Sales Force Management with Behavior-based Incentives and Outcome-based Rewards

Da Young Kim, Emory University, Atlanta, GA, United States, Mike Lewis

Sales force compensation plans are a means of maintaining the sales staff and communicating the organization's expectations to its employees. Designed to reflect the characteristics of the industry and the sales task, these plans illustrate the type of goals that the salespeople should strive for and motivate them to expend a sufficient level of effort in order to reach those goals. For sales managers in charge of an entry-level sales force, the compensation scheme can also serve as a training guide for the new sales staff by providing feedback on their level of investment towards specific sales activities. This is especially true for inside sales where sales force activities are more conveniently monitored by the manager, compared to the case of field or outdoor sales. Using data from multiple cohorts of an entry-level sales force in the sports industry, we model how salespeople react to the behavior-based incentives that are dependent upon their level of sales activities and the outcome-based rewards that are dependent upon the amount of revenue they have raised. The shift in salespeople's attentions between the behavior-based incentives and outcome-based rewards over time provides implications to the sales managers in balancing the individual's autonomy with appropriate levels of guidance.

3 - The Impact of Network Participants on Independent Contractors' Inactive Behavior in the Multi-level Marketing Industry

Eunsoo Kim, Assistant Professor, Nanyang Technological University, Singapore, Puneet Manchanda

Turnover behavior has long been a topic of interest. Understanding such behavior in the context of Multilevel marketing (MLM) poses a unique challenge due to the characteristics of the industry. MLM firms are affiliated with networks of independent contractors, who either sell products to the end customers or recruit others into the distribution network. Although the contractors are independent, their business can be subject to a significant influence from other network participants either from the same network or those who are geographically serving similar markets. We leverage a novel dataset provided to us by a large MLM firm to examine the determinants of independent contractors' inactive behavior in the early stage of business. In particular, we examine the impact of network participants, who themselves are also independent contractors. Our results suggest that differences within and across the subnetworks (that comprise the whole network), geographic proximity, and those participants with high status are related to independent contractors' inactive behavior.

■ SC03

Aula 03

New Products 4

Contributed Session

Chair: Oliver Schaer, Lancaster University, Lancaster, United Kingdom

1 - On the Range Anxiety for Electric Vehicles: An Empirical Investigation

Sang Won Kim, CUHK Business School, Shatin, Hong Kong, Ho-Yin Mak, Marcelo Olivares, Ying Rong

Although Electric vehicles (EVs) are an important technology for curbing the carbon footprint of road transportation, mass adoption of EVs has yet to happen in major auto markets. Among the major shortcomings of EVs on the market is the limited range and long recharging time, creating psychological concerns to drivers called range anxiety and making them reluctant to adopt EVs. In this work, using a novel data set collected from an on-demand car sharing system, we empirically identify and quantify the effect of a car's effective driving range on its attractiveness to drivers on a single-trip basis, and contrast the findings for EVs with those for traditional combustion engine (CE) vehicles. We conduct three complementary econometric analyses i) to identify drivers' aggregate preferences on fuel type; ii) to show that a key attribute that may account for such difference is the range; and iii) to quantify drivers' preference for longer range by evaluating the trade-off between a car's fuel level versus the cost of access. Our estimates suggest that EVs substantially decrease the service demand (by 20~25%) and the fuel level has a statistically significant effect on the demand rate only for EVs: a 10% increase in fuel level enhances the probability of rental by up to 4% for an EV. Moreover, we find that drivers renting EVs are willing to walk up to forty times as far as they would do for CEs for the same amount of additional range even when they are making very short trips. These are significant findings as they reveal that range anxiety is not merely a matter of purchase behavior, but also one associated with day-to-day usages.

2 - Economic Order Quantity Model for Technology Items with Imperfect Quality and Deterioration where Demand follows Multi-Stage Diffusion Dynamic

Udayan Chanda, Associate Professor, BITS Pilani, Pilani, India, Alok Kumar

Due to dynamic nature of technology market and varied consumer tastes, technology product market is often considered as a multifaceted system. Also, as oligopolies are common in technology market, it gives choices to consumer to choose from many depending on product utility and consumers' buying ability. Because of competition and fast breakthroughs in technology market, it can be observed that in recent years products life cycle got shorten significantly. It created massive pressure on inventory managers to synchronize between inventory control policies and consumer demand dynamics. The traditional Economic Order Quantity (EOQ) models can't be used for technology products as these models are based on the theory of invariable demand rate. Other than consumer adoption process, inventory managers also face the challenge of imperfect quality products during strategizing business policies. Imperfect quality products can come from flawed transport, storage conditions or it may come due to faulty production process. Proper inspection or screening of lot is important to remove the desired level of defective items before delivery to the customers. In this paper we propose a new EOQ model for technology items with imperfect quality where demand rate will follow life-cycle dynamics, and sales is been treated as a function of product awareness, utility and consumer affordability. With this framework, we tried to address some of the major limitations of the existing EOQ models. The effect of deterioration of products is also considered. To check the validity of the model numerical analysis is performed under different market conditions.

3 - Has Ease of Communication Led to Quicker Adoption (or Rejection) of a New Product and Shorter Life-cycles? The Case of Motion Pictures

Vivek Sundar Magesh, NUS, Singapore, Singapore, Trichy V. Krishnan

Newer communication technologies have enabled rapid adoption of social media platforms like Facebook and Twitter. These in turn have accelerated the spread of all types of information among friends and families, and beyond. From a marketing context, one can claim that consumers share information almost instantaneously and also have access to detailed and instantaneous feedback about the performances of new products. Word-of-mouth moves at a much faster pace thanks to the social media. While some of the information contained in social media word-of-mouth is genuine, some of it can be spurious and misleading, and yet one cannot refute the possibility that potential adopters of a new product are continually influenced by such information. One wonder if such faster spread of word-of-mouth has affected the rate of adoption (or rejection) of a new product. In this paper, we study this phenomenon. We focus on the adoption (or rejection) rate of movies because each movie can be considered a new product and hence it is a fertile field to study the impact of faster information spread. Specifically, we analyze if information spread through social media and other channels has led to quicker adoption (or rejection) and shorter lifecycles. Using movie box office data, we model the adoption of movies over time and our analysis points to evidence of quicker adoption and shorter lifecycles.

4 - Pre-Launch Forecasting of Consumer New Product Adoption Applying Case-Based Decision Theory (CBDT)

Kanoko Go, Niigata Sangyo University, Niigata, Japan

Launching a new product is one of the most important issues in marketing however its' failure rate is very high. To reduce this risk, many marketing science models have been developed. The models including ASSESSOR and TRACKER, and DEFENDER are widely used. And also, as utilizing scan panel data, hazard-based models and learning models are also developed. Although these models assuming consumers can evaluate the product attribute when a product is complicated or really new, its evaluations might not be impossible We propose the Case-Based approach to predict a new product adoption. This approach is based on Case-Based Decision Theory (CBDT); decision rule that chooses the best act based on its past performance in similar cases. Applying this theory to consumer new product adoption, we need only the information about their past experiences and can forecast the adoption rate of a new product before launch without the consumer survey data. This study proposes the consumer adoption model based on the CBDT for pre-launch forecasting and investigates the applicable product category explained by this model utilizing a scan-panel data on consumer commodity goods.

5 - Estimating Success of Own and Competitor's New Products with Pre-Release Buzz

Oliver Schaer, Lancaster University Management School, Lancaster, United Kingdom, Nikolaos Kourentzes, Robert Fildes

Pre-release forecasting is a vital task for organisations to adjust advertising strategies and operational decisions. Past studies have demonstrated the predictive value of pre-release buzz for forecasting the adoption of new products. Since the pre-release buzz is publicly available and it is well understood that homogenous products follow similar sales pattern we want to investigate how useful such data is to estimate competitors' new products success. For this purpose, we propose to construct profiles of pre-release buzz patterns and associate them with product success. The resulting model allows forecasting the success of a new product by observing its relatively easy to measure pre-release buzz. This approach will not only provide marketers with useful information about their own products but will also allow gaining insights about the competition. We test our approach on video games sales where we use cluster profiles of pre-release Google Trends information to investigate how those can be effective in predicting the success of own and competitor new products.

■ SC04

Aula 04

Media Monetization

Special Session

Chair: Inyoung Chae, Emory University, Atlanta, GA, 30322, United States

Co-Chair: Adithya Pattabhiramaiah, Georgia Institute of Technology, Atlanta, GA, 30308, United States

1 - It's Free if You Want it: Measuring Spillovers from Online Engagement

Adithya Pattabhiramaiah, Georgia Institute of Technology, Scheller College of Business, Atlanta, GA, 30308, United States, Eric Overby, Lizhen Xu

Firms in various industries (e.g., media, entertainment) have commissioned paywalls to monetize online content. Such firms commonly offer bundled pricing strategies wherein subscribers of one product option (usually the core product) are granted access to a complementary product, often for free, for two main reasons. First, the belief is that such a pricing strategy would make the bundle intended to sell the core product appear more attractive, thereby supplementing overall firm revenues. Second, it can serve as a conduit for capturing any cross-channel engagement spillovers of the firm's user base. In this paper, we intend to empirically evaluate the effectiveness of such wisdom. We seek to explore whether a print subscriber's decision to activate unlimited access to digital news has an effect on her offline news consumption behaviors. Intuitively, only those users who value digital news are likely to activate digital access even though many newspapers offer this feature for free to their print subscribers. Our identification strategy systematically accounts for the impact of such a self-selection in user behaviors to offer a causal estimate of the impact of users' decision to activate digital access on the newspaper's print subscription revenues. We find evidence of digital activation leading to a bump in print subscription revenues to the tune of 8-12% for a top-25 North American newspaper. We then delve deeper into indicators of digital engagement that correlate with factors characterizing this cross-channel spillover. Our results offer implications for product portfolio management and bundling decisions for media and entertainment product firms.

2 - The Editor vs. The Algorithm: Data, Precision and Spillovers in the Case of the News

Ananya Sen, MIT (Sloan), Cambridge, MA, United States, Joerg Claussen, Christian Peukert

We run a large randomized field experiment with a major news outlet in Germany to study the impact of artificial intelligence in the case of online news. We ask whether automated recommendation can outperform a human editor in terms of user engagement, and how this relationship depends on the amount of personal data that is available to the algorithm. These questions are especially pertinent in the context of online news since editorial experience in identifying the 'importance' of news stories is said to be crucial for a successful outlet. In such a setting, human judgment may outperform the out-of-sample prediction of a machine learning model, when unobserved experience is more important than observable features. We then investigate the unintended consequences of personalized recommendation, including potential changes in the distribution of news consumption across article categories. In Particular, using information on the clickstream of an individual user, we will investigate in detail which articles were clicked after the recommended article and track this behavior over the experimental period. We will then construct measures of their consumption diversity and how it might have been impacted by personalized recommendations. Looking at the indirect effects and potential externalities of personalized recommendation in the news context also contributes to the literature on the role of the internet and the resulting echo chambers in increased political polarization.

3 - Maturing Digital Campaigns and Audience Creation and Activation

Catarina Sismeiro, Imperial College Business School, South Kensignton Campus, London, SW7 2EA, United Kingdom

In recent years there has been a significant discussion on whether demographic and behavioral targeting in online campaigns is accurate (Neumann et al. 2018), effective (Trusov et al. 2016), or even whether it can be properly assessed (Lewis and Reiley 2014). Although a variety of data providers have sprung into life, many advertisers fear that data activation in online campaigns through programmatic delivery might not justify the additional costs viz-a-viz those of more traditional forms of delivery (e.g., reservation buying). What is less discussed in the literature is that media agencies and advertisers have put in place a series of contractual agreements or verification systems to minimize digital campaign risks and to pay according to results. Examples include the requirement of using third-party providers to verify in-target performance and actual reach, and the development of "effective CPM" metrics. In addition, online campaigns can have a very diverse set of objectives and KPIs (e.g., performance vs. awareness campaigns), and as a result not all systems will work well for all campaigns and for all advertisers. With this paper we will discuss how the market is maturing towards more sophisticated forms of contracts and targeting systems, and the importance of more transparent forms of audience creation when the actual reach in-target is indeed important. We will show results from several field experiments conducted across a variety of large advertisers and publishers, through a diverse set of delivery systems, that demonstrate that the market is responding to the many concerns of advertisers.

4 - Finding the Sweet Spot: Ad Scheduling on Streaming Media

Prashant Rajaram, PhD Candidate in Marketing, Ross School of Business, University of Michigan, Ann Arbor, MI, 48104, United States, Puneet Manchanda, Eric Schwartz

Streaming services generate revenue via subscriptions, transactional services, or increasingly via advertising. This has resulted in ad spending on such services growing to a projected $20 billion in 2020 from $4.7 billion in 2017. Using a novel dataset that tracks the viewing behavior of 10,000+ Hulu users, we develop a three-stage process to provide an advertising schedule for the streaming provider that maximizes ad exposure without compromising the content consumption experience. First, we use the consumer psychology literature on hedonic adaptation to develop two parsimonious metrics: 'Bingeability' captures the number of completely viewed unique episodes of a TV series in a session while 'Ad Tolerance' captures the willingness of a user to watch pods (block of ads) and to watch content after being exposed to pods in a session. Second, we use detailed data from a moving window of one-week of viewing activity along with a rich description of the ad delivery process to predict these metrics for user sessions. The prediction is carried out on holdout samples using a tree-based machine learning algorithm - Extreme Gradient Boosting. We control for the non-randomness in ad delivery to a focal user using "instrumental variables" based on ad delivery patterns for other users. Third, we use the predictions to identify sessions where ads do not detract from content consumption. We then use a novel constrained optimization procedure built around our predictions to provide an advertising schedule for the streaming provider that maximizes ad exposure via frequency of pod delivery (holding pod length constant).

5 - Promoting Monetized Online Content: How Does a Temporary Paywall Suspension Affect Content Consumption and Subscription?

Inyoung Chae, Emory University, Atlanta, GA, 30322, United States, David A. Schweidel, Jihyeon Ha

Given the abundance of free online content, news media organizations face challenges in monetizing their content while retaining online traffics to yield advertising revenues. Many major media firms have implemented paywalls to charge readers a subscription after allowing free access to a limited number of articles. Free articles enable new visitors to experience the website so that they can be converted to additional subscriptions. In this research, we investigate the impact of temporary paywall suspensions that arise due to exogenous events. Leveraging the naturally arising experiment, we empirically assess the effect of lifting the paywall on consumers' post-suspension consumption of content and decision to become subscribers. On one hand, more exposure to the news sites' content during the paywall suspension provides readers with more experience, which may result in more readers becoming loyal to the site and generating more revenue through increased traffic (and hence advertising revenue) and subscriptions. On the other hand, it may mitigate users' expected value of the online content and make them reluctant to pay for content after the suspension ends. Using large-scale individual-level clickstream data and users' subscription decisions related to a major news organization, we examine how the temporary paywall suspension affects their subscription and news consumption behavior and what the boundary conditions of this effect are.

■ SC05

Aula 05

On the Psychology of Giving and Receiving Gifts

Special Session

Chair: Eva Buechel, University of Southern California, Los Angeles, CA, United States

1 - My Money is Yours, but My Time is Mine: Inseparability of Consumption from the Self Increases Agency and Giving

Selin A. Malkoc, The Ohio State University, Columbus, OH, United States, John Costello

We introduce the inseparability of the self from the resource as a previously unexamined time/money difference. We suggest that giving separates givers from their money, but not from their time. In turn, while giving reduces agency over money, consumers retain agency over time even after giving. Across eight studies we demonstrate the implications of this asymmetry on perceived agency and subsequently on donation behavior. Our framework explains differences in giving time and money, demonstrates when and why other forms of donation might be attractive, and how people can use time donations to compensate for lack of control.

2 - Earmarking Donations to Charity: Cross-Cultural Evidence on its Appeal to Donors Across 25 Countries

Christoph Fuchs, Erasmus University, Burgermeester Oudlaan 50, Rotterdam, 3062PA, Netherlands, Martijn de Jong, Martin Schreier

Charity organizations differ in their practice of offering donors the option to earmark their contribution - that is, allowing donors to identify a particular project in which their money should be invested. This paper presents two studies that provide the first empirical evidence on the appeal to donors of such earmarking. The empirical basis of Study 1 is a unique data set consisting of 7,383 potential donors from 25 countries who participated in a randomized survey experiment. First, we find that the willingness to donate is significantly higher when earmarking is allowed. Second, we identify two cross-cultural interactions: earmarking is a less effective inducement in countries that score lower on autonomy relative to embeddedness and in those scoring lower on egalitarianism relative to hierarchy. Third, we find that the earmarking effect is driven mainly by the activation of more donors and not by increases in the amounts that donors contribute. Study 2 is a follow-up experiment that replicates the basic earmarking effect, addresses limitations of our cross-cultural study, and validates the effect's underlying process. We find that earmarking options increase potential donors' perceptions of being able to make specific impact and also that this sense of agency is key to understanding an individual's increased willingness to donate.

3 - Understanding Social and Interpersonal Influences on the Desire for Surprise Gifts

John Pracejus, University of Alberta, 3-23 Business Building, Edmonton, AB, T6G 2R6, Canada, Douglas Olsen

Current work on the subject of gift giving might suggest that we should never surprise people - we should simply ask them what they want and then provide that item for them (either directly or via on-line wish lists). This seems at odds with conventional social practice where surprise gifts are common (79% of our sample had asked people to surprise them in gift-giving situations in the past). So where does this disjuncture lie? Reading the literature makes it clear that most previous work has taken the perspective of the gift giver, with the trials and tribulations that they go through when trying to determine what to purchase. Concerns of the receiver, for the most part, have been secondary. Study 1 considers some of the different factors influencing the desire to be surprised, finding this desire to be positively related to variety seeking and empathy, and negatively related to need for control. Study 2 demonstrates that both relationship strength and attentiveness of the giver impact desire for surprise. Study 3 shows that familiarity moderates the impact of product type on desire for surprise. Study 4 uses consequential choice to demonstrate the impact of receiver knowledge and giver knowledge on preference for surprise. Even when a recipient has knowledge of what alternatives are available, approximately 70% still choose to be surprised if the giver is knowledgeable about them. Moreover, even if the giver has very little knowledge about the receiver and the receiver has good knowledge of category options, a non-trivial number - almost a third, still choose to be surprised. Direction for future research is discussed.

4 - Misguided Preference for Mysterious Consumption

Eva Buechel, University of Southern California, Marshall School of Business, Los Angeles, CA, United States, Ruoou Li

Consumers are expressing increasing interest in mystery boxes; boxes for which the content is unknown at point of purchase and only revealed upon opening. These boxes are interesting for two reasons. First, they are of practical relevance because they represent a timely market place trend. Second, they are of theoretical interest because these mystery boxes represent a special and understudied form of surprise. Surprise is traditionally conceptualized as a sudden and unexpected event (e.g., a surprise party; an unexpected win). Mystery boxes, however, are pre-announced and expected surprises: one knows that a surprise is impending, but the nature of the surprise is unknown. We show that people show a preference for mystery boxes and are willing to pay a premium for them over comparable non-mystery boxes. However, we also show that the anticipated surprise associated with mystery boxes can backfire. Specifically, the uncertainty associated with anticipated surprises makes people engage in wishful thinking with regards to the exact nature of the surprise during the anticipation period. In the context of mystery boxes, this wishful thinking leads consumers to overestimate the desirability of its contents. This, in turn, leads to disappointment upon reveal of the surprise contents via hedonic contrast effect.

■ SC06

Aula 06

Advertising and Insurance

Special Session

Chair: Pranav Jindal, UNC Chapel Hill, Chapel Hill, NC, 27517-3490, United States

Co-Chair: Sriram Venkataraman, University of North Carolina-Chapel Hill, Chapel Hill, NC, 27517, United States

1 - A Descriptive Analysis of Advertising Content: Insights from the U.S. Auto Insurance Industry

Elisabeth Honka, UCLA Anderson School of Management, Los Angeles, CA, 90024, United States, Yi-Lin Tsai

We comprehensively describe advertising content and its relation to several quantities of interest, namely, product quality, pricing, consumer search, market structure, and business cycles. Our unique main data consist of the creative files for all advertisements placed by all auto insurance companies on TV, the Internet and in magazines in the U.S. between 2001 and 2016. Our results show that (i) most of the variation in advertising content is coming from brands followed by media channels and time; (ii) most ads contain both information and non-informational content types; (iii) price is the most frequently advertised type of content and commonly advertised with other types of content; (iv) if fear/need for safety is communicated, it is mostly the sole content of an ad. Additional analyses find that brands are more likely to advertise quality when consumers search a lot. Further, market leaders advertise more, are more likely to communicate non-price product features, and to reference specific competitors than followers. And lastly, in times of economic downturns, brands focus on price and attacking specific competitors. We discuss the relevance of our findings for marketing academics and practitioners.

2 - Impacts of Legacy Discounts in the Market for National Television Advertising

Sylvia Hristakeva, UCLA Anderson School of Managment, Los Angeles, CA, 90095, United States, Julie Mortimer

We examine pricing practices in the market for national television advertising that may have the potential to impact the production of media content or the nature of competition between advertisers. Industry practices suggest that (legacy) firms with long histories of participation in the market benefit from favorable grandfathered rates that allow them to reach the same audiences at lower costs. A challenge in studying the inter-firm contracts in this market is that firms consider contracts to be trade secrets, and data on contract terms are rarely available. We combine institutional knowledge with data on ad placements, average prices, and historical ad-purchase behavior to identify the value of continued relationships in this market. Specifically, average ad prices in a specific program are mapped into the set of firms advertising in that program. This allows us to infer price differentials across firms, which we project onto firms' budget size and firms' length of relationship with broadcasters. Preliminary results imply that a firm may benefit from a 0.41% discount by entering the market a year earlier. For comparison, the quantity discount for CBS implies a 0.37% discount for a 10% increase in advertising budget. A back-of-the-envelope calculation considers efficiency gains from a merger between two firms with the same advertising budgets of $70 million, but with different entry timing: 1967 and 2013. Keeping average prices and firm advertising selections fixed, the stand-alone cost saving to the acquired firm from the legacy discount is $13 million.

3 - Do High-Deductible Health Plans Threaten Quality of Care?

Sriram Venkataraman, University of North Carolina-Chapel Hill, Chapel Hill, NC, 27517, United States

In the United States, employer-sponsored health insurance covers over half of the non-elderly population. Rising healthcare costs have led employers to slowly shift these costs to their employees. Advocates of high-deductible health plans posit that cost sharing reduces overall healthcare costs by lowering healthcare utilization. However, do individuals make sensible health insurance decisions? If they select a high-deductible health plan, do they reduce their healthcare utilization? And does reducing their healthcare utilization have any undesirable consequences? We address these questions using a proprietary database with nearly 240 million unique patients spanning 260 contributing employers and 40 contributing health plans from years 1999 to 2016.

■ SC07

Aula 07

The Early Impact of the General Data Protection Regulation (GDPR)

Special Session

Chair: Klaus Miller, Goethe University Frankfurt, Frankfurt am Main, 60323, Germany

Co-Chair: Bernd Skiera, Goethe University Frankfurt, Frankfurt am Main, 60323, Germany

1 - The GDPR's Early Impact on Adtech

Scott Shriver, Leeds School of Business, Boulder, CO, 80302, United States, Garrett Johnson, Samuel Goldberg

While the adtech industry has created significant value through its ad targeting and measurement services, its permissive privacy practices have long been a concern for regulators. To address personal data processing more generally, the European Union has imposed new responsibilities on all firms serving EU citizens through its General Data Protection Regulation (GDPR). Privacy regulation increases the firm's cost of collecting consumer data which may reduce both data collection and data sharing between firms. We use the GDPR's enforcement date in May 2018 to study its influence on adtech. In particular, we collect unique data to examine changes in third party tracking online as well as competition in selling online ads. When users visit websites their browsers interact with various 3rd parties, for instance, by loading cookies that allow adtech companies to track users. We first measure all such interactions with 3rd parties for a panel of over 28,000 primarily European top websites. We find a 14% reduction in third party interactions in the week after enforcement, which fully erodes to pre-GDPR levels after 6 months. Across a second panel of over 100,000 sites, we look for evidence that the GDPR has reduced the number of ad sellers with which websites are willing to work. We find no such evidence in website's self-reported ad selling partners. In sum, we find a muted online response to the GDPR early on, prior to significant enforcement actions.

2 - Regulating Privacy Online: The Early Impact of the GDPR on European Web Traffic and E-Commerce

Samuel Goldberg, Garrett Johnson, Scott Shriver

In May 2018, the European Union began enforcing the General Data Protection Regulation (GDPR), which endowed new personal data rights to EU citizens and imposed new responsibilities on firms. Privacy regulation increases the firm's cost of collecting consumer data which makes matching with consumers more costly. As such, the GDPR has the potential to reduce both the amount of traffic to a website as well as reduce the fraction of web outcome data stored for analytics purposes. We examine the impact of the GDPR on European web traffic and e-commerce sales using web analytics data from a diverse set of 1585 firms that use the Adobe Analytics platform. Using a difference-in-differences approach, we show that recorded pageviews fall by 10% and recorded revenues fall by 18% for EU users after the GDPR's enforcement deadline. The extensive margin drives these changes as a user's average time on site and average pageviews per visit stay constant. We show that these changes in web outcomes are heterogeneous across site type. Finally, we use last touch attribution data to examine how traffic flows have changed post-GDPR.

3 - How Do Users React to Privacy Notice Changes?

Julia Schmitt, Klaus Miller, Bernd Skiera

In the age of digitalization, the increasing extend of data collection renders user privacy protection more important than ever. To increase the protection of personal data, policy makers worldwide are implementing regulations, aiming to trade-off between user privacy and benefits that websites and users get from online information collection. However, compliancy to such policies can be achieved by a range of privacy implementations, potentially affecting websites to different extents. We aim to quantify the effects of privacy policies by examining how websites implement privacy notices and how users react to the respective implementations. The recently enforced General Data Protection Regulation provides an ideal setting to study these effects as it allows for a broad range of implementations, providing the opportunity to analyze how users react to each implementation. Within the setting of GDPR, we draw on a dataset of the top 1,000 websites of 12 EU and 2 non-EU countries, tracking daily how each website reacted to GDPR in terms of changing their privacy notices. Using machine learning algorithms, we classify how each website implemented their privacy notice on a daily level and then link changes in these privacy notices to the resulting changes in user behavior in terms of traffic and other metrics. First analyses of 4% of the dataset show that only 63% of the tracked websites have privacy notices and of those, every other website applies a new combination of implementation characteristics. To determine whether changes in user behavior were caused by the respective changes in privacy notices, I will use synthetic control group approaches to predict counterfactual values for the respective website after the change. The resulting knowledge about how users react to changes in privacy notices on websites will show the consequences of such privacy policy implementations and can help companies to implement privacy notices due to upcoming privacy regulations in other geographical areas, such as the California Consumer Privacy Act or the Brazilian Data Protection Law.

■ SC08

Aula 08

Digital Marketing 11

Contributed Session

Chair: Ganesh Iyer, University of California-Berkeley, Haas School of Business Marketing Group, MC 1900, Berkeley, CA, 94720-1900, United States

1 - Who Would Still Buy from a Brand After Its Product-harm Crisis? An Investigation of Online Brand Community

Guiyang Xiong, Syracuse University, Syracuse, NY, United States, Junyun Liao, Shibin Sheng

This study examines the reactions of online brand community to product-harm crises and addresses two major questions. What types of online brand community members are more/less likely to stay loyal to the brand after a product-harm crisis? What can firms do to leverage online brand community to remedy the adverse impact of a product-harm crisis? By tracking and analyzing the behaviors of around 45,000 individuals on Samsung online brand community upon the recall of Galaxy Note 7, we find that online brand community participation, self-presentation, and tenure predict a higher likelihood of post-recall product purchase of the same brand, while indegree and outdegree centralities exhibit asymmetric effects. These effects are moderated among direct victims of the product harm crisis (i.e., those who had purchased the product under recall). For example, direct victims with greater levels of online community engagement are less likely to repurchase from the brand. Moreover, we observe significant spillover effect on the brand-level. Specifically, similar moderating effects hold for indirect victims (i.e., those who had purchased from the brand but not the focal product under recall), except for the effect of indegree centrality.

2 - Esports Viewership and Customer Engagement

Wooyong Jo, PhD Student in Marketing, Emory University, Atlanta, GA, United States, Mike Lewis

The video game industry is increasingly invested in competitive gaming (esports) and content distribution (streaming). These activities have the potential to increase consumer interest and engagement with specific game titles. However, the return on these investments is indirect and difficult to measure. In this study, we construct a unique dataset that consists of gamer's individual in-game activity and their watching behavior on esports streaming service. Relying on a recent development in machine learning method for causal inference, we examine the impact of esports viewing on subsequent consumer behaviors such as playing rates and purchasing activity. Specifically, we find that watching esports leads to an increase in multiple dimensions of customer engagement: 1) Playtime, 2) Spending, and 3) Performance. We also observe that the magnitude of such effects is substantially heterogeneous across customer's in-game behaviors. Our findings provide ample implications for managerial decisions related to customer relationship management using newly available media (i.e., esports and online streaming), targeting an appropriate group of customers for esports-based promotions, and the identification of heterogeneity in gamer behaviors.

3 - Going Native: Investigating the Drivers of Online Native Advertising Effectiveness

Farnoosh Khodakarami, Michigan State University, East Lansing, MI, United States, Alex LaBrecque, Clay Voorhees

Online native advertising, which is a form of advertising that takes the form and appearance of the editorial content of a webpage, is one of the fastest growing areas of digital advertising. Despite this rampant growth, marketing academics and managers alike have yet to establish the benefits of native ads, specifically regarding advertising context and advertising content. To explore the performance of online native ads, the authors use a secondary dataset of native advertising campaigns which includes about 5,000 unique advertisements from 269 brands. First, the authors identify how various contextual factors (device type, firm type, and advertising format) impact the stages of the conversion funnel. The results show that consumers on mobile devices exhibit a higher click-through rate, but lower conversion rate, as compared to consumers using desktops. Regarding the ad format, the results show that subtle advertising format (in-feed ads) have higher click-through rate as compared to more apparent advertising format (in-ads). In addition, the results show that compared to B2C firms, advertisements for B2B firms results in lower click-through rates and potentially lower conversion rates. Next, using a subset of ads, the authors coded the content of ads to investigate how various message appeals (arousal-oriented, persuasion-oriented, information, calls to action, non-brand references and media elements (i.e., video ads)) influence consumer response to native advertising. The results show that providing solutions, sharing product-related information, presenting a "slice of life" and emphasis on partnerships yield good response from customers; while interestingly, call to action messages (e.g. "click here", "learn more") does not lead to higher click-through rate. Besides, video ads are shown to be less effective, particularly on mobile devices. Taken together, the results of this research provide further understanding in this under-researched area.

4 - How Does Social Impact Group-buying?

Yue Wang, Singapore University of Social Sciences, Singapore, Singapore

The previously overheating group-buying business, seems to die out in the past a few years. But it made a successful comeback with a new look in China. The upgraded group buying emerged in the social e-commerce Pinduoduo as well as almost all the existing e-commerce leading companies in China like Taobao and JD, and it has proven to be effective in obtaining and retaining shoppers. The social group-buying basically incorporate the social element into the online shopping context. Shoppers share the links to their contacts to buy together in order to purchase at a lower price. How was the social group buying different from the traditional one? Is there any boundary to the profitability of the new one? We develop a model to add the social factor into a sequential group buying model in a two-period game where the firm disclose the sign-up number in the first period. Shoppers can choose to incur some social cost to ask their friends to purchase together to get a lower price, or they can wait until other people join the group, or the shoppers in the second stage can just join the existing group. We demonstrate that those with lower social cost are more likely to engage their friends to purchase together. And depending on the magnitude of the social cost, firm has an optimal decision of price discount and how many people to form the group buying. We will further use e-commerce social group buying data trying to identify the social cost and test some of the findings.

5 - Pushing Information

Ganesh Iyer, Professor, University of California-Berkeley, Berkeley, CA, United States, Zachary Zhong

Information providers in the modern digital economy profit from consumers' frequently checking for information. We study the dynamic information design of a firm to influence consumer checking behavior under stochastic information arrival over time. Consumers may be uncertain about when pieces of information arrive as well as their valuation. They derive utility from consuming information, but also experience disutility from the uncertainty (variance) of unchecked information. The model prescribes consumers' optimal checking behavior as a trade-off between costly checking and costly waiting. The firm can design a push mechanism to inform consumers of the arrival of information. Without push notifications, consumers will check at constant intervals. We find that push notification can lead to more frequent checking compared to no push even though it reduces the variance of information. Push notifications are preferred by the firm to no push when the variance of the consumption utility is large enough, and vice-versa. Push notifications resolve the information arrival uncertainty, but they also create an endogenous impulse to check the information immediately. We also consider generalized push strategies that allow the firm to push with noisy signals of information arrival wherein the firm can add phantom notifications to the information arrival process. The noisy push strategy can lead to more frequent consumer checking even when consumers are fully rational. The main results also hold under endogenous price.

■ SC09

Aula 09

Methods 3

Contributed Session

Chair: Wenshu Zhang, Purdue University, West Lafayette, IN, 47907, United States

1 - Using Item Response Theory to Better Match Customer Preferences: The Case of an Online Subscription and Personal Styling Service

Kathrin Gruber, Assistant Professor, Erasmus University Rotterdamn, Rotterdamn, Netherlands, Nita Umashankar, Peter Fader, Thomas Reutterer

Subscription business are exploding with growth: Since 2014 the number of visitors to subscription shopping websites has grown by 800%. In particular, personal styling services (e.g., Stich Fix, Trunk Club) have become a popular way for customers to receive a customized box of clothing styled by an expert in a quasi-subscription manner (customers can cancel or pause their subscription any time, which inherently increases risk to the firm). The composition of these boxes depends on stylists' selection from a large pool of available products. From the company's perspective, the repeated curated boxes should (i) increase the keep-rate of products over time and (ii) prevent customer churn by better matching the contents of the box to customers' preferences. We mimic the stylist's decision sequences by adopting an adaptive IRT (item response theory) modeling approach. The proposed approach should help (i) improve the "accuracy" of box compilations over time (thus, increasing effectiveness) and/or (ii) reduce the number of "trials" needed to figure out customers' underlying preferences (thus, increasing efficiency). Ultimately, the goal is to improve the overall match between the content of each box and customers' preferences. By comparing the sequence of curated boxes with the simulated optimal box configurations suggested by our adaptive IRT approach, we derive implications that improve curating decisions by stylists in this emerging and increasingly important context.

2 - Influence of Customer Requirements on Sustainability Practices, and Operational Performance in Small and Medium-sized Firms

Ralph G. Kauffman, Associate Professor Emeritus, University of Houston-Downtown, Houston, TX, United States, Faiza Khoja, Jeffery Adams, Mikayel Yegiyan

In recent years there has been significant growth in firms conducting their business in a sustainable manner. A study of 20 years of performance measurement in supply chain management found that research in this area found that a significant increase in research in this area began at about 2010. A recent study by Nielsen found that the primary impetus for the increased interest is consumer demand for environmentally sustainable products and product ingredients from final product producers. The study also found that since 2014, shoppers have grown sustainable product sales by nearly four times the compound average growth rate of conventional products. Thus, it is evident that to continue successful operations and for growth of their business, marketers, both of consumer products and for business markets, must meet this challenge. Much research has been done concerning sustainability practices in large firms but relatively little attention has been directed toward what is happening in smaller firms. To attempt to determine the impact of customer requirements on sustainability in small and medium sized firms (SMEs), the authors conducted a study of the impact of customer and other requirements on sustainable management practices, and performance results. The study included 72 small and medium sized companies in diverse industries. The authors posited a four-stage model of the extent of implementation of sustainable management practices. The study results confirmed the model. A strong correlation was found between customer requirements, implementation of sustainable management practices, and environmental, economic, and operational performance. However, implementation of sustainable practices, as measured by the posited four-stage model, found that only 14 percent of respondents were in an advanced stage of implementation and 31 percent were in the least developed stage.

3 - The Impact of Collaborative Consumption on Brand and Product Choice

Myounghee Chloe Moon, University of California-Riverside, Riverside, CA, United States, Daniel Kaimann, Subramanian Balachander

Sharing economy has affected the way consumers utilize goods and services. While the presence of sharing economy platforms has expanded the number of product usage options in which consumers can choose from, it is unclear whether such platforms create challenges to traditional manufacturers or not. Sharing economy platforms may facilitate purchase of high-quality products by allowing product owners to generate extra income from 'sharing'. However, such platforms may also keep consumers from owning an unnecessary product, as the 'sharing' option is available. In this study, we develop a model of a consumer's automobile brand choice to examine how the rise of sharing economy platforms influences purchase decision of durable goods. We estimate the model on an extensive unique dataset that combines more than 17000 ride sharing trips information and the total number of cars licensed in Germany. The first part of the study analyzes product ownership decision related to the 'sharing' option adoption and the second part of the study turns to the role of 'sharing' on the brand choice of automobile purchase. We then discuss strategic and economic implications to both traditional product manufacturers and sharing economy platforms.

4 - Investigating Dynamic Demand Conditions: An Evidence from a Chinese Cellphone Market

Wenshu Zhang, Assistant Professor of Marketing, Fairleigh Dickinson University, Madison, NJ, United States, Charles C. Moul, Jia Li

Firms are usually confronted with varying demand conditions over periods. Understanding such dynamic demand conditions is particularly important to marketers as different demand conditions ask a firm to adjust its marketing strategies for a better outcome. For instance, assume all other marketing conditions keep the same, if the demand shows constant price sensitivity, a firm may want to keep its price at the same level over time. However, if consumers are more price sensitive during certain seasons, the firm would be better off to offer price discount during those seasons, or this firm may lose a significant level of sales due to such changes on the consumer side. Marketers recognize the existence, as well as its importance, of different market demand patterns, however, it remains under-investigated that as how the demand conditions change from time to time and how a firm should cope with such changes in their marketing actions. In this research, we address this research question by analyzing a unique data set from a Chinese cellphone market which contains a cellphone retailer's demand-side sales information and the supply side wholesale price information. The data set, thus, enables us to construct both the consumers' purchase choice problem and the retailer's profit maximization problem. Our empirical analysis reveals that consumers do behave differently during high seasons versus regular seasons. We find that consumers not only show higher price sensitivity but also react more actively to product age during high seasons. Further, consumers respond to the prices differently for old products than the new products, consistent with previous literature. Our empirical model also shows the importance of supply-side information. The estimation quality is greatly improved once the supply side information is incorporated. We further conduct a counterfactual analysis to demonstrate how a retailer can benefit from considering the dynamic change of consumer behavior in her pricing decision.

■ SC10

Aula 10

Machine Learning 11

Contributed Session

Chair: Marcel Goic, University of Chile, Republica #701, Santiago, 8370439, Chile

1 - Predicting Purchase Decisions Using Autoencoders in a High-Dimensional Setting

Luuk van Maasakkers, Erasmus University-Rotterdam, Rotterdam, Netherlands, Dennis Fok, Bas Donkers

To be able to serve customers with personalized product recommendations or shopping lists, it is important for retailers to accurately predict the purchase behaviour of their customers. When the assortment of a retailer is very large, most standard prediction models can not be applied anymore. In this study, we propose an autoencoder-based model for next basket prediction which can be applied in such a high-dimensional setting. The goal of next basket prediction is to accurately predict the set of items a customer will buy at his next moment of purchase, regardless of the time between his last and next purchase. The model we propose consists of three main steps. First, we train an autoencoder, which encodes high-dimensional baskets into low-dimensional codes. Next, the code of the most recently purchased basket is used to predict the code of the next basket, which is decoded in the third step to obtain basket predictions. For the last two steps, we consider three di erent approaches. We show that each of these approaches outperforms a benchmark in a wide range of performance measures and is able to deal with high dimensionality of the retailer's assortment. Regarding the shape of the autoencoder, we find that larger code sizes lead to better prediction performance. Adding additional hidden layers leads to overfitting in most cases.

2 - Understanding Children via Artificial Intelligence: Does It Change Parents' Educational Investments?

Sol Lee, KAIST Business School, Seoul, Korea, Republic of, Dowon Kwak, Minki Kim

This study empirically investigates how parents change their investments in children's education when parent-child information frictions disappear. In collaboration with an education company that introduces AI(Artificial Intelligence)-powered learning device, we conduct a field experiment by providing parents a weekly progress report on their children's learning as well as on their relative performance compared to their peers. We find that on average, parents have upward-biased beliefs on their children's ability and a significant adjustment of parental investment follows upon information provision. This turns out to be consistent with prospect theory (Kahneman and Tversky 1979) that the increase in children's educational investment is greater for parents informed that their children are worse than peers (i.e., loss aversion) and such changes are stronger among parents whose children are slightly better or worse than peers (i.e., diminishing sensitivity). Interestingly, we also find that the investment change by parents with a younger child is greater than that by parents with an older child. This can be explained by a more substantial disparity (uncertainty, information friction) between the parents' expectation and the actual child's academic ability (e.g., Edelbrock et al. 1986).

3 - Steam Away Fragmentation: The Effect of Product Variety on Consumption Variety

Nuoya Su, Peking University, Beijing, China

Streaming markets provide consumer with an unprecedented variety of products to choice from. The prevalent of various kinds of recommendation systems and consumer's growing tendency to rely on those tools has led to the debate whether consumers are fragmented by the new technology. Consumer may become less similar to each other when platforms help discovery idiosyncratic tastes. Or they could become more and more alike as service provider push the same product to all users. In this paper, we study the evolvement of consumption fragmentation on a music streaming platform. With the help of a comprehensive dataset that contains over 10 million individual-level music listening records, we use machine learning techniques to provide better measurement of product variety and similarity between consumers. We first provide empirical evidence that consumers using streaming service are increasingly fragmented in listening behavior. The finding is in accordance with recent studies. We then study the effect of content variety change on consumer's consumption of music. Previous literature suggests that an increase in content availability encourage diversity in consumption. Surprisingly, empirical data demonstrate that a wider range of contents slows down the process of fragmentation between consumers. The effect remains robust after controlling for volume effect and to alternative definition of similarity. The new techniques and measurements help explain the consumption concentration puzzle.

4 - A Tale of Two Cities: Identifying Common Patterns of Land Use from Cell Phone Data

Francisco Cisternas, The Chinese University of Hong Kong, 11/F, Cheng Yu Tung Bld, 12 Chak Cheung Street, Shatin, Hong Kong, Hong Kong, Marcel Goic, Sebastian Alejandro Rios

The large penetration and use of mobile devices is a fast and global phenomenon. The availability of mobile information has enable firms to better understand customer behavior and to design new services based on these technologies. Previous literature on mobile marketing has focused on learning from customer interaction with retailers or from their use of mobile applications. This information can be very precise to characterize usage patterns in some domains, but it has important limitations in terms of the number of reachable customers and the frequency at which customer interact with the respective platforms. In this article we analyze Call Detail Record (CDR) information providing time and location of all calls made and received by a sample of over 3.5 million customers of a two telecom companies in two cities with different cultural background, and explore its ability to enhance customer segmentation and explain customer value. Although the analysis of the large volume of information contained in CDR data is computationally intensive, we found rich patterns of customer mobility that can be used by firms to enhance their segmentation and targeting processes.

■ SC11

Aula 11

Game Theory 2

Contributed Session

Chair: Robert Waiser, London Business School, Regent's Park, London, NW1 4SA, United Kingdom

1 - Effects of Market Uncertainty on Platform's Optimal Decisions and Designers' Participation

Hongyan Shi, Nanyang Technological University, Singapore, Singapore, Baojun Jiang

Crowdsourcing platforms such as Threadless often outsource product design to outside designers while handling production, shipping and customer service by themselves. The payment schemes can be either fixed unit fee or percentage royalty. With fixed unit fee, each designer sets the retail price for her product and pays the platform a fixed unit fee for each product sold. With percentage royalty, the platform sets a retail price for all the products and pays the designer a percentage of the revenue selling her product. Market demand for each product depends on the match between a potential customer's taste and the design. The number of potential customers with a certain taste is unknown to the platform or the designer. However, this market uncertainty can be reduced by user voting on the platform, which allows potential customers to indicate "like" to a given design. The platform can either adopt a voting system where only highly ranked designs will proceed to sell to end consumers or adopt a non-voting system where any design can proceed to sell to end consumers. In this paper, we develop a game-theoretic model to study the platform's optimal decisions on payment scheme and voting/non-voting in a market where voting can help to reduce the market uncertainty. Accordingly, we characterize the effects of market uncertainty on the platform's optimal decisions on voting/non-voting and payment scheme, and the consequent effects on designers' participation.

2 - Free Product Trials

Eric Schmidbauer, University of Central Florida, Orlando, FL, United States, Dmitry Lubensky

With a pre-purchase product trial a seller discloses quality but also enables consumers to privately learn match values. This involves a tradeoff between shifting demand up by increasing perceived quality and rotating demand thereby yielding information rents to consumers. In contrast to classic results, costless disclosure occurs only when quality is sufficiently high, and sometimes not at all. Less disclosure occurs for products where match is more important than vertical quality, and for products with fewer gains-from-trade. With commitment sellers instead disclose only if quality is sufficiently low. Finally, mandatory disclosure improves consumer surplus but has ambiguous welfare consequences.

3 - Personalized Pricing with Superior Information on Consumers' Valuations

Zibin Xu, Assistant Professor of Marketing, Shanghai JiaoTong University, Shanghai, CA, United States, Anthony Dukes

We examine the implications of superior information on consumers' valuations in first-degree price discrimination. Superior information occurs when data aggregation enables a firm to learn beyond consumers about their reservation values. This situation arises when individual experiences are noisy indications of reservation values and observable by the firm. Consumer beliefs may be adversely affected due to suspicions of being overcharged by the firm, therefore, effective price discrimination requires the use of a list price to convince uninformed consumers of their type. But because list pricing constrains the set of personalized prices, the firm is unable to appropriate all consumer surplus even with price discrimination. Sometimes the firm may be worse off with price discrimination. However, under certain conditions superior information enables price discrimination to be a strict Pareto improvement for the firm and every type of consumers.

4 - A Model of Sales Message from a Possibly Altruistic Salesperson

Hyun Chul Maeng, Assistant Professor, IIM Bangalore, Bengaluru, India

In a sales encounter, a salesperson could be a good information source because he is better-informed than an ordinary consumer. However, the salesperson has some incentive to induce the consumer to buy the most profitable product to the salesperson, not the right product to the consumer. In this case, the consumer will ignore the sales message. Past literature has shown that a salesperson could be altruistic in the sense that he considers the consumer's utility, as well as own payoff. If the salesperson is altruistic, he may have some incentive to reveal the true quality of the product. The consumer will trust the altruistic salesperson's information to some extent, accordingly. However, the problem occurs when the consumer does not know about the salesperson's type (whether he is self-interested or altruistic). I present a simple communication game in which a possibly altruistic salesperson who has some incentive to push the more expensive product sends quality information as a form of cheap talk (costless and non-binding) message. The analysis of the model shows an asymmetric effect of the message valence on trust in the sales message and on the evaluation of the sender. When the sales message pertains to the relatively cheap product, for example, 1) the positive message is more credible than the negative message, and 2) the positive message reveals the trustworthiness of the salesperson. A series of experiments tested the two hypotheses. Subjects trusted the positive message more than the negative message when the sales message pertains to the quality of the cheap product. Also, when subjects received a positive message about the cheap product, they perceived the salesperson altruistic and trusted the salesperson.

5 - Why Do Firms Involve Sales Managers in Sales Force Compensation Design?

Robert Waiser, London Business School, London, United Kingdom

The dominant paradigm in the literature on sales force incentive compensation design is agency theory, which models the problem as a game between two 'players': the firm and the salesperson. In practice, however, compensation design often involves significant participation by sales managers, who typically receive primarily sales-based (rather than profit-based) incentives, resulting in separate objectives and necessitating their treatment as a distinct third 'player'. This research seeks to understand the role that these managers can and should play in sales force incentive design. The well-accepted solution to incentive design for heterogeneous sales forces - an optimized menu of contracts for each salesperson - depends on prior knowledge of the probability distribution of a territory's (or salesperson's) type. Sales managers are often uniquely positioned to provide this knowledge, due to their time spent 'in the field'. I show that when a manager's information is better than the firm's (even if it is imperfect), the firm can benefit from delegating elements of plan design to her, using an approach similar to the price lobbying mechanism used in Simester & Zhang (2014). Furthermore, this approach can induce the manager to invest costly effort to improve her information when it is limited.

■ SC12

Aula 12

Social Influence 1

Contributed Session

Chair: Heemok Park, University of Connecticut, 38 Donizetti St., Wellesley, MA, 02482, United States

1 - Red vs. White: A Study on Quality Evaluation Scores of Wines Distributed in Korea

Jaewon Hong, Gyeongnam National University of Science and Technology, Jinju, Korea, Republic of, Yoonjung Nam, Youngsik Kwak, Yongsik Nam, Seungbae Park

This study describes an empirical investigation into a significant difference of evaluated quality between white wines and red wines that were produced in France, Italy, and the U.S. and have been distributed in South Korean market. In this study, the evaluated quality of every wine was based on the wine evaluation data made by a particularly renowned wine critic, Robert Parker. The number of the sample used in the study was 970 and the wine items were produced in six regions of three countries and their vintages are from 1970 to 2009. Samples for the study were chosen from wine lists of six 5-star hotels' restaurants and a premium wine restaurant in Seoul, South Korea. With results of t-tests on scores of the evaluated wines that are distributed in South Korean market, the study reports that a significant difference between the scores of white wines and that of red wines exists. The quality evaluation scores of red wines were higher than those of white wines. Within French wines, no statistically significant difference of the scores between red wines and white wines was found. However, in case of Italy and the United States wine, red wines had higher scores from Robert Parker than white wine. Furthermore, quality scores of the wines from Bordeaux, Bourgogne, Rhone, Piedmont, Tuscany, and California show the meaningfully different results in types of the wines.

2 - Identification and Estimation of Endogenous Peer Effects in the Presence of Multiple Reference Groups

Sadat Reza, Nanyang Technological University, Singapore, Singapore, Juin-Kuan Chong, Puneet Manchanda

There has been a considerable amount of interest in the empirical investigation of social influence in the marketing and economics literature in the last decade or so. Among the many different empirical models applied for such investigations, the most common class of model is the linear-in-means model. These models can be used to examine whether the social influence is truly due to agents affecting each other through their choices simultaneously (endogenous effect) or due to having similar taste and characteristics (homophily). However, the two effects are not separately identified in general in the standard linear-in-means model unless data on all members of an individual's network are available. With data on a sample of individuals from a network, these effects are not identified. In this research, we leverage a very natural aspect of social settings viz. that consumers are usually part of multiple, as opposed to a single, networks. We discuss the sufficient conditions for identification when the standard linear-in-means models is extended to allow for multiple sources of social influence. We also show how the additional variation generated by more than one source of social influence actually allows estimation of endogenous effects with sample data. We demonstrate the feasibility of our approach via simulation and on a real scanner panel dataset. Our approach is therefore likely to be useful in typical marketing settings.

3 - The Effects of Influencer's Sponsored Post Frequency on Audience Engagement

Jan Klostermann, Bielefeld University, Bielefeld, Germany, Daniel Böger, Martin Meissner, Reinhold Decker

Due to their often high credibility and expertise, social media opinion leaders have the power to influence the behavior of other consumers. Marketers have recognized this high persuasiveness and consequently pay these opinion leaders to create positive electronic word-of-mouth for their brands and products. As sponsored posts need to be disclosed, social media opinion leaders have to consider possible negative outcomes of this practice. While current research investigates the effect of sponsorship disclosure on, for example, perceived credibility and authenticity, there is no examination of how sponsored posts impact follower engagement (i.e. likes and comments) of real social media opinion leaders. In an empirical analysis of more than one million posts created by Instagram opinion leaders, we can show that sponsored posts create less follower engagement and that a high frequency of sponsored posts has a negative influence on the engagement of non-sponsored posts, such that they are liked less often. We compare these findings across opinion leaders in different areas of interest and discuss theoretical and managerial implications.

4 - Social Influence Maximization: Empirical Identification of Influentials for Optimal Seeding Strategy

Heemok Park, University of Connecticut, Storrs, CT, United States, Minki Kim

Though influential marketing is one of most popular social media marketing strategies, some aspects of it remain significantly unstudied. Previous investigations have examined individuals' social factors (i.e., opinion leadership and degree of influencer centrality, susceptibility of influencee, and dyadic tie strength between two people) that contribute to the diffusion of behavior. However, how we use these factors jointly to identify influentials remains unclear—especially given that they could have different strength of impact on the diffusion process. By applying hierarchical Bayes method to analyze Twitter followers' retweet behaviors, the authors provide a new empirical approach for identifying target segments that maximizes the spread of behavior. The authors find that seeding strategy, which utilizes all social factors, results in a wider spread of behavior than using only centrality. More interestingly, 1+1 strategy—in which not only an influential but also one of his/her friends was targeted to utilize the contagion effect—resulted in the widest spread of behavior.

■ SC13

Aula 14

Branding 4

Contributed Session

Chair: Willem Smit, Asia School of Business, 2 Jalan Dato Onn, Sasana Kijang, Kuala Lumpur, 50480, Malaysia

1 - The Differential Effects of Face Gain versus Face Loss on Luxury Brand Consumption

Jianping Liang, Director of Chan Sui-Kau Asian-Pacific Case Center, Business School, Sun Yat-sen University, Guangzhou, China, Rajeev Batra, Zhuomin Shi

China has now become the world's second largest luxury market, which raises the question: why are Chinese consumers so motivated to buy luxury products? Prior academic research has postulated possible linkages between Chinese consumers' concern with face and their evident desire to purchase expensive and visible luxury products (e.g., Wong & Ahuvia, 1998; Li & Su, 2007), but whether this desire is driven more by a need to gain face, versus not lose face, has not been extensively studied before. Luxury consumption is plausibly a means by which consumers can show others how they are superior to others, allowing them to gain face - or, alternatively, they could be buying LV (luxury and visible) products simply to keep up with their peers, thus maintaining (not losing) face. The difference in these possible motivations (gaining face vs. not losing face) for the increasing purchase of luxury brands in China is potentially important for those who seek to understand, or take marketing advantage of, this phenomenon: it could, for example, shape the nature of advertising appeals luxury marketers should employ. It has not however been studied in the prior literature. We show that Chinese consumers' face concern consists of two distinct dimensions, concern with face gain (CFG) versus concern with face loss (CFL), and that these two dimensions operate differently in their impact on the desire to purchase luxury and visible (LV) brands, with CFL having the stronger effect. Measures are developed for these two distinct concerns, with greater levels of convergent and discriminant validity than recent prior measures. In two experimental studies, we show that individual-level CFG versus CFL operate additively with the nature of situational face needs (gain versus loss) salient in specific social situations. We also show that the needs for face (both individual/chronic, and situational) interact in predictable congruency-benefiting ways with independent self-construal.

2 - Nationalism in the Produce Aisle: Using Country of Origin Labels to Stir Patriotism and Animosity

Amir Heiman, Head of the Marketing Program, Hebrew University, Rehovot, Israel, David R. Just

Labeling a product's country of origin (COO) is practically an indirect way to brand local products and indirectly its competitors. In the food product category local branding highlights local production quality, freshness and lower environmental footprint relative to imported products. Local brands and COO, which draw attention to 'country equity' that refer to the emotional value resulting from consumers' association with the country of origin - an association that may add to or subtract from the perceived value of a product. Local products and brand can benefit from COO labeling when the attention to origins draw feelings of nationalism or patriotism for one's own country, and feelings of animosity for countries that may be in political conflict. This study aims to determine how such feelings impact consumers' willingness to pay for products from various countries even if the competing products are of identical quality. A total of 442 shoppers across Israel participated in a survey in which they chose between imported produce from the U.S., Italy, Palestine, Jordan and China and the local and included questions about socio-demographic variables, political views and religious beliefs. We find that consumers are willing to pay up to 15% more for local produce, but this amount increases substantially when considering produce from Palestine which is in active conflict with Israel. While consumers are sensitive to price differences between local goods and foreign substitutes, consumers are relatively insensitive to price differences when the outside alternative is from Palestine and less sensitive when the import is from countries with low intensity conflict such as Jordan. These relationships were stronger for those who report right leaning political preferences. This work suggests that political conflict can be useful in promoting local products and could act as a non-tariff trade barrier. While many of studied consumer valuation of home country goods, this is the first effort to examine how political feelings such as patriotism or animosity may complicate consumer evaluations.

3 - Global Portfolios of Brand Equities: Discriminant and Nomological Validity of a New Measurement in Global Branding

Willem Smit, Assistant Professor of Marketing, Asia School of Business, Kuala Lumpur, Malaysia, Catherine Tucker

Global brands engage with a local audience in each market; while these customer-based equities are locally rooted, they are also internationally influenced. Yet, work on understanding the inter-relationships among a brand's country-specific equities is fragmented over different research fields, like country-of-origin, consumer ethnocentrism, and psychic distance. This paper draws insights from all these fields together by conceptualizing the global brand as a portfolio of country-specific market-based equities (or assets), which can be examined through measures of portfolio size and composition separately. The objective of the paper is to assess the quality of this new Global Branding measure by determining its discriminant and nomological validity. We do this by using a unique dataset of 25,172 observations on the cross-country popularity of 203 different airline brands on the social network Facebook in 124 countries.

■ SC14

Aula 15

Auctions

Contributed Session

Chair: Simha Mummalaneni, University of Washington, Foster School of Business, Seattle, WA, 98195-3226, United States

1 - Lemon Ads: Impression Quality in Programmatic Advertising

Francesco A. Balocco, Doctoral Student, Erasmus University, Rotterdam, Netherlands, Ting Li

The current digital display advertising practice relies on the real-time exchange of large volumes of impressions. Advertisers and publishers typically carry out their transactions through private contracts, Real Time Bidding (RTB) auctions, or a mixture of the two. The co-existence of multiple transaction methods, however, is problematic, since impression quality is difficult to assess. As such, the display advertising market is often characterized by high uncertainty and asymmetric information. The literature has so far treated impressions as homogeneous in quality. In this paper, we use impression viewability as a measure of quality and show how the co-existence of different transaction methods leads to incentive conflicts between publishers and advertisers, and inefficient pricing in advertising markets. We develop a theoretical model to show that publishers who engage in both private contracts and RTB auctions have an incentive to offer higher quality impressions through private contracts, while allocating the remaining lower quality impressions to RTB auctions. We find that, by doing so, publishers can leverage on asymmetric information on impression quality to extract excess profit from advertisers. Finally, we use transaction data from a European Demand Side Platform to validate our model and show the economic implications of our findings. This paper contributes to the literature on Programmatic Advertising by theoretically showing and empirically testing the implications of impression quality heterogeneity in digital advertising markets. Moreover, our findings contribute to practice, helping advertisers screen publishers against opportunistic behavior.

2 - Pricing and Participation in Business Markets with Affirmative Action Policies

Simha Mummalaneni, University of Washington, Seattle, WA, United States

Affirmative action programs in business-to-business markets can affect two aspects of vendors' strategies: whether to submit a quote for a specific contract, and what price to set. We examine data from an online platform with an affirmative action program that favors certain preferred vendors, and we exploit an exogenous policy change that narrowed the size of the preferred group. We introduce a simple nonparametric approach to the literature to show that narrowing the set of preferred vendors has a strong effect on the participation decision, as the vendors who lose preferential treatment drop out of the marketplace almost completely. However, the policy change does not seem to affect prices for vendors that do participate in both years. We show that these results are consistent with a boundedly rational model of vendor behavior in which vendors cannot optimally account for competitors' behavior, and instead rely upon heuristics when deciding what price to set and whether to compete for a contract.

■ SC15

Aula 16

Entertainment 1

Contributed Session

Chair: Alexey Sinyashin, UC Berkeley, 2220 Piedmont Ave, Berkeley, CA, 94720, United States

1 - Ticket Sales Forecast for Music Events by State Space Model and Neural Network Model (LSTM - RNN)

Fumiyo Kondo, Assistant Professor, University of Tsukuba, Tsukuba-shi, Japan

Foutz (2017) states entertainment such as publication, music, sports, broadcasting, games, events, sightseeing and the like has a market size of more than 2 trillion dollars and its expansion has a big impact on culture and economy in the world. In addition, it also states that demand forecasting before the performance is important and is one of the most challenging tasks that the industry faces. In such circumstances, researches on the demand prediction of many entertainment contents have been made in recent years, but those on live entertainment and demand forecasts based on actual ticket sales have been conducted very little. This study proposes models for music event ticket sales forecasts by comparing three autoregressive models (state space model, 3-layer neural network autoregression model (NNARX), LSTM-RNN including regression term) with exogenous variables). In addition, we analyzed and examined the influence of marketing measures on ticket sales focusing on differences in three ticket types (of one-day, two days, and three days). Results showed that prediction accuracy by LSTM-RNN model including state space model, NNARX, regression term in all ticket types satisfied MAPE (absolute average ratio error), i.e., less than 30%. For a 1 - day ticket and a 2 - day ticket, the highest prediction accuracy was obtained by LSTM - RNN model including the regression term especially and by NNARX model for the 3 - day ticket. For the total MAPE value of 3 ticket types, the accuracy of the by NNARX was the highest. In addition, analysis in the state space model suggested that there is similarity in ticket sales between 1 day ticket and 2 day ticket in the target music event. Further, it showed that there is runaway purchasing on the start date and the end date of the preceding discount sales in all the ticket types (in particular, the 3-day ticket tends to sell more than other types of tickets on the start date of the preceding discount) or 1 day ticket and 2. It was indicated that the ticket tends to sell after the day when the performance was announced by schedule.

2 - Distant Beauty and Close Service: How Temporal Distance Affects Aesthetic and Service Experience

Francesco Zanibellato, Ca' Foscari University, Venice, Italy, Umberto Rosin

In cultural venues like museums and theaters, institutions offer a central aesthetic experience surrounded by a service experience (Colbert and St-James, 2014). Despite the service experience has been overlooked for long time by cultural institutions, literature has shown that apparently secondary services affect the overall satisfaction, the intention to repurchase and to recommend (Carú and Cova, 2005; Harrison and Shaw, 2004; Huo and Miller, 2007). However, previous studies have measured customer reactions right after the cultural experience and little is known on what are the longitudinal effects on satisfaction of the service vs. aesthetic experience. We propose, basing on the Construal Level Theory (CLT) (Trope and Liberman, 2010), that the importance of service vs. aesthetic experience changes with temporal distance. The service experience has an important impact on satisfaction right after the cultural experience but it fades over time (because of its concrete and low-construal nature), while the aesthetic experience has a growing importance over time (because of its abstract and high-construal nature). To demonstrate this, in Study 1 we analyzed online reviews of museums (from TripAdvisor.com). Looking at the difference between the time of publication and the one of visit to measure the temporal distance and using a topic modeling technique to recognize the presence of aesthetic vs. service topics in the text of the review we show that, over time, reviewers write less about the service and more about the aesthetic experience. In Study 2 we conducted a between subjects field experiment on a museum. We asked visitors to complete a questionnaire on service quality, aesthetic experience and customer satisfaction, right after a museum experience or one week and one month after it. Results show that, over time, the effect of the service quality on customer satisfaction becomes weaker and the one of the aesthetic experience becomes stronger.

3 - Digital Piracy, Extrinsic Incentives, and Writer Efforts

Chenxi Liao, Chinese University of Hong Kong, Shatin, Hong Kong, Xiaolin Li, Ying Xie

Copyright piracy has been a major challenge to the publishing industry in the developing economy. Especially in the digital age, the threat of copyright piracy is amplified partly due to advances in information technology which have further lowered the cost of piracy. In this paper, we empirically investigate how the writers' output is affected by copyright piracy using data from a large Chinese online literature publishing platform. We identify two types of writer efforts to measure writers' output, the creative effort and the customer care effort, which are also affected by readers' feedback through purchasing, tipping, and commenting. We take advantage of an exogenous event - the termination of free service by a leading Chinese cloud storage provider in June 2016 - to exploit the heterogeneous effects of the resultant reduced copyright piracy on writers' efforts across two groups of writers: (1) the contracted writers who have profit-sharing contracts with the publishing platform and (2) those who do not have such a contract. We find that after the termination of the free cloud storage service, the contracted writers increased their creative effort in both quantity and quality, but decreased their customer care effort. In contrast, the non-contracted writers did not change their effort levels after the termination event. Our results also reveal varying effectiveness of different types of reader feedback on the contracted writers: while pure pecuniary incentives such as book chapter sales generally increase writers' creative effort at cost of their customer care effort, pure non-pecuniary incentives such as reader comments tend to induce both types of writer efforts. Our paper is among one of the first studies to provide empirical support for the positive effect of digital IPR protection on the production of creative works. Based on these results, we highlight the importance as well as undesirable consequences of copyright protections for digital publishing platforms.

4 - The Role of Reference Prices in Artwork Auctions

Rouven Seifert, University of Hamburg, Hamburg, Germany, Michel Clement, Edlira Shehu

The art market is growing substantially, since art is increasingly considered to be an investment. Prices for artworks underlie high fluctuations over time and a single painting or sculpture can be sold for millions of dollars, inducing a critical pricing challenge. Prior research suggests that the price for an auctioned artwork is primarily driven by its artistic value and masterpiece character. However, reference price anchors through pre-sale price estimates of the auction house have been widely ignored resulting in a substantial bias. We extend prior conceptualizations and findings on reference price and artwork literature and conceptualize reference prices set by auction houses as key driver for artwork prices. We quantify the relative importance of artwork information in presence of reference prices relying on auctions of 1,019 sculpture auctions between 2011 and 2014. Compared to other anchors, the reference price accounts by far for the highest impact. Mediation analysis shows that success drivers identified in prior research mainly reduce their impact in presence of reference prices. Our study offers insights for market actors and stakeholders in the artwork market and market environments with high price volatility and uncertainty. Sellers can strategically use reference prices to control auction outcome and signal artwork quality. Buyers can use reference prices as anchors updating their reserve price.

5 - How Do Big Businesses Influence Media? The Case of Amazon.com and The Washington Post

Alexey Sinyashin, UC Berkeley, Berkeley, CA, United States

Does the conflict of interest arising when a media owner has vested interests in other companies lead to biased coverage of news related to these companies? To answer this question, we consider the case of Jeff Bezos, the founder and CEO of Amazon.com, who also owns The Washington Post, a major American daily newspaper. Using data on news stories before and after Bezos's acquisition of the newspaper, we study how coverage of Amazon-related news has changed under Bezos's ownership. In the first part of the paper, we employ diff-in-diff strategy, using news about Amazon in other major US newspapers, as well as news about other big tech sector companies as a control group, to study the effect of the acquisition on coverage volume. We find that the acquisition resulted in increase in coverage of Amazon-related news and the effect persists over time. In the second part, we uncover what types of stories got more coverage and study the effect on stories' sentiment. Finally, we discuss possible explanations of the results.

■ SC16

Aula 17

Emotion II

Behavioral Track

Chair: Nuno Jose Lopes, University of Navarra, Pamplona, Spain

1 - Social TV: Analyzing the Impact of Product Category on Consumers' Social Media Interaction while watching TV

Sahana Sen, BMCC, City University of New York, New York, NY, United States, Michele Gorgoglione, Umberto Panniello, Andrea Losquadro

Marketers spend a lot of time and money trying to figure out how to communicate with millennials through TV ads as they watch much less TV compared to their previous generations. However, another growing habit of these digital natives, Social TV, or engaging with ads and brands on social media while watching TV, promises marketers more valuable targeting information than in the past. Ad targeting on TV, or Addressable TV, is a growing sector of the ad industry. Addressable TV ad spending in the US is forecast to grow from $2.06 billion in 2018 to $3.37 billion in 2020 (eMarketer 2019). We study this emerging area of Social TV to uncover the principles underlying consumers' observed behavior. We hypothesize that the product category, hedonic vs utilitarian, will impact consumers' level and valence of engagement. Studies were conducted with participants in Italy and the US to record their social TV behavior during popular TV programs. Participants randomly placed in Facebook groups chatted while watching the designated programs. In addition, we collected data through follow-up surveys asking about covariates expected to influence their level of engagement. We conducted a qualitative discourse analysis of this rich data going beyond the literal text to evaluate figurative meanings and mapped the different contexts which gave rise to participants' engagement and sentiments about the brands/ads. Through this and quantitative analysis, our propositions underlying consumers' social TV engagement were supported. Our findings will help marketers more effectively target consumers through better strategies for addressable TV and digital media advertising.

2 - The Solitude and Consumption Activities of Elderly People Living Alone

Koji Sugimoto, Japan, Tokyo, Japan

Japan's population aging rate is the highest worldwide. There is a growing number of elderly people who live alone, and their solitude has become a major social concern. However, they may not necessarily have to be lonely if they have many friends. Thus, this article will examine their current degree of solitude and determine if there is any relationship between their solitude and consumption activities. This article uses data from Nomura Research Institute Ltd. and the Research Institute for High Life, targeting people aged 50-79 years. A comparison was made between elderly people who were living alone and those who were not (those in households of two people or more). In particular, their hobbies and online communications were examined to determine whether they were solitary. Questions were also asked regarding their sense of value concerning consumption and their eagerness to consume. The results indicated that there were no significant differences between the two groups with respect to hobbies, but those living alone tended to communicate online less frequently. Although there were no major differences in their sense of value regarding consumption, people who were living alone tended to consume less. In Japan, elderly people communicate with others less frequently, and their consumption tends to be weak. Therefore, it may be necessary to encourage them to increase communication, partly because doing so would stimulate consumption.

3 - The Influence of Product's Variant Level and Type on Impulsive Buying Process

Triza Mudita, Korea University Business School, Seoul, Korea, Republic of

This paper presents theory and experiments where people's impulsive urges and purchase decisions are affected by how many variants presented, depending on the type of the variants. Separated surveys revealed that impulsive urge was affected by levels of sensory variant, while impulsive purchase intention fluctuated only when different levels of functional variant was in presence. This effect was theorized that the variant level, depending on the type, signals company's competence and drives consumer's impulsivity. The findings are useful to understand consumer's thought process in spontaneous purchases, and to emphasize the importance of product variants.

4 - Are Nonprofit Organization Always Perceived as Warm? The Role of the Supported Social Group

Antonella Buonomo, LUISS Guido Carlli, Rome, Italy, Simona Romani, Matteo De Angelis

Nowadays nonprofit organizations (NPOs) are subject to reputational crises especially due to bad media coverage, which leads to a reduction in the donations they receive from individuals. The social group supported seems to represent one of the key factors determining NPOs' crises. The objective of this study is to advance knowledge into the mechanisms explaining individuals' responses to NPOs asking support for different social groups. To reach this objective, we rely on the stereotype content model, which sheds light on warm and competence as two social dimensions informing consumer-brand relationships. Extant studies showed that individuals' perceptions of NPOs are mainly based on the warmth dimension and that these organizations are generally perceived as warmer than for-profit organizations. We contribute to this literature by arguing that individuals' perceptions about NPOs' warmth vary as a function of the perceived warmth of the social group supported. Based on the findings of a pilot-study illustrating different groups' perceived warmth, 171 individuals participated to a between-subject experiment where we manipulated the social group for which a fictitious NPO asks their support (migrants in the colder social group condition vs. victims of natural disaster in the warmer social group condition). Findings of a mediation analysis demonstrate that individuals are less intentioned to donate when the NPO supports migrants rather than victims of natural disasters, due to a lower perception of NPO's warmth and lower admiration felt. Identifying warmth perceptions as a factor that might explain individuals' reactions to NPOs' appeals can help managers develop more effective communication strategies.

5 - Doing Worse but Feeling Better: The Paradox of Collective Choice

Nuno Jose Lopes, University of Navarra, Pamplona, Spain, Elena Reutskaja

Consumer decisions are often made together with other people. Despite its ubiquitous character, scholars have focused essentially on individual choice leaving joint decisions under-researched. However, choosing with others differs substantially from choosing alone, as group decision is not the mere averaging of its members. This paper compares individual decision with decisions made by a group of two people regarding (a) the likability of the alternative selected, and (b) the emotions experienced while choosing. Study 1 began with every participant alone evaluating 30 alternatives in a choice set. Then, either individually (n=57) or as a dyad (n=32), participants choose one product. Following that, they filled a questionnaire independently. The procedure was done three times. Products could be posters, chocolate, ice creams, and desk lamps. We found dyads to select a product with a lower level of likability comparatively to individuals (Mdyad = 3.51, SDdyad = 1.26; Mind. = 4.50, SDind. = 0.84; 2(1) = 62.29, $p < .0001$), as collective participants had to concede in order to reach an agreement. Despite choosing worse, dyads did not report a lower satisfaction with the alternative selected (Mdyad = 7.78, SDdyad = 1.76; Mind. = 7.99, SDind. = 1.79; 2(1) = 0.40, $p = .526$). Moreover, both a self-report measurement and decision process analysis revealed collective decision to be highly cooperative. Study 2 used automated-facial expression recognition to assess emotions. Thirty-three individuals and 27 dyads choose movies in a procedure similar to Study 1. Yet, now dyad members knew each other. In addition to replicate Study 1 results, Study 2 revealed dyads to enjoy the selection process much more than individuals did (Mdyad = 25.37, SDdyad = 14.63; Mind. = 5.83, SDind. = 8.82; 2(1) = 39.47, $p < .0001$). Furthermore, a decomposition of the selection process in two-second intervals showed that whereas individual decision was dominated by negative emotions, collective choice was predominately positive. That is, dyads feel better.

■ SC17

Aula 18

Crowding

Behavioral Track

Chair: Ana Scekic, HEC, 1, Rue de la Liberation, Jouy en Josas, 78350, France

1 - Human Density and Repurchase Behavior: The Moderating Role of Similarity with Other Customers

Ernesto Cardamone, University of Calabria, Rende (CS), Italy, Gaetano "Nino" Miceli, Maria Antonietta Raimondo

Marketing researchers have investigated the impact of human density (i.e., the number of people in a certain place in a certain time) on a variety of consumer reactions, but have produced contrasting results (Mehta, 2013). In this research, we analyze how a specific social factor, that is, similarity with other customers in the crowd, moderates the relationship between human density and repurchase behavior. Social factors represent important factors in shaping the effects of human density on consumer reactions (Stokols, 1972), but largely under-researched. Repurchase behavior is a primary manifestation of customer satisfaction that the literature on crowding has not investigated. Based on similarity-attraction (Byrne, 1971) and self-categorization theories (Turner, 1982), we predict that human density has a positive effect on repurchase behavior when the crowd is composed of similar customers. Differently, the same effect is negative in presence of dissimilar customers. We tested our hypothesis by analyzing four years of secondary data on repurchase behaviors of customers of a sporting center. The available data provided information on which specific sessions and days were attended by the customers in each subscription period. Thus, we calculated the levels of human density for each specific session. To measure similarity, we considered the customer expertise in the service. We calculated expertise of each customer, in each period, as the number of previously purchased subscriptions. Then, we determined similarity between a single customer and the other customers in the same session by calculating the average absolute distance in expertise. Results of logistic regressions with clustered standard errors provide support to our predictions. Our research contributes to the literature on crowding by investigating the role of social factors in shaping the effect of human density on repurchase behavior and offers a series of managerial implications on how to create customer value from high-density situations on specific market segments.

2 - The Impact of Retail Crowding on the Composition and Size of the Shopping Basket

Anne ter Braak, KU Leuven, Leuven, Belgium, Aylin Aydinli, Lien Lamey, Kobe Millet, Maya Vuegen

Crowding is an ubiquitous ambient factor in retail settings and knowing the impact of crowding on consumer purchasing behavior is highly relevant. While crowding can be a stressor which consumers try to avoid, it is inevitable given that retailers want to increase their customer base and, as such, store traffic. Building on dual-process theories of thinking, we argue that crowding influences the relative influence of affective versus cognitive processes on purchase decisions by constraining a consumer's cognitive resources. As a result, crowding increases reliance on affective responses that products and promotions trigger, which in turn makes affect-rich products and promotional products more appealing. This study is, to the best of our knowledge, the first to look at the effect of crowding on a consumer's shopping basket composition, rather than more aggregate retail outcomes (e.g. satisfaction or total basket value). Our dataset covers 15,000+ shopping trips by approximately 3,600 consumers in the Netherlands for which we measured consumers' perceptions of crowding via a survey after each trip and also had access to actual sales data from GfK for each trip. The field data shows that perceived crowding increases the affect-richness of the shopping basket as well as the share of promotional products. In addition, crowding perceptions also increase basket size (i.e. total spending and the number of items bought). In a controlled lab setting we provide causal evidence that merely the perception of retail crowding leads to an increased reliance on affect, which in turn may drive the retail decisions in our field study. Our findings offer actionable insights for retailers. Given that a store is crowded, a retailer could try to draw even more attention to affect-rich (hedonic) products through real-time in-store displays or could consider increasing crowding perceptions (by using store design aspects such as ceiling height or layout) in aisles where affect-rich products are stocked or at in-store locations with promotional displays (e.g. end-of-aisles).

3 - The Impact of Social Crowding on Consumer Preference for a Product Bundle

Echo Wen Wan, The University of Hong Kong, Hong Kong, China, Meng Zhu, Ying Ding

As a pervasive marketing strategy, product bundling is widely used in marketing practice to increase attractiveness of a single offer by including multiple items. The present research investigates how marketers should determine the type of products in the bundle (whether the bundle should have more diversity in product items or focusing more on some dominant items). We propose that social crowding (vs. low crowding) in a retail setting will increase consumers' choice share of their favorite item in the bundle, and thus, including more items of customers' favored option at the cost of reducing varieties in the bundle would increase sales. Two field studies with participants' real purchase behavior and three controlled experiments were conducted to test the proposed hypotheses. The results of Study 1 revealed that in a crowded pop-up store, the real purchase rate was significantly lower when the bundle did not have the best-seller flavor than when the bundle had one or two best-seller flavors. The findings of Study 2 further showed that participants in the crowded store included more of their favorite mooncake flavors in the bundle than those in the uncrowded store. In Study 3, we examined the influence of social crowding on consumer preference for product bundle in a well-controlled laboratory setting and explored the underlying mechanism. Our findings indicated that the perceived availability of products mediated the above effect. What's more, Studies 4-5 documented the moderating role of inventory replenishment and assortment size. To summarize, findings of current research provide important managerial implications for retailing, product bundling, and in-store product display. For instance, retailing stores have different levels of crowding depending on the time (e.g., peak vs. non-peak hour) and geographic location (e.g., locations in high-density vs. low-density residential area). Our results suggest that marketers should provide the product bundle either with more dominating items or not based on the crowding level of retailing environment.

4 - The Influence of Social Crowding on Consumers Donation to Distant Causes

Luqiong Tong, Business School, Beijing Normal University, Beijing, China, Fengyun He

Consumers often need to make consumption decisions in crowded environments. While previous research reveals that crowdedness affect consumers in various ways, research on how social crowding influence pro-social behavior is limited. The current research aims to address this limitation by investigating the influence of crowded environment on consumers' donation to spatially far causes. As feeling crowded motivates consumers to keep moderate level of social connection, it leads them to feel more attached to recipients who are spatially remote, and then they are more likely to donate to spatially far causes. We present two studies showing the influence of social crowding on charitable giving. In study 1, participants completed a picture perception task in which they described how they would feel in the situation the picture depicted, when the picture showed either a crowded street or an uncrowded one. Results showed that people under crowded (vs. uncrowded) environment were more likely to donate to distant recipients. However, for spatially near ones, the difference was not significant. In study 2, results supported our hypothesis that under crowded (vs. uncrowded) environment, people felt they had closer relationship with distant recipients, which led them more likely to help distant recipients.The current research extends our understanding of the positive influence of crowding, as well as the trade-off between social interaction and distance. It could also offer important implications for charities to apply appropriate environment for causes of different distance.

5 - Influence of Visual Crowding on Product Search: Measuring Location Crowdedness

Ana Scekic, HEC Paris, Jouy en Josas, France, A. Selin Atalay, Cathy (Liu) Yang, Peter Ebbes

Consumers often arrive to the store (online or offline) with a choice of a product in mind. Their task then is to find their already chosen product among the products present at the point of purchase. In the current paper, we focus on this task of visual search for a target product in a crowded display (i.e., in a large assortment) and investigate the factors influencing search performance. Finding a target product in a crowded display is taxing. As the number of objects in any scene increases, it becomes difficult to distinguish the objects in that scene from one another. This is known as the "crowding effect". We focus on crowded product displays and ask: How does the location of a product in a crowded product display affect consumers' search performance? Namely, we are interested in understanding whether, in a crowded product display, different locations of a target product may lead to a difference in consumers' ability to find that product. While much is known about location effects in a consumer choice setting, the extent to which different locations of a target product influence consumers' visual search process remains underexplored. Through a series of studies, we show that, in an overall crowded scene, there exist different levels of crowdedness depending on the location of the target relative to all the other products (i.e., "distractors") in the display. We propose a location crowdedness metric (LCM) that can be used to quantify these different crowdedness levels. Our studies provide support for the ability of LCM to predict consumers' search performance for targets in different locations of crowded displays: the higher the LCM score (and thus the crowdedness of a product location) the longer it takes to find the product in that location, and the search task is perceived as more difficult and time consuming. Furthermore, an eye-tracking study conducted to explore the influence of crowding on the search process provides further evidence for location effects such that higher crowdedness of the target location leads to a more complex search.

■ SC18

Aula 19

Behavioral Industrial Organization

Contributed Session

Chair: So Eun Park, University of British Columbia, Sauder School of Business, UBC, HA 565 - 2053 Main Mall, Vancouver, BC, V6T 1Z2, Canada

1 - Pricing Around Round Numbers: Behavioral Effects in Real Estate Bargaining

Sridhar Moorthy, University of Toronto, Toronto, ON, Canada, Lu Han, Ben Sands

Real-estate transactions usually involve bargaining. Sellers post asking prices, prospective buyers make offers, and the final price is often a negotiated outcome. We examine asking, offer, and transaction prices, and covariates, in the Toronto real-estate market and ask what theories might explain the patterns in the data. After examining both rational and behavioral motivations, we find clear evidence for the latter.

2 - Leave a Rating: Towards Principles for the Design of Market Feedback Systems

Alina Ferecatu, Rotterdam School of Management, Erasmus University Rotterdam, Rotterdam, Netherlands, Gary E. Bolton, David Kusterer

Feedback systems in online markets are designed to provide reliable information on traders' trustworthiness. In this paper, we aim to uncover principles for the design of feedback systems, principles that optimise the informativeness of the system by focusing on the important forecast variables. We conduct an incentive aligned experiment mirroring an online marketplace, where human buyers engage in repeated auctions with computerised sellers. We characterise buyer behaviour, in terms of ratings given to sellers, and use of sellers' feedback scores. We investigate the friction in information transmission due to the choice of the feedback scale (3-point vs. 5-point scale) and feedback elicitation question (general feedback: leave a rating vs. directed feedback: rate the quality received). We lay out a normative benchmark for gauging the success of a feedback system based on entropy measures characterising system informativeness. In the normatively best feedback system, traders would accurately report all relevant aspects of their trading partner's performance, the system would aggregate this information as forecast guidance that would then be used optimally by traders to decide on their interactions with future trading partners. Assuming buyers' optimal behaviour, we compute the entropy of each feedback system across periods of trade. We then compare buyers' actual behaviour, in terms of feedback scoring and use of feedback ratings, to the normative benchmarks to assess the extent of information loss under different feedback system designs, and highlight which feedback system leads to smallest information loss. Using a hidden Markov mixture of experts model, we describe the determinants of buyers' behaviour, specifically whether buyers switch between giving feedback based on two main forecast variables: quality received and profits. Our results show that matching the feedback elicitation question and the rating scale on the dimension deemed most relevant in a particular marketplace, leads to the most informative feedback system, able to forecast sellers' performance.

3 - Endogenous Deliberation and the Anchoring of Economic Valuations

Liang Guo, Chinese Univesity of Hong Kong, Hong Kong, China, L. Jeff Hong, Songfa Zhong

We revisit the interpretation of the anchoring effect as evidence that preferences are arbitrary. We consider a model of decision makers who can engage in costly information-gathering activities (i.e., deliberation) to improve ex ante imperfectly known valuations. Endogenous deliberation can explain the dependence of valuations on arbitrarily generated anchor numbers. We demonstrate experimentally that the anchoring effect is moderated by product retail value. Moreover, an increasing anchor exhibits heterogeneous and offsetting effects on response time, which in turn positively influences the stated valuation. Therefore, the anchoring of economic valuations may reflect endogenous deliberation in the elicitation of inherently defined preferences.

4 - Should Firms Make Their Customers Aware of Rival Offerings?

Raghunath S. Rao, University of Texas-Austin, Austin, TX, United States, Xing Gao, Jianqiang Zhang

We study a set of puzzling practices observed in online markets where some retailers voluntarily provide information about the prices of their key competitors. We call this practice voluntary competitive disclosure (VCD). These practices are intriguing because a well-established insight from marketing strategy literature is that a firm's profits are typically higher when the consumers have limited access to prices. We make a striking counterclaim: Under certain conditions, firms can serve their own interests by voluntarily providing information to their own captive customers about the competition. We model two (online) retailers competing in a market where consumers are heterogeneous in preferences and in their awareness of other firm(s). We show that using a VCD could result in a focal firm losing some of its captive consumers, but the consumers defecting from the focal firm are likely to be the ones who have a stronger preference for the rival firm. These defections might then provide the rival retailer with a consumer mix that more strongly prefers its brand. Facing a consumer mix with a stronger preference, the rival retailer is more likely to raise its price, which could dampen the overall competition and potentially improve the prices and the profits of both firms. We also use our model to analyze the public policy implications that advocate for greater price transparency in areas such as healthcare, utilities, and gasoline markets. Although the purported aim of such initiatives is to drive prices down, we show that these policies could lead to price increases.

5 - Why Do Companies Tie Donations to Consumer's Purchases of Their Products? For Buy-One-Give-One, It's All About Profits

So Eun Park, University of British Columbia, Vancouver, BC, Canada, Qiyuan Wang, Charles B. Weinberg

A number of companies sell their products on a Buy One, Give One (BOGO) basis, offering to donate one unit of their product (e.g., a pair of shoes or of socks) for every unit sold. Such a policy effectively doubles variable costs. We show that even if a firm is only concerned about its own profits, this policy is profitable in a monopoly market as long as paying customers are concerned enough about non-paying customers' welfare and if the non-paying customers value the product sufficiently high. Interestingly in the case of a duopoly, we find that firms can use BOGO as a means of differentiation; that is, for well-defined market characteristics, the only possible pure strategy equilibrium is that one firm offers BOGO but the other does not. Further, we expand the strategy space and allow firms to choose cash donation (per unit sold) as well as product donation (BOGO). In both monopoly and duopoly cases, BOGO is more likely to be optimal than cash donation, possibly explaining why a cash donation strategy is seldom consistently integrated into product marketing, although it may be used for short term promotions. For a duopoly setting, all possible equilibria must have one firm not donating. Again, this is consistent with the observation that in most markets, not all firms adopt a BOGO or cash donation strategy. We draw managerial implications in regard to existing industry practice. An extension where one firm exhibits social-preference and incorporates concern about non-paying consumers' welfare into its objective function is also examined, but the critical result is that social preference is not requited for BOGO to be an optimal strategy.

■ SC19

Aula 20

UGC3

Contributed Session

Chair: Zhao Yang, Winterthurerstrasse 495, Zurich, 8051, Switzerland

1 - Are All Stores the Same When it Comes to Product Reviews? Investigating Factors Affecting Variations in Product Reviews Across Stores

Morris George, Baylor University, Waco, TX, United States

Customer reviews for the same product vary from store to store. For example, the average review score for Samsung Galaxy S9 is 4.8 at Best Buy, 4.3 at AT&T, 3.3 at Verizon, 3.7 at Sprint, and 3.3 at Samsung.com. Similar variations can also be seen for other products. The objective of this research is to understand the factors that contribute to variation in reviews for the same product across stores. There are a number of research studies on how product reviews influence purchase decision and the how helpfulness of reviews is determined by reviewer and review attributes. However, the research on why reviews for the same product are different across stores is lacking. Prior research suggests that the difference in customer satisfaction for two different store types in the same industry can be attributed to differences in the influence of price, quality and customer service. Customers' perception of store name and image has also found to be linked to product quality. We will examine how store and review attributes such as average reviews for competing products, popularity of the stores, review scores for the stores, sentiment analysis of reviews, price promotions by stores, and incentives for writing reviews can explain the variations in review scores. The findings of the study will have implications for manufactures in store selection so that product reviews are not suppressed. Retailers can devise strategies to manage factors that negatively affect review scores. The findings will help consumers in objective assessment of product reviews across stores.

2 - Pursuing Happiness through Traveling: A Marketing View

Anita Luo, Georgia State University, Atlanta, GA, United States, Roberto Felipe Mora Cortez, Wesley Johnston, Corliss Thornton

The endgoal of marketing is the understanding of and response to consumer needs, whereas consumers' ultimate goal is fundamentally, happiness. One area of consumption that has been known to lead to happiness is travel and tourism. It is important to understand whether marketers can leverage travelers' experiences to successfully contribute to people's happiness when visiting a place. Thus, we address three research questions in this study. First, what are the key domains affecting an attraction's visitor happiness? Second, how do different attractions relate to particular experiential attributes? Third, what truly makes travelers' experiences exceptional and memorable? We extracted detailed comments for various attractions from travelers' reviews on Yelp. We applied topic modeling and interpreted the topics based on seven dimensions from our theoretical framework and key words generated for each identified topic. In addition, we also conducted sentimental analysis by capturing the number of positive words and negative words in each comment. We simultaneously analyze how the consumers' sentiment arousal and consumers' ratings are related to the seven dimensions in our theoretical framework in Study 1. In Study 2, we compiled a list of long and detailed reviews for the attractions. Based on the travelers' reviews, we conducted idiographic research to understand what truly makes the experience memorable by identifying patterns or themes from the travel experience that lead to emotional response toward the end goal of happiness. In conclusion, our study will contribute to the existing literature by examining what makes ordinary life extraordinary with magic and nostalgia, and how human judgment and machine learning can work together to achieve a better understanding of societal well-being.

3 - The Effect of Monetary and Non-Monetary Incentives on Content Provision

Xuejing Ma, Peking University, Beijing, China, Qiaowei Shen, Hongju Liu, Yuxin Chen

Numerous life examples show that both monetary and non-monetary incentives can motivate people to work. Understanding how these incentives affect labor supply and performance is important. In this paper, we address how monetary and non-monetary incentives affect job supply and performance in the context of online content provision. We utilize the observations of broadcasters in live streaming industry, which provides an ideal context to address these questions. We simultaneously model a broadcaster's decision of how long to broadcast (quantity) and how much effort to put (quality) in each week. In terms of the quantity of content provision, our empirical analysis suggests that both monetary and non-monetary incentives have a positive effect on the hours that a broadcaster chooses to live stream. Furthermore, experienced broadcasters who have spent longer on live streaming are less likely to be influenced by the monetary and non-monetary incentives than the inexperienced ones. As for the quality of content provision measured by the percentage of viewers who watched more than one minute in the live session, and the percentage of viewers who were converted to followers of the broadcaster, we find that while the monetary incentive drives broadcasters to work better, the non-monetary incentive has no significant effect or even negative effect for new broadcasters on broadcasters' performance quality. However, the broadcasters' experience would attenuate the positive effect of the monetary incentive and enhance the positive effect of the non-monetary incentive. To the best of our knowledge, our study is the first to simultaneously quantify the effect of monetary and non-monetary incentive on job provision and performance in a dynamic context. It also has important managerial implications as identifying which type of incentive drives individuals to provide more content (work longer) and which one drives them to provide better content (better performance) is crucial for the success of many firms.

4 - Assessing the Extent and Impact of Extreme Responses in Online Product Ratings

Chunyu Li, Guangdong University of Foreign Studies, Guangzhou, China, Ling Peng

Extreme responses have been found to predominate in the context of consumer-generated product ratings, yet little is known about their extent among different types of raters and their impact on the subsequent product ratings. Consumers are encouraged to voluntarily evaluate products via online product rating systems, yet these systems do not consider consumer extreme response tendency when aggregating overall product ratings, leading to serious distortions for firms that make strategic decisions based on these numbers. In this paper, we draw on social influence theory, marketing research and response bias literature to assess the extent of extreme responses among anonymous vs. nonanonymous raters, mobile vs. portal raters, and professional critics vs. ordinary consumers, for their theoretical and managerial relevance to online product ratings. We evaluate the impact of extreme responses on subsequent consumer ratings using multiple measures, contexts, and methods. The empirical assessment of extreme response bias will generate significant theoretical insights regarding extreme responses in the context of online product ratings.

5 - The Differential Effect of Social and Content Related User Generated Content on Customer Acquisition

Zhao Yang, University of Zurich, Zürich, Switzerland, Radu Tanase, René Algesheimer

Managing user generated content (e.g., online ratings, reviews) is an important component of a company's business strategy. Through user generated content (UGC), firms can raise awareness around their products, increase conversion rates and identify key customer needs. In this paper, the authors analyse the differential effect of social and content related UGC on customer acquisition. To this end, the authors use a longitudinal dataset from several online customer communities hosted by a manufacturer of kitchen appliances. In such communities, members can create, rate, and comment on recipes. The authors use a vector autoregressive model (VAR) to explain the relationship between new sign-ups and the two types of UGC: social (measured as nr. of recipe ratings and recipe comments) and content (measured as nr. of new recipes created), while considering the endogeneity between the different variables. The result shows that social UGC produces higher response elasticities than content UGC and it is consistent across all the customer communities. This can be explained by the fact that, in many cases, recipes are highly equivalent. Customers can barely distinguish the difference among them and rely more on the online customer feedback. Therefore, platforms with more customer feedback will be more successful in terms of attracting new customers. This study provides new insights into the long-term effects of UGC, showing that in some cases, firms would benefit more from facilitating online customer feedback.

■ SC20

Sala delle Lauree

WOM I

Contributed Session

Chair: Kaichi Saito, Meiji-Gakuin University, 1-2-37 Shirokanedai, Minato-ku, Tokyo, 108-8636, Japan

1 - Revisiting the Impact of Sentimentality (valence) of Review on Review Helpfulness

Rahul Ramachandran, Indian Institute of Management, Kozhikode, Kozhikode, India, Subin Sudhir, Anandakuttan B. Unnithan

This article investigates the relationship between the user generated reviews and the review helpfulness as perceived by the customer. The findings of this study addresses the major limitation in prior studies where the emotionality was often conceptualized as an uni-dimensional construct, and to further suggests that the positive and negative sentiments of the review has varying effect on the perceived helpfulness of the review. The analysis performed on Amazon data set using Poisson regression evidenced that negative sentiments is more influential in determining the helpfulness of the products than in comparison with positive sentiments of the same magnitude in the reviews . The results also validates the moderation effect of review volume and type of product on the aforesaid relationship. This result has serious implications for the practitioners in multiple fronts, especially while making a trade-off between having to control negative consumer experiences as against creating positive experiences. The study suggest that more emphasis should be laid in instituting a web-care strategy aimed at negating the adverse comments at its very infancy

2 - Reaching Beyond the Stars – The Effect of Emotionality in Online Word-of-Mouth Across Cultures

Tiffany Y. Wendler, TU Dortmund, Dortmund, Germany

Electronic word-of-mouth (eWOM) is a crucial factor in consumers' decision making, and current research emphasizes the need to understand what makes consumer reviews helpful. Research by Yin, Bond and Zhang (2017) demonstrates that emotional reviews are considered more helpful as consumers infer increased reviewer effort. However, findings are based in a US setting and cultural influences remain largely unexplored. This research contributes to the extant marketing literature by examining the effect of culture on both the sending and receiving of eWOM. Results from a field study using a novel multi-country dataset and a laboratory experiment provide evidence that cultural predeterminations influence reflexive decision making, but differences largely disappear during the deliberative processing of information. We show that consumers in more individualistic cultures write more emotional reviews given the spontaneous nature of the process. At the same time, increased emotionality is considered more helpful across cultures during the evaluation of reviews. We provide specific insights for practitioners on how to respond to these findings and effectively manage eWOM in an international setting.

3 - Seeding Done Right: Designing Effective Seeded Marketing Campaigns in Light of Brand Context Effects

Ulrike Phieler, Research Assistant, Technical University Berlin, Berlin, Germany, Florian Dost

Managers receive little advice from the scant literature on Seeded Marketing Campaigns (SMCs) regarding who to seed to, the timing of the campaign, and what to provide to the seeds. Moreover, organic word-of-mouth (WOM) literature suggests important brand context effects, e.g. brand design, type of good, its perceived quality, or visibility, thus, changing the impact of the same SMC—defined by who, when, and what—for different brands. This study uses a unique dataset of 142 SMCs to (1) provide first empirical estimates for SMC design decisions, (2) investigate how firm-created WOM translates into sales, and (3) assess the importance of SMC design decisions relative to brand context effects. We control for unobserved variables with instrumental variable and instrument-free approaches. As results, we find a medium-sized WOM sales effect of $r = .18$, which is comparable to extant SMC, and slightly larger than recent organic online WOM, or advertising sales effects. Moreover, the findings underline the importance of SMC design decisions for stirring WOM and incremental sales, while brand context, surprisingly, plays only a minor role. For example, while SMC design explains around 50% of firm-created WOM, brand context explains only 8%. When considering incremental sales, only a brands' high quality affects SMC effectiveness positively. These findings contrast with concurrent organic WOM literature, hinting at differences in the nature of organic and firm-created WOM. For managers, this study offers straight-forward insights for optimal SMC planning, suggesting that larger and longer-running SMCs, recruiting seeds from customer databases, sending several different products and including promotional extras promise higher incremental sales.

4 - How Post Attributes Affect Cognitive and Affective Feedback Responses?

Kaichi Saito, Meiji-Gakuin University, Tokyo, Japan, Jeff Inman, Akira Shimizu, Atsuko INOUE, Takashi Teramoto

When browsing posts on review sites, recipients sometimes vote for the posts by clicking cognitive feedback buttons (e.g., "useful" and "helpful") and affective feedback buttons (e.g., "cool," "funny," and "like"). Posts with many votes are more likely to attract attention from potential recipients and influence actual recipients' purchase decisions. Given the important consequences of consumer voting behavior, this article examines how post attributes affect cognitive and affective feedback, respectively. The empirical results using data from a review site reveal that when browsing posts from non-connected others (i.e., strangers), a recipient is likely to provide both cognitive and affective responses to posts that well match his/her past posts in terms of valence and text length. Such a matching-voting link holds even after controlling for direct effects of post attributes and homophily in gender and residence. Furthermore, the results show that matching effects dissipate when making voting decisions about posts from connected others (i.e., online friends). This implies that there is a motivational difference between when people cast their votes for posts from non-connected others and when they vote for posts from connected others. The primary contribution of this article is proposing and testing a model of consumer voting behavior that includes the matching-voting link and the moderating role of online social ties.

Saturday, 4:00PM - 5:30PM

■ SD01

Aula 01

Segmentation 1

Contributed Session

Chair: Xiao Huang, Concordia University, 1455 De Maisonneuve Blvd. West, Montreal, QC, H3G 1M8, Canada

1 - Product Returns, Rebates, and Restocking Fee

Rachel Rong Chen, University of California-Davis, Davis, CA, United States, Paolo Roma, Eitan Gerstner

Rebates have largely been studied in marketing literature as useful tools for sales promotion, price discrimination, and channel coordination. In this paper, we introduce a new angle that rebates can help reduce product returns. Specifically, we consider a monopolist selling a product to consumers who may face uncertainty in their reservation utility and individual fit with the product at the time of purchase. The seller may offer a rebate to consumers, and whoever redeems the rebate will give up the option of returning the product in the future. We compare the rebate policy with the commonly used restocking fee policy in terms of their effectiveness in improving the seller's profit and reducing the number of product returns, as well as their impact on consumer surplus. We find that the rebate policy can generate higher profits to the seller than the restocking fee policy when the portion of consumers a priori uninformed of their reservation utility is neither too high nor too low, the consumer's high reservation utility is above certain threshold, and the seller's unit operating cost is relatively low. We identify settings under which the rebate policy dominates the restocking fee policy entirely due to its reduction of returns. In fact, the rebate policy can be used as a commitment device for some consumers to forgo future returns, whereas for other consumers it can be used as an incentive to keep the product. In addition, the pricing flexibility allows the seller to price discriminate consumers based on how informed they are. Interestingly, we find that switching from restocking fee policy to rebate policy can benefit the seller, the informed segment, as well as the uninformed segment, resulting in win-win-win outcome.

2 - The Impact of Choice-Set Dependent Preferences on Product Cannibalization and Quality Discrimination

Qiao Wang, City University of Hong Kong, Hong Kong, China, Weiyu Kevin Chiang

When a multiproduct firm sells to consumers with heterogeneous valuations for quality, the ideal approach is to discriminate them by efficiently offering a variety of quality-price combinations that extract all their surplus. Conventional wisdom, however, indicates that such a perfect discrimination is often prevented by the cannibalization problem, where the higher-valuation consumers choose to buy the lower-quality products instead of the higher-quality ones targeted to them. That is, when consumers maximize their utility by self-selecting among the offered products based on their intrinsic valuation for each product, the cannibalization problem undermines the firm's profitability. While this argument is plausible, behavioral research reveals that, when self-selecting from a choice set, consumers evaluate a product based not only on the intrinsic valuation, but also on the gain-loss utility shaped by the product's relative standing within the choice set. A relevant question that arises here is: how will the cannibalization problem be affected when consumers think in context with choice-set dependent preferences? We analytically address this question by developing a theoretical model based on the classic product-line design problem. Our results show that whereas the cannibalization problem can be alleviated by consumers' gain-seeking behavior, it can possibly be aggravated when consumers are loss-averse. We also find that, while consumers' gain seeking fosters quality discrimination, the firm may possibly be better off to prune its product line. Conversely, despite of hindering the firm's ability to quality discriminate, consumers' loss aversion may still urge the firm to offer multiple products.

3 - Electorate Segmentation: What We Can Infer about Vote Preferences Using Online Search Trends

Amirali Kani, Assistant Professor, University of Guelph, Guelph, ON, Canada, Seyyed Amirali Javadinia

Electorate segmentation has been a major topic in U.S. presidential elections. Every election cycle, campaigns identify different groups of voters and aim customized advertising towards these groups to gain their vote. In this study, we analyze the last four presidential elections and use a latent class regression analysis to identify different electorate segments based on their opinion regarding various policy issues. Several agencies collect survey data to explain election outcomes. However, in addition to the potential existence of various sampling and non-sampling biases, the reach and the frequency of the collected data are limited. Instead, we use Google search trends in months prior to elections as a proxy for electorate stance on various policy issues and depict a full picture of the electorate segments in every metropolitan area across the nation. While identification of the electorate segments helps campaign managers to better target voters, use of Google search data helps to evaluate and predict chances of each candidate in different geographic areas and to monitor the campaign effectiveness in almost real-time.

4 - Inter-temporal Optimal Versioning Strategy for Technology Products Under Rapid Innovation in the Presence of Obsolescence

Shivendu Shivendu, University of South Florida, Tampa, FL, United States, Roohid Syed

Technology firms like Apple Inc. not only adopt versioning strategy for their current product offerings like iPhone but also continue to offer of previous period versions albeit at lower prices. While there is rich literature in the field of Information Systems and Marketing on optimal versioning strategy of information goods, it is surprising that there is scant research on widely adopted inter-temporal versioning strategy of technology products by firms. In this paper, we bridge this gap by first developing an analytical model wherein consumers are heterogeneous in taste for quality and obsolescence rate. Our model's conceptualization of obsolescence rate is informed by prior literature which posits that consumers use technology products to accomplish certain tasks and have heterogeneous requirement or preferred level for quality which increases over time due to increasing task complexity. In a two-period model, we derive optimal product quality and pricing strategy in each period for a monopolist firm, and show that under some conditions the firm may be better off by partially or fully discontinuing with the first-period versions in the second period. We also derive conditions under which the monopolist may be better off to discontinue with the versioning strategy in the second-period. Surprisingly, consumer surplus of high-type consumers decreases in the second-period, if the obsolescence rate of low-type consumers is much higher. We extend our model to a duopoly setting and show that directionality of our results holds and also examine the robustness of our results by relaxing some of the model assumptions.

5 - Service Product Design and Consumer Refund Policies

Xiao Huang, Associate Professor, John Molson School of Business, Concordia University, Montreal, QC, Canada, Dan Zhang

Customers often exhibit considerable uncertainty in their service valuations. In response, firms may tailor their products and allow service cancellations. We consider the joint product customization and refund policy decisions of a monopolistic firm selling to a heterogeneous customer population with imperfect signals. Our results shed light on how customers' valuation uncertainty, characterized by the valuation heterogeneity and signal quality, drives the interaction between product line and refund policy designs. In particular, when the valuation heterogeneity is high, the firm may choose to offer a single quality level with full refunds, leading to a variety reduction in the product line. In contrast, when the valuation heterogeneity is low, the firm will always offer a full product line without any refund. At moderate valuation heterogeneity, both qualities and refunds are subject to more customization, and partial refunds can be optimal when the signal quality is high, even though our setup does not involve aggregate demand uncertainty, capacity limitations, competition, or channel conflicts. Interestingly, despite its appeal, generous refund terms do not increase aggregate customer surplus. Furthermore, the firm may not have incentives to reduce customers' valuation uncertainty even if doing so is costless. We verify the robustness of our results and discuss their practical implications.

■ SD03

Aula 03

Structural Models 1

Contributed Session

Chair: Hang Nguyen, Michigan State University, 632 Bogue Street, Room N306, East Lansing, MI, 48824, United States

1 - Monitoring Adoption and Sales - Understanding the Error Structure of Diffusion Models

Yuri Peers, Vrije Universiteit (VU), Amsterdam, Netherlands, Dennis Fok, P.M. Franses

Monitoring adoption and sales developments is an important part of marketing practice, but is often overlooked in academia. In the (marketing) literature the focus is often on the accuracy of sales forecasts. This overlooks any interpretation of the actual deviations, while there are valuable insights in knowing in which direction the forecasts are wrong. In this project we focus on adoption and sales that follow a traditional diffusion pattern. While we focus on the Bass (1969) diffusion curve our insights hold for the large class of models using an underlying deterministic diffusion curve, and their extensions. For the purpose of monitoring, the interpretation of the (future) shocks around the deterministic diffusion curve is important. Additionally, the interest for monitoring can be both on the cumulative (S-shape) or by-period (Bell-shaped) sales or adoption, depending on the managerial question at hand. We give insights in how shocks around both curves are related to each other. In the extreme cases where the shocks around the sales/adoption are normally distributed, this leads to persistent shocks around the cumulative diffusion curve. Based on this insight we develop a unit root test for diffusion models and propose an autoregressive (AR) diffusion estimation technique. If a unit root is assumed in the AR-diffusion method this leads to the well-known NLS estimation proposed by Srinivasan & Mason (1986), which is currently the standard in estimating diffusion models. Rather than having a horse race between the different estimation techniques, we show, by using simulations, the different scenarios that they imply and what implications these hold for the purpose of monitoring. We validate the simulation results with some empirical cases.

2 - A Diffusion of Mobile Application

Youngsok Bang, Chinese University of Hong Kong, Shatin, Hong Kong, Dong-Joo Lee, Kunsoo Han, Sangwon Kim

The diffusion process of mobile application has several distinctive features. First, unlike other products, there is little cost to acquire and abandon mobile applications. This easy-come-easy-go makes the issue of assimilation gap most prevalent in the mobile application diffusion. Second, many applications are tested on a popular platform before the market introduction or promoted from already popular applications, which can form the early market and accelerate the diffusion of such applications. This self-referencing can make the unique diffusion pattern, particularly in the early stage of the market introduction. Lastly, the diffusion process of applications, especially for those in the same category, can be interrelated with each other. This within-category dependency might require the diffusion of applications in the same category to be modeled together. We develop and empirically validate a flexible diffusion model to accommodate the aforementioned distinctive features in the diffusion process of mobile applications.

3 - Research on the Willingness to Use Shared Electric Vehicles Based on Technology Acceptance Model

Wenjuan Zhou, Tongji University in Shanghai, Shanghai, China

The sharing economy is one of the important characteristics of modern society. Shared electric vehicle services, such as EVCARD and Car2go, are vehicles with clean and environmental features, which can provide convenient, economical and green modes of travel for modern urban residents. Based on the Technology Acceptance Model (TAM), combined with the Innovation Diffusion Theory and the current situation of electric vehicle sharing services, this paper selects important variables and builds a research model to study the willingness to use electric vehicles. Also, the SPSS is used for empirical analysis of the data collected by questionnaire. The expected results of the study indicate that comparative advantage, perceived ease of use, and compatibility have a significant and positive impact on the adoption attitudes, and adoption attitudes have a significant positive influence on adoption intention. Interestingly, the adoption attitudes play a partial intermediary role between the independent variables (comparative advantage, perceived ease of use and Compatibility) and the dependent variable (adoption intention). Finally, based on this research, this paper puts several proposals for promoting shared electric vehicles services.

4 - Does a New Product Introduction Hurt Industry Rivals' Wealth?

Hang Nguyen, Assistant Professor of Marketing, Michigan State University, East Lansing, MI, United States, R. Dale Wilson

A firm's announcement of a new product introduction can have a strong impact on its competitors. Previous research finds that when a firm announces new products, competitive rivals experience a significant negative wealth effect. The purpose of this project is to expand the research stream designed to evaluate the effects of different types of new product introductions on rival firms' value. A sample of 2,865 new product announcements in the consumer packaged goods and consumer electronics industries during the 2004-2018 period is used in our research, and signaling and market growth theories are utilized as the conceptual framework. In contrast to previous findings, we discover that on average rival firms actually gain excess returns when the focal firm launches a radical innovation. This finding supports the market expansion hypothesis, which states that a new-to-the-market product signals new opportunities for rival firms in the new product category. We only find the negative wealth effect when the focal firm launches an incremental new product. This finding is consistent with our market penetration hypothesis that suggests that an incremental innovation poses a threat of cannibalization for rivals' existing products. Further, our modeling results indicate that the wealth effect is weaker when the rival firm is a market leader, rather than a follower, and when market competition increases. Conversely, the wealth effect is stronger in high-tech than low-tech industries and in mainstream markets rather than in niche markets.

■ SD04

Aula 04

Behavioral Economics and Marketing

Special Session

Chair: Paola Mallucci, University of Wisconsin, Madson, WI, 53706, United States

1 - Competitive Information Demand and Performance

A. Yesim Orhun, University of Michigan, Ross School of Business, Ann Arbor, MI, 48109-1234, United States, Mohamed Mostagir

Previous experimental studies have studied the impact of signals regarding competitors' ability levels on competitive performance. This paper examines the endogenous demand for such information. Who chooses to acquire it, and who chooses to avoid it? Why? Is the impact of competitive information different on these two groups of people? Who benefits the most from a transparency policy? In answering these questions, this paper speaks to important policy debates regarding the welfare effects of wage transparency and competitive information provision in education.

2 - Are We Strategically Naïve or Guided by Trust and Trustworthiness in Cheap-talk Communication?

Ozalp Ozer, The University of Texas at Dallas, Richardson, TX, 75080-3021, United States, Xiaolin Li, Upender Subramanian

Cheap-talk communication between parties with conflicting interests is common in many business and economic settings. Two distinct behavioral economics theories, the level-k model and the trust-embedded model, have emerged to explain how cheap talk works between two decision makers. The level-k model considers decision makers to be boundedly rational in their strategic thinking. In contrast, the trust-embedded model considers decision makers to be motivated by non-pecuniary motives to be trusting and trustworthy. While both theories have been successful in explaining cheap talk in separate contexts, they point to contrasting underlying drivers for human behavior. In this paper, we provide the first direct comparison of both theories within the same unified context. We show that in a cheap-talk context that well represents many practical business and economic situations, the level-k and trust-embedded models make characteristically distinct and empirically distinguishable predictions. We leverage past experimental data from this context to structurally estimate both models, and let the data inform us about which model has better explanatory power and predictive performance for observed behaviors. Our findings shed light on the behavioral drivers of cheap talk, and can inform academics and practitioners in designing systems and processes to improve the outcomes of cheap-talk interactions in business and economic settings.

3 - Product-Line Design in the Presence of Consumers' Anticipated Regret

Tianxin Zou, Washington University in St. Louis, St. Louis, MO, 63112, United States, Bo Zhou, Baojun Jiang

Consumers are often uncertain about their valuations for product quality when choosing among different options in a product line, and will learn their valuations only after buying and using a product. Some consumers may thus experience over-purchase or under-purchase regret, depending on whether they have purchased a higher or lower quality level than that they would have chosen had they known their true valuations. When consumers anticipate their potential post-purchase regret, their purchase decisions may be affected. Our analysis shows that over-purchase regret lowers the firm's profit, but under-purchase regret can benefit the firm if the consumer's over-purchase regret is not strong. When the firm optimally designs its product line, the quality difference between its offerings will be larger (smaller) if consumers' anticipated regret increases (reduces) its profit. Surprisingly, although anticipated regret generates negative utility to consumers, the expected consumer surplus can increase with the presence of anticipated regret. We also examine when the firm should allow consumers to return their products after paying a restocking fee, and how the firm's optimal restocking fees change with consumer's propensities of under-purchase or over-purchase regret.

4 - Signaling Quality through CSR

Paola Mallucci, University of Wisconsin, 4261 Grainger Hall, 975 University Avenue, Madson, WI, 53706, United States, Yue Li

We investigate the effectiveness of cause marketing donations as signals of product quality. Preliminary result indicate that donation can be an effective signal of quality and lead to a separating equilibrium if the number of sophisticated customers in the market is either high or low, but not when the number is moderate. In a separating equilibrium, the low quality firm will always offer the same donation as in the first best scenario, while the best strategy of the high quality firm depends on the number of sophisticated consumers. When the number of sophisticated customers is high, the high quality firm will differentiate from the low quality firm by offering a higher donation, while when the number of sophisticated consumers is high the high quality firm could differentiate either by offering a higher donation than the low quality firm or a lower one. Finally, we investigate how firm trade-off between costly quality advertising and donations.

■ SD05

Aula 05

Investigating Counterfeit Content in Video, Software and Social Media Markets

Special Session

Chair: Isaac Dinner, UNC-Chapel Hill, McColl 4517, Chapel Hill, NC, 27599-3499, United States

1 - The Impact of Over-The-Top Media Services on Piracy Search: Evidence from a Natural Experiment

Isaac Dinner, UNC-Chapel Hill, McColl 4517, Chapel Hill, NC, 27599-3499, United States, Shijie Lu, Koushyar Rajavi

The rise of the over-the-top (OTT) video streaming services has raised the question of how this new form of digital media affects consumers search for piracy. We address this question by leveraging a sudden block of Netflix in Indonesia in January 2016, right after Netflix's global expansion earlier that month. Based on this exogenous source of variation, we use the synthetic control method to assess the causal impact of the Netflix ban on piracy search, where the synthetic control is a convex combination of 40 Asian countries where Netflix was simultaneously introduced but not blocked. We find that consumers in Indonesia search for pirated shows 19.7% more than what they would have searched in the presence of Netflix during the five months after the block, suggesting an overall substitution between OTT services and illegitimate channels. This substitution effect mainly applies to non-original content, whereas the net effect is nonsignificant for original content. Based on the comparison between effects on original versus non-original content, we also find evidence of the existence of piracy market expansion due to OTT introduction. Finally, when alternative OTT operations enter Indonesia, search for piracy returns to levels found in the synthetic control country.

2 - Software Piracy and Outsourcing in Two-Sided Markets

Eitan Muller, New York University, Arison School of Business, Marketing Department, Herzlia, 46346, Israel, Masakazu Ishihara

This paper examines the role of software piracy in digital platforms, where a platform provider makes a decision of how much software to produce in-house and how much to outsource from a third-party software provider. Using a vertical differentiation model, we first theoretically investigate the impact of software piracy on equilibrium pricing and profits of the platform and software providers, and software outsourcing decision by the platform. We find that the platform provider can benefit from piracy, and that an increase in piracy reduces in-house software production. We then provide empirical evidence for the external validity of our theoretical prediction on the outsourcing decision using data from the U.S. handheld video game market between 2004 and 2012. This market is a classical two-sided market, dominated by two handheld platforms (Nintendo DS and Sony PlayStation Portable) and is known to have suffered from software piracy significantly. Our regression results show that the proportion of inhouse software decreases in piracy, supporting our theoretical prediction.

3 - Detecting and Combating Social Media Influencers

William Rand, North Carolina State University, 2411 Everett Avenue, Raleigh, NC, 27607-7217, United States, Anthony Weishampel

Social Media provides a far-reaching platform for marketers to spread their content, but firm social media and word-of-mouth campaigns are susceptible to malicious social media users. Being able to detect various types of users, both malicious and honest consumers, is vital to mitigate their effects. The first part of this work builds a classification method based on the user's behavior and other covariate information. A user's behavior is treated as a binary time series, indicating times of activity. We consider a generalized multilevel functional model for the response profile. This model separates the user-specific variation from the day within user variation and from the mean trend, while accounting for additional covariate effects. The user-specific and within day user trends are estimated through functional principal components analyses. Classification of the users is accomplished through analyzing the user-specific trends. The results are compared to the existing social media classification approaches and other time dependent models. The second part consists of an experiment to determine how legitimate user's behaviors change when informed that they have been interacting with a bot. The experiment involves reaching out to a select number of users, who have interacted a suspected bot. We reach out to these users and inform them about the bot. Through analyzing the behavior of these users' social media users before and after our intervention and comparing them to the users' who were not contacted, but also interacted with bots, we will determine whether informing the user about the bot affects their future interactions with the bots.

■ SD06

Aula 06

Modeling Consumer Behavior, Buyer-supplier Relationships and Networks Data

Special Session

Chair: Aditya Gupta, McCoy College of Business, Texas State University, TX, United States

1 - Multi-tier Buyer-Supplier Network and Firm Performance: Investigating the Role of Organizational Capabilities

Amalesh Sharma, Mays Business School, Texas A&M University, College Station, TX, United States

Extant literature on buyer-supplier network has largely explored ego network (until Tier-1). However understanding a buyer-supplier network from ego perspective may not be sufficient for multiple reasons: a) lower-tier (suppliers beyond Tier-1) suppliers are critical for exploitation of existing firm specific assets (FSAs) and development of new FSAs; b) a firm may not have control over quality of information and material flow if it considers only Tier-1 relationships; and c) a firm may not gain knowledge from Tier-2 suppliers and beyond and may not be able to manage potential opportunism and unionization. Further, although extant research shows that buyer-supplier relationships facilitate firm performance, firms across the globe are struggling to manage buyer-supplier relationships to create sustainable competitive advantage. Given this motivation, this study investigates the impact of multi-tier buyer-supplier network on a firm's short and long term economic performance and also captures the moderating role of organizational capabilities (i.e., marketing, technological, and operational) on the proposed relationships. Relying the concept of knowledge recombination, social network theory and coordination theory, we propose that that different structural network characteristics (i.e., cohesion, centralization, and clustering) will have differential effect on a firm's short and long term economic performance. Using network data for 175 firms for 4 years from 7 industrIES and 19 countries and a robust empirical approach, we find that network characteristics differentially effect firm performance and organizational capabilities positively moderate those relationships. Through this study, we resolve theoretical paradox of why firms with similar network structure report differential effect on performance; integrate organizational as well as network level factors in the same framework, and showcase how a manager should design network for enhanced economic performance.

2 - Buyer-Supplier Interactions during Bankruptcy

Kersi D. Antia, Western University, Ivey Business School, London, ON, N6G 0N1, Canada, Sudha Mani, Vivek Astvansh

How buyer firms and their suppliers interact during bankruptcy poses critical implications for both parties, yet remains poorly understood. This study investigates how the overlapping yet divergent goals accompanying bankrupt buyer firms' reorganization efforts drive buyers and their supplier-creditors to engage in constructive and destructive acts alike. Relying on reciprocity theory-informed literature, we examine how a focal party responds to its counterpart's constructive and destructive acts over time. We hypothesize what (equivalence reciprocity and response uncertainty) is reciprocated and when (immediacy reciprocity) to moderate how parties respond to their counterparts' acts. In doing so we make three contributions to the reciprocity literature, first, by examining both buyers' and their suppliers' constructive and destructive acts and their concomitant responses, we offer a much-needed bilateral perspective on interfirm reciprocity. Second, in identifying and assessing the impact of three reciprocity theory-informed moderators, our study represents a conceptually comprehensive inquiry into interfirm reciprocity. Third, the closely linked nature of buyer-supplier relations implies that the bankruptcy of one value-chain participant poses serious consequences not only for itself, but also for its partners. Our examination of the buyer-supplier interactions during bankruptcy emphasizes the critical role played by interfirm marketing relationships in helping firms recover from bankruptcy. We test our hypotheses using a multi-sourced database comprising more than 33,000 constructive and destructive acts by both bankrupt buyer firms and their suppliers across 314 reorganization (Chapter 11) bankruptcies over more than a decade. Whereas the focal party's response to its counterpart's destructive acts is tempered by all the hypothesized moderators, the counterpart's constructive acts evince a less destructive response from the focal party only when such acts significantly diverge from the focal party's own prior acts.

3 - Customer Redemption and Purchase Decisions in a Multi-Goal, Multi-Firm Loyalty Program Context

Andrew Petersen, Penn State University, 457 Business Building, State College, PA, 16802, United States, Farnoosh Khodakarami, Rajkumar Venkatesan

We investigate customer purchase and loyalty program reward redemption decisions in a multi-goal, multi-firm setting. After qualifying for a reward with a loyalty program at a given firm, a customer is faced with multiple options. The customer can redeem the reward, continue accumulating points to qualify for higher-level rewards from the same firm, or accumulate points and redeem rewards with competing firms. We propose 4 behavioral phenomenon that capture these customer choices unique to a multi-goal, multi-firm loyalty program setting: (1) mere reward qualification; (2) opportunity cost of redemption; (3) effort-balancing; and (4) cross-firm rewarded behavior. We empirically test these behavioral mechanisms using data from a loyalty program management app which allows customers to view and manage their loyalty points across competing firms with independent loyalty programs. In a multi-goal setting, we find that merely qualifying for a reward decreases a customer's inter-purchase time and increases their spending. However, we find that as customers accumulate points and get farther from the already qualified for reward, the opportunity cost of redemption leads to increases in inter-purchase time and lowers the likelihood of reward redemption. In a multi-firm setting, we find that accelerating purchase behavior to achieve a higher-level reward causes customers to rebalance their efforts to competing firms. Although, we find that this effort-balancing effect is mitigated as the size of the reward increases. Further, we find that recent reward redemptions at competing firms leads to a cross-firm rewarded behavior effect. This causes customers to increase the likelihood of redeeming a reward and decrease their inter-purchase times at the focal firm. These findings have significant implications for loyalty program design and management in a multi-goal, multi-firm setting.

4 - The Value of Third Party Platforms in Customer Acquisition: An Empirical Investigation into the Hospitality Industry

Agata Leszkiewicz, University of Twente, Sarang Sunder, V. Kumar, Chekitan Dev

Third party platforms play an important role in customer acquisition. Online travel agents (OTAs) such as Expedia and Kayak account for over 20% of business in the hotel industry. This creates a unique challenge for hotel brands. On one hand, hotels have traditionally worked with OTAs to get access to prospects, and can use the OTA platform to build brand visibility and room distribution. On the other hand, OTA commissions are high and they drive a hard bargain over control of room rates and inventory. Additionally, OTAs may also be cannibalizing the more profitable brand-owned channels. This presents a major dilemma for hotels. Are third party platforms as an acquisition vehicle worth it? What is the impact of third party (vs. brand-owned) acquisition channels on future customer behavior? In this research, we attempt to provide answers to the above. We empirically assess the impact of third party acquisition channels on customer behavior and apply our modeling framework (interpurchase time and revenue models) to customer-level data from a multi-brand hotel chain. Initial evidence suggests that although OTAs bring in a large number of customers, the lifetime value from these customers is suspect. We find that OTA acquired customers bring in lesser revenue, but purchase more frequently. Further, the effects are heterogeneous across brand positioning. The results are explained through the mechanism of channel stickiness - OTA acquired customers exhibit state dependence toward OTA channels. Our findings have implications for customer valuation and channel management in the presence of third party platforms.

5 - Forgiving Customers and Customer Engagement

Aditya Gupta, McCoy College of Business, Texas State University, San Marcos, TX, United States, Mahima Hada, Karthik Sridhar

To retain subscribing customers, firms frequently write-off the money owed by the customer, allow their customers to renege on contracts, or let customers keep products for free - i.e., firms "forgive" customers. Such strategies are frequently used by magazine and newspaper companies, wireless providers, book and wine clubs, and even utility companies. Such a retention strategy is based on assumptions of "pleasing" customers, and how customers perceive positive equity in their favor when dealing with firms (and therefore expect to get things for free). We argue that in the case of mild customer deviance, customers do not necessarily prefer positive equity, and in fact firms forgiving them can also lead to customers feeling guilty about not paying, and reduce customer's engagement with the firm. We utilize a data set of 2600 book club subscribers over five years to examine the effects of the firm forgiving its customers to retain them. To access the different effects a firm's forgiving strategies can have on a customer over time (i.e., to capture the firm-customer dynamics) we use a Bayesian hierarchical hidden Markov model. Modeling the outcomes of the practice of forgiving customers with a type II Tobit equation, we find that completely forgiving customers is not beneficial to the firm and reduces customer engagement.

■ SD07

Aula 07

Consumer Privacy Concerns in Digital Markets

Special Session

Chair: Klaus Miller, Goethe University Frankfurt, Frankfurt am Main, 60323, Germany

Co-Chair: Bernd Skiera, Goethe University Frankfurt, Frankfurt am Main, 60323, Germany

1 - When the Data Are Out: Assessing Behavioral Changes Following a Data Breach

Dana Turjeman, University of Michigan, Ann Arbor, MI, 48109, United States, Fred Feinberg

In recent years, the severity and quantity of data-breaches increased. Despite this, little is known about the social and behavioural effects of such breaches. We extend causal inference methodologies to measure individual-level behavioural changes following an announcement of a major data-breach. Our data includes detailed behaviour of ~40K members of a matchmaking website for those seeking extramarital affairs[1]. This website experienced a severe data breach. We extend Athey et al. (2018) Generalized Random Forests, and Friedberg et al. (2018) Local Linear Forests, and construct a tree-based matching-prediction method. We use this method to assess individual changes in users' engagement: percent change in number of messages, searches and deleted photos on the website, in the three weeks after the data-breach. Our results suggest that most users have not changed their projected number of messages and searches on the website, despite the announcement. By contrast, over 80% more users deleted their photos right after the announcement. Individual estimates reveal heterogeneity in user responses. In order to explain some of this heterogeneity, we complement the individual estimates with demographic and psychographic variables, such as marital status and privacy preferences. The paper presents a general method to obtain individual measures of changes in behaviour following disclosure of an exogenous information shock; in this case, a major data-breach, and discusses reasons for heterogeneity in the reactions to this data-breach. [1] We received the anonymized data directly from, and in agreement with, the company.

2 - How Cultural Differences Across Countries Affect Data Sharing: Analyzing the Moderating Effect of Culture on Privacy Concerns and Perceived Benefits

Christopher Schumacher, University of St. Gallen Switzerland, St. Gallen, Switzerland, Felix Eggers, Peter C. Verhoef, Peter Maas

Firms worldwide are relying on rich consumer data to optimize their marketing. However, with stricter privacy regulations firms increasingly need to be transparent about data collection activities and ask for consumers' explicit consent to collect their information. In this regard, not much is known about how consumers in different countries react differently to a request to share personal information. The purpose of this study is to test how the relationships between consumers' willingness to share personal information and its main drivers—privacy concerns and perceived benefits—are systematically moderated by cultural differences. Cultural differences are operationalized using Hofstede's value dimensions power distance, masculinity, uncertainty avoidance, and long-term orientation. Our conceptual model involves variables at two hierarchical levels of aggregation—individual- and country-level. By using a hierarchical multilevel regression model on data collected from 15,068 consumers from 24 countries we find that perceived benefits and power distance increase the willingness to share data, whereas privacy concerns and long-term orientation decrease the intention to share personal information. In addition, power distance, long-term orientation, and uncertainty avoidance are significant moderating variables. Our findings are of interdisciplinary relevance for both academia and practice, and help managers to better understand how culture and country characteristics may influence consumers, which is of high importance for multinational corporations.

3 - Do Ads Harm News Consumption?

Shunyao Yan, Goethe University-Frankfurt, RuW 1.233, Frankfurt am Main, 60323, Germany, Klaus Miller, Bernd Skiera

Ads are always bundled with news, but how ads impact news consumption is understudied. Drawing from the limited capacity model, which suggests that human's limited cognitive resources process information both intentionally and unintentionally, our research provides an empirical analysis of how reading news with ads impacts the quantity and variety of news consumption. Using a unique dataset with 1.8 million observations from 68,289 users' ad blocker usage and news reading behavior on a news website, we find a sizable negative effect of ads on news consumption. Seeing ads, compared to stop seeing ads by installing an ad blocker, leads to a 10% decrease in quantity and 5% decrease in variety of news consumption. We disentangle the casual effect from selection by combining a difference-in-differences approach and coarsened exact matching on individual level data. Although not conclusive, we find that the annoying nature of ads and the page loading speed are possible reasons behind the effect. Our finding suggests a trade-off existing between seeing ads and reading news, which is inconsistent with banner blindness and the related assumptions that consumers do not care or even positively evaluate ads in news consumption literature. This trade-off also questions monetizing by ads as a fundamental business model for news publishers since ads both damage news publisher's normative role of informing citizens and harm publisher's potential to monetize by content.

■ SD08

Aula 08

Digital Marketing 12

Contributed Session

Chair: Parimal Kumar, IIM Kozhikode, Kunnamangalam, Kozhikode, 673570, India

1 - Allow or Block: Optimal Strategies against Ad-blockers in Competitive Markets

Gokhan Gecer, University of Mannheim, Mannheim, Germany, Florian Kraus, Pinar Yildirim

The main income streams of many publishers (of online content such as websites) are advertising (ad) revenues from their websites. However, users mostly find the ads annoying especially when they are not relevant for them (Baek and Morimoto 2012). Also, many users are concerned with potential privacy and security issues if they see customized and/or harmful ads (e.g. Storey et al. 2017). The resulting irritation motivates users to look for ways how to avoid the ads (Kim and Sundar 2010). One of the most common and efficient options are ad-blockers. Thus, an increasing number of people use ad-blockers recently (Entrepreneur 2016) which becomes a threat to the main revenue stream of publishers. In order to deal with this challenge, some of them offer an ad-free (premium) version of their websites to customers who pay a subscription fee. Others ask the users to turn off their ad-blocker. In this case, the users either turn off the ad-blocker or leave the website. In this article, we consider a market with three sides: (a) the publisher whose main income are the ads, (b) the user who may want to use the ad-blocker to avoid the ads, and (c) the web browser (respectively the companies developing web browsers) that provides a platform to the publishers. The purpose of this article is to develop a modeling approach (based on Singh and Vives 1984; Godes, Ofek, and Sarvary 2009) to explore the best strategy for publishers and web browsers in monopoly and duopoly markets. The publisher could choose among three strategies: (1) show the content to everyone, (2) show the content only to those who turn the ad-blockers off, and (3) show the content to users who pay a subscription fee. The web browser could choose between two strategies: (1) allow the ad-blockers and (2) block the ad-blockers. Furthermore, we are interested in finding the optimal content quality the publisher generates and the optimal subscription fee if the premium model is optimal.

2 - Extended Shapley Values as a Marketing Budget Allocation Method

Jan Piet Peeperkorn, PhD Student, Rijksuniversiteit Groningen, Groningen, Netherlands

In this paper, we consider the problem of attributing a budget over marketing channels. We first show that existing methods do not allocate budgets appropriately. For example, the well-known Shapley value approach overvalues channels at the end of the funnel that have a high direct impact on conversions. Moreover, this method does not accommodate order of entrance, repetition, or spillover-effects, and time-decay effects and the cause on customer-initiated action is lacking as well. We introduce a budgeting method based on generalized characteristic function games that overcome these issues. The method firstly estimates conversion rates of consumer paths with machine learning models using ensemble learning. Then, the conversion rate is distributed among the channels within that path using extended Shapley values, which each capture different advertisement effects. These values together give a space for the impact of each channel with higher bounds for each advertisement effect choice. The values are combined using a simulation study based on profit maximization. This gives an optimal attribution for budget allocation with respect to customer-channel choice and advertisement effects. In order to be able to identify the relevance of the channels, we develop power measures that reveal the relative dominance of channels and to identify to what degree the effectiveness of the marketing budget can be improved by better allocating investments across channels. Using simulation studies, we show that our approach performs better than heuristic models, probabilistic models, and a straightforward application of Shapley values.

3 - Influence of Avatar's Smile Induced Social Presence and Immersion on Customer Satisfaction

Parimal Kumar, IIM Kozhikode, Kozhikode, India, Sanal K. Velayudhan

Smiling is considered as a universal display of joy and happiness for people across both eastern and western cultures. Research has shown that expression of smile is considered a sign of friendliness and generosity (Gabriel et al., 2015). In several retail settings "service with a smile" is perceived as high quality services by the customers (Rafaeli and Sutton, 1987). However, infusion of technology has rapidly changed customers' interaction with the service providers (Doom et al., 2016). The shift from face-to-face encounters to online encounter implies a substantial change in the nature of encounters. Today, service encounters have not only been limited to employees around us but also representations of employees made accessible to our senses via media technologies. Several research has shown that human reaction towards avatars (life like characters created by technology) are similar to those towards human interlocutors. Social conventions that guide interaction between two humans are also noticeable in human-computer interaction (Nass et al, 1997; Reevas and Nass, 1996). But the question whether avatar's smiling expressions will produce similar effects on customer as compared to smiling human employee on customer still needs further investigation. In an immersive environment, Cafaro and his colleagues (2012) found that participants judged smiling virtual agent more positively as compared with non - smiling virtual agent. However, Kramer et al (2014) found that interacting with a smiling agent led to increase in smiling behaviour but did not have influence on its ratings. Verhagen and colleagues (2014) argued that smiling expression compared with non-smiling expression of agent did not make any significance difference in evaluation of the agent. Extant literature has shown that immediacy behavior such as smile increases the inquiry and involvement level (Szafir and Mutlu, 2012). During online encounters an avatar's non-verbal cues such as gazing, nodding or hand waving and can attract customers and excite their curiosity (Qiu & Benbasat, 2005). The paper therefore examines, if avatar's smile influences both customer immersive experience and social presence and customer emotions and in turn customer satisfaction. Literature has shown that participants interacting with virtual human allocated more attention towards virtual human than participants interacting with text-based interface. Also the immersive experience enhances customer emotional state (Visch and Molenaar, 2010). The positive emotional state of customer will lead to customer satisfaction (Moreno et al., 2015). Experiment is conducted using completely randomized statistical design. In order to examine proposed causal relationship one experiment treatment level is exposed to avatar with smiling expressions whereas another experiment treatment level is exposed to avatar with neutral expressions. Both the experiment treatment levels are then compared. The present research makes a significant contribution to theory by testing if avatar's smiling expressions influences customer immersion and in turn customer satisfaction. The findings of the study show that smiling avatar will be lead to customer satisfaction which is a key factor in determining customer purchase decisions.

■ SD09

Aula 09

Methods 4

Contributed Session

1 - B2B Customer Management in a Recession

Christian Pescher, FAU Erlangen-Nuremberg, Nuremberg, Germany, Hernan Bruno, Shantanu Dutta

One of the biggest challenges in customer management is segmenting and managing customers of different size. This is particularly important in B2B markets, where larger customers purchase orders of magnitude more than smaller customers. In this study, we focus on the behavior of customers of different size during and after an economic recession. We use a dataset from a large B2B commodity reseller that includes transactions for individual customers from two years before the 2008/09 financial crisis, to two years after. We find that larger customers reduce their purchases strongly during a recession relative to smaller customers. On the other hand, larger customers also recover faster after the recession compared to smaller customers. We discuss and test the potential explanations for this phenomenon and the implications of these results in the context of a multi-channel customer strategy.

2 - Local Cubic Projections for Marketing Insight: Generalized Impulse Response Functions with Interactions, Asymmetry and Nonlinearity

Harald van Heerde, Research Professor of Marketing, University of New South Wales, Sydney, Australia, Christine Eckert, Hauke Wetzel, Stefan Hattula

The workhorse for modeling dynamic relationships in marketing is the Vector Autoregressive (VAR) Model. Its Impulse Response Functions (IRFs) show the effect of one variable on the same and other variables over time. An important limitation of these IRFs is that that they do not allow for dynamic interactions, asymmetries or nonlinearities, which are often highly relevant in marketing settings. To overcome this limitation, this paper introduces the new time series method Local Cubic Projections (LCP) to marketing. LCPs are more robust to misspecification and yield IRFs where the dynamic effect of one variable on another depends on a third variable (i.e., dynamic interaction effects), where the dynamic effect of a negative shock is not restricted to be the exact opposite of the effect of a positive shock (dynamic asymmetry) and where the dynamic effect is not necessarily proportional to the size of the shock (dynamic nonlinearity). This paper also contributes by extending LCPs with generalized impulses and formal statistical tests for dynamic interactions, asymmetries and nonlinearities. The paper's substantive contribution is to use LCPs to uncover important substantive new insights in an emerging research stream—sports marketing—, and to show that LCPs achieve superior hold-out sample fit.

3 - What is the Optimal Strategy of Aggregation for Forecasting Sales? A Hierarchical Forecast Reconciliation by Region, Product Category, and Channel

Carla Freitas Silveira Netto, PhD Candidate, UFRGS, Porto Alegre, Brazil, Rob J. Hyndman, Vinicius A. Brei

Much of marketing literature on sales forecasting focuses on disaggregate analysis using data sets from companies that have access to individual-level information. However, gathering, storing, and analysing this type of data is complex, expensive, and time-consuming. This difficulty is specially perceived by small and medium-sized enterprises (SMEs) that do not have the resources to handle such data. This scenario of lack of access, coupled with increased requirements for data minimization and anonymization, makes access to individual-level data increasingly difficult. A key theoretical and empirical question is how to perform more precise forecasts, having limited access to resources and, possibly, to the data itself. In this paper we consider such difficulties and propose a sales forecasting strategy based on proprietary data to which most companies already have access, that is, sales aggregated data. We introduce to the marketing field the optimal reconciliation approach to forecast sales. We explain why it has advantages over other approaches and suggest which type of marketing variables should be used in such strategy. The paper compares aggregation criteria using both hierarchical and grouped time series, applying the most basic and prevalent type of variables existing in our field, that is, marketing mix variables. The proposed method is generalizable to all types of goods, not only the packaged goods, most commonly studied in marketing literature. Our approach provides marketers an open source tool to help choose forecast methods that are best for their organizations, rather than resort to simple but less-accurate methods.

■ SD10

Aula 10

Product Management 1

Contributed Session

Chair: Abas Mirzaei, Balaclava Road, North Ryde, Sydney, NS, 2109, Australia

1 - How does a Firm's Innovation Strategy Respond to Customer Sentiment Toward Rival Brands?

Brandon Holle, PhD Student, Michigan State University, East Lansing, MI, United States, Hang Nguyen, Sundar G. Bharadwaj

This research offers new insights into how firms adapt their innovation strategies to compete against rivals. We analyzed millions of word of mouth (WOM) posts about rival brands on social media platforms such as Facebook, Twitter, Tumblr, Instagram, blogs and forums. The analysis focused on 1,745 new products in the consumer electronics industry during the 2007-2018 period to examine how word of mouth about rival brands' new products impacted the focal firm's innovation strategies. We find that while WOM volume about rival brands is positively associated with the focal firm's new product breadth (i.e., the number of new products), WOM sentiment is positively associated with product innovativeness. The sentiment effect is particularly stronger and lasts longer for negative WOM than positive WOM. Moderation analysis further indicates that the effects of WOM volume and sentiment are stronger when the rival brand is a market leader, rather than a follower, and when the market competitiveness increases. Finally, path analysis results show that the strategic innovation-related reactions mediate the effect of rival brands' WOM on the focal firm's financial performance.

2 - New Product Introductions in the Brand "Echoverse": Owned, Earned, and Paid Media Communications Effectiveness Pre- and Post- Product Launch

Olga Ungureanu, BI Norwegian Business School, Oslo, Norway, Rutger Van Oest, Koen Pauwels

Owned, paid, and earned media communications reinforce each other and impact firm value in the brand "echoverse". However, the underlying dynamics of these effects may change surrounding new product introductions. The pre- and post-product launch time periods differ with respect to information availability, product uncertainty, and the role of different media communications. Understanding how the effectiveness of firm communication differs in the pre- and post- product launch periods is critical for leveraging owned and paid media communication to increase new product success. Both pre-launch and post-launch communications can influence the stock market. Pre-launch, owned and paid media play a defining role in creating demand and expectations for the upcoming product. Furthermore, pre-launch, the volume of earned media captures consumer anticipation for the new product and is likely more diagnostic for investors than valence in the pre-launch period. On the other hand, the opposite may occur in the post-launch period where the valence of earned media increasingly reflects customer satisfaction and product experience. Thus, we investigate the relative effectiveness of online owned, earned, and paid media communications pre- vs. post- launch for experience products such as video games. For this, we collect data from different online sources: earned media from online consumer comments and news surrounding the new products; owned media from firms' official social media accounts and press releases; and paid media from sponsored social media posts (i.e., consumer posts paid for by the firm). We use a vector-autoregressive model to account for feedback effects between the different online media communications and firm value.

3 - The Interplay Between Perceived Quality and Resource Utilization

Dongling Huang, California State University, Northridge, Northridge, CA, United States, H. Muge Yayla-Kullu, Praowpan Tansitpong

We empirically investigate how customer perceived quality and resource consumption differences of products may impact a firm's product line decisions, and how they relate to its success in the marketplace. Using an international airline dataset, we find that an indirect effect of quality differentiation exists through resource allocation decisions of the firm. We confirm a positive relationship between the premium product focus and the market share. We also show that an increase in resource consumption levels has a negative impact on the allocation towards the premium segment and the overall performance therein.

4 - External Packaging Aesthetics: Boon or Bane? A Theory of Affect Relevance

Pragya Mathur, Baruch College, New York, NY, United States, Tanuka Ghoshal, Peter Boatwright, Jonathan Cagan

The external packaging of a product, defined as the outer layer of packaging that is usually discarded before product use, has been subjected to two countervailing forces in the past several years. On the one hand, a growing focus on packaging aesthetics has resulted in aesthetically pleasing external packaging for even the most mundane products (e.g. Belarus based electrical company CS's innovative and attractive packaging for a functional product like a light bulb). Presumably, this packaging innovation is purely for aesthetic purposes. In contrast to this trend, retailers have identified external packaging as wasteful and environmentally unfriendly, and are striving to reduce external packaging costs, even using this tactic as a positioning and differentiation tool (e.g. IKEA and Amazon). As a result, consumers are exposed to a myriad of external packaging options - ranging from stripped down functional packaging (e.g., IKEA and Litl's corrugated box packaging) to aesthetically appealing external packaging (e.g. Kleenex tissues and Apple products). The need to understand how these varying degrees of aesthetics in external packaging influence consumer perceptions is paramount. In the current research, we present a theoretical model for better understanding the effectiveness of external packaging aesthetics (EPA) and suggest that EPA serves as a unique feature that impacts product perceptions by eliciting positive affect, but only under specific conditions - such as when the consumer has consummatory goals, and when the EPA are not made salient. As a result, our research sheds light on when manufacturers and retailers may benefit most from investing in EPA.

5 - Product Line Breadth Success: A Wider Perspective Challenges Our Understanding

Abas Mirzaei, Macquarie University, Sydney, Australia, Dean C. Wilkie, Ngoc Pham, Lester W. Johnson

Marketing's influence in the organization depends on its ability to demonstrate consistently that some marketing tool has contributed to brand performance. When it comes to the role of product line breadth, empirical research generally finds that product line breadth has a positive contribution, yet negative views continue to be expressed within by academic researchers and industry practitioners. This misalignment maybe the result from both views taking overly narrow perspectives, potentially leading to understated, or overstated, effects of product line breadth. In this paper, we take a wider perspective that aims to uncover the complexities that underlie product line breadth success. More specifically, this paper argues the importance of two underlying product-related explanatory factors that influence product line breadth performance: continuous product innovation, and product diversification. Further, the outcome of such product line decisions is subject to three moderating factors: brand market power, category growth, and competitive intensity. Using a panel vector autoregression model on a consumer scanner data set pertaining to more than 250 brands, across 13 categories and three retailers, this study finds evidence of upwardly biased coefficients for product line breadth to the extent that negative coefficients arise on two of the three measures of brand performance. However, through adopting a wider perspective that considers the long-term impact, this changes to having a substantial positive effect on all three measures of brand performance. In summary, the findings of this study challenge our understanding of how product line breadth improves brand performance.

■ SD11

Aula 11

Game Theory 3

Contributed Session

Chair: Nikhil Malik, Carnegie Mellon University, Pittsburgh, PA

1 - Convenience vs. Pleasance: Matching on Horizontal and Vertical Dimensions and the Information Design on Peer-to-Peer Platforms

Ying Lei, Peking University, Beijing, China, Jinzhao Du

We consider a two-sided decentralized matching scenario on a peer-to-peer (P2P) platform. Each of the agents on one side, called “senders”, sends an offer to one of the agents on the other side, called “receivers”. A match is successful if a receiver accepts an offer. Both senders and receivers are differentiated in two dimensions, a vertical attribute like quality and a horizontal attribute like location. The utility from a match increases with vertical quality and decreases with horizontal distance for both senders and receivers. We compare equilibrium strategies and welfare under different information display schemes. In addition, under the full information scheme, we also compare the decentralized and centralized matching in terms of user welfare.

2 - To Hide or To Disclose? The Role of Information Provision for the Matchings in Ride-Sharing Platforms

Maggie Chuoyan Dong, Associate Professor, City University of Hong Kong, Hong Kong, Xi Li, Yimin Yu

Motivated by the ride-sharing platforms, we investigate different allocation mechanisms adopted in practice to match customers and drivers. Under a centralized allocation mechanism, the system assigns customers to drivers whereas under a decentralized allocation mechanism, drivers observe all orders and choose the desirable ones. Didi Chuxing, a leading Chinese ride-sharing platform, recently introduced a decentralized allocation with partial information. Under this mechanism, drivers only observe their local orders before making their choices. Among the three allocation mechanisms, we find that there is a trade-off between matching efficiency and transportation cost: the decentralized mechanism can have the highest matching efficiency (or transportation cost) while the centralized mechanism can have the lowest matching efficiency (or transportation cost). Interestingly, drivers can achieve the highest payoff under the decentralized mechanism under partial information. Thus, this mechanism may be recommended in order to increase the participation rate of drivers.

3 - Wardrobing: Is it all that Bad?

Ahmed Timoumi, Assistant Professor, Indian School of Business, Mohali-Punjab, India, Anne T. Coughlan

An item is said to have been “wardrobed” when it is bought by a consumer; used for a short time; and then returned to the store as if it were unused, for a full or partial refund. This paper considers the benefits and costs of wardrobing. We show that Wardrobing is in fact not entirely bad because it offers the retailer the ability to practice price discrimination among consumers who vary in their product usage valuations. It also serves as a commitment mechanism for a monopolist retailer allowing him to increase his profit.

4 - Why Bitcoin will Fail to Scale?

Nikhil Malik, Carnegie Mellon University, Pittsburgh, PA, United States, Manmohan Aseri, Param Vir Singh, Kannan Srinivasan

Bitcoin is used for $1 Billion worth of payments every day, yet it falls well short of the scale provided by traditional alternatives. Its current technology allows 3 payments per second compared to VISA’s 5000. Bitcoin community is actively considering technology upgrades to increase throughput. Surprisingly, empirical evidence shows that even this small throughput remains unused while willing users are turned away. We study economic incentives for users and P2P network participants (miners) that manage Bitcoin payments without a Bank. We demonstrate that Bitcoin will not be able to serve the user demand due to strategically wasteful actions by these miner participants. Technology upgrades will do nothing to address this throughput under-utilization. When Bitcoin throughput is small, eager users offer fee for preferential treatment. Miners indirectly rely on this congested throughput to collect fees. If the technology is upgraded to larger throughput, users do not face the risk of being left out, they pay near zero fees. We show that miners enter a tacit collusion to artificially lower the throughput. Repeated interactions and reliable identification facilitate miners’ abilities to sustain collusion. Thus, colluding miners earn excess revenues and effectively undo the technology upgrade by wasting capacity. We also provide empirical evidence of such strategic under utilization by large miners on Bitcoin. Large number of anonymous miners - who were supposed to break the monopoly of banking institutions - instead start to resemble a traditionally organized intermediary. We discuss ban on large miners to eliminate collusion. A large adversary, now unable to earn via honest participation, finds it worthwhile to steal large payments via Double Spend Attack. Thus intervening on collusion makes the system insecure. Overall, we show that there is an economic limit to the scalability of bitcoin due to endogenous incentives for P2P participants.

■ SD12

Aula 12

Services

Contributed Session

Chair: Navid Mojir, Harvard Business School, Morgan Hall 141, Soldiers Field, Boston, MA, 02163, United States

1 - An Empirical Investigation of the Role of Prestige in Real Estate Valuation

Junzhao Ma, Dept. of Marketing, Monash University, Caulfield Campus, Caulfield East, VIC, Australia, Satheesh Seenivasan, Man Lai Yau

The role of prestige has been studied extensively in multiple consumption contexts. Yet, there is scant evidence on how prestige perception affects real estate valuation, arguably the single most important financial decision for most middle-class households. In this paper, we empirically investigate the effect of prestige on property value. We use real estate transaction data from a major metropolitan area to measure the effect of perceived prestige on real estate valuation. We develop an identification strategy by exploiting the institutional feature of local administrative zones and their boundaries. In the process, we rule out of factors such as unobserved neighbourhood characteristics and school zones as potential explanations of the price effect observed. Lastly, we discuss the theoretical and practical implication of our findings.

2 - Consumer Search for Services Purchases

Douglas Bowman, Professor of Marketing, Emory University, Atlanta, GA, United States, Alberto SaVinhas

This study aims to determine the antecedents and consequences of information source choice to support a purchase decision for services high in experience attributes. We identify four dimensions that characterize what information sources consumers, on average, use together when purchasing services. We find that loyalty program membership and consistency in service delivery across a brand’s outlets for the brands in a consumer’s evoked set are important determinants of search patterns. Search patterns partially mediate the impact of consumer characteristics; choice context; and, choice set characteristics on search effort, and ultimately on price paid. An understanding of the factors that are associated with consumers’ choice of information sources, and whether consumers’ choice of information sources is systematically related to search outcomes has implications for market segmentation and for marketers’ initiatives with respect to what information content to emphasize across sources.

3 - Strengthening Cultural Authenticity in Service Touchpoints for Post-Tourists amid the Impact of Rapidly Growing Popularity to Rely on Social Media Platforms

Sarutanan Sopanik, Lecturer, Mae Fah Luang University, Chiang Rai, Thailand

Exploratory research which discusses the aspects of tourism service touch-points for post-tourists who are interested in unique tourism experiences. They are also widely known to be highly critical about cultural authenticity. However, most social media platforms regarding travel information that be accessed by almost everyone. This research article highlights interwoven arguments and empirical evidence of tourism experiences to challenge how the future of characteristics of social media platforms, including being more refined by virtual reality, more seamlessness and faster connectivity, can promote the value of tourism authenticity. The selected research study sites are located in mountainous areas in Chiang Rai province in northern Thailand where it can be considered as natural as well as cultural sanctuary for post-tourists who value tranquility as reinvented luxury. Research respondents were drawn from the top nationalities in terms of foreign visitor’s numbers and in terms of tourism revenue generated that they have generated.

4 - The Removal of the Marketing Ban and the Use of the Earned Media in the Hedge Fund Industry

Navid Mojir, Harvard Business School, Boston, MA, United States, Andrew Sinclair

In 2012, a longstanding and comprehensive marketing ban on hedge funds was lifted as the Jumpstart Our Business Startups Act (i.e. the JOBS Act) was signed into law. Nevertheless, there is not much evidence that hedge funds are using paid media to reach out to their potential customers. In this paper, we explore the idea that hedge funds are using mostly earned media to reach out to their customers. We use full text articles from the Financial Times to analyze how the JOBS Act has resulted in a change in the sentiment around hedge funds and whether that has potentially impacted the fund flows to hedge funds. In doing so, we combine a wide range of datasets from full text Financial Times articles to data on fund flow and performance of hedge funds.

■ SD13

Aula 14

Branding

Behavioral Track

Chair: Polina Landgraf, IE University, Volkhovsky, 3, Saint-Petersburg, Russian Federation

1 - Excluding Your Customers? The Moderating Role of Relationship Norms on Customer Responses to Brand Exclusion

Ziwei Wang, Capital University of Economics and Business, Beijing, China, Yan Li

Brands tend to identify and choose valuable customers to serve and pay little attention to the excluded customers. Previous research has found that excluded participants generally react aggressively towards the source of exclusion, which may cause problems for the brands. How can brands maintain a positive impression on the excluded customers? The current research investigates the influences of relationship norms on customer responses to brand exclusion. The action of brand exclusion violates customer expectations of a communal relationship, which emphasizes responsiveness to each other's needs and genuine concerns for each other's welfare, and thus makes salient the low warmth of the brands. Conversely, it conforms with customer expectations of an exchange relationship, which implies quid pro que and equal value exchange, and thus elevates the perceived value and competence of the brands. Three experiments show that brand exclusion decreases warmth inferences about the brand and has negative impacts on customer attitudes and repurchase intentions under the communal norm; but it increases competence inferences about the brand and has no significant negative impacts under the exchange norm. Two additional experiments show that the effects of relationship norms under the brand exclusion condition vary according to the extent of brand-customer value comparison. Together, these findings enrich our understanding about how customers perceive and react to brand exclusion and provide behavioral guidance for brands to reduce negative impacts of brand exclusion.

2 - Advancing Behavioral Aspects of Brands as Intentional Agents Framework

Petar Gidakovi, Research Assistant, Faculty of Economics, University of Ljubljana, Ljubljana, Slovenia, Vesna Zabkar

Building on brand stereotyping literature, we investigate how specific combinations of brand's intentions and ability elicit distinct positive, negative or ambivalent emotional and behavioral reactions, as predicted by Brands as Intentional Agents Framework (BIAF). We conceptualize four customers' behavioral intentions that correspond to stereotype triggered behaviors of BIAF: customers' positive responses to brand stereotypes (purchase intentions and positive word of mouth), negative behavioral responses (brand avoidance and negative word of mouth) as well as ambivalent behavioral responses (a combination of positive and negative intentions). To the best of our knowledge, this is the first attempt to empirically validate the whole BIAF. We test and find support for our hypotheses in two studies: a survey of 470 EU respondents (52% male; Mage=42.8 years; SDage=13.7 years), recruited from a professional online panel and an experiment of 308 US respondents (Mage=37.79; SDage=15.52; 43.8% male) from a professional online panel. Our findings show that the effect of positive brand stereotypes (good intentions, high ability) on purchase intentions and positive word-of-mouth is mediated through customers' admiration for the brand. Negative brand stereotypes (bad intentions, low ability) directly influence brand avoidance, while their effect on NWOM is mediated through contempt. Both types of mixed brand stereotypes (good intentions/low ability and bad intentions /high ability) lead to ambivalent behavioral reactions (brand avoidance/PWOM and NWOM/purchase intentions).These effects are mediated through pity and envy. Taken together, our results offer first insight into how negative and ambivalent stereotypes affect negative and ambivalent customers' behavioral intentions.

3 - How Anthropomorphic Brand Roles Attract Me: The Effect of Consumer's Implicit Theories

Bing Han, Shanghai Jiao Tong University, Shanghai, China, Liangyan Wang, Xiang (Robert) Li

Recently, brand managers have widely adopted anthropomorphism as positioning strategies to differentiate from other competitors. Prior research anthropomorphized brand as two specific roles: brand-as-partner (i.e., the co-producer of benefits) and brand-as-servant (i.e., the outsourced provider of benefits). Our research extends the brand literature by investigating how a brand can improve consumers' responses by humanizing itself as either a collaborative partner or a supportive servant, depending on consumer's mind-set—aptly termed implicit theories (including entity theory and incremental theory). We hypothesize a servant brand is more appealing to entity theorists (i.e., people believe human traits are fixed and stable), because they prefer being satisfied effortlessly and a servant brand can serve as an assurance for providing benefits. In contrast, a partner brand is more attractive to incremental theorists (i.e., people believe human traits are changeable), because they prefer improving through efforts and working with the partner brand. Besides, a match between brand roles and consumer's implicit theories will result in an increased consumer self-efficacy (i.e., self-confidence) to realize their intentions. Three studies were conducted in various contexts to test the hypotheses. The consistent results revealed the significant interaction effect between brand roles and implicit theories on brand evaluation. Specifically, entity theorists (incremental theorists) express more favorable responses to a servant (partner) brand than to a partner (servant) brand. Moreover, consumers' perceived self-efficacy mediates this interaction effect. Findings enrich the brand literature by introducing a matching effect and offering insightful implications for brand managers to cultivate appropriate brand role in accordance with the target consumer's distinct mind-set.

4 - The Impact of Mortality Salience on Consumers' Preference for Different Brands

Polina Landgraf, IE Business School - IE University, Madrid, Spain, Antonios Stamatogiannakis, Haiyang Yang

Consumers frequently encounter death-related information (e.g., news about terrorist attacks or natural disasters), which can make their mortality salient (Greenberg et al. 1990). Yet, the current knowledge on how mortality salience influences everyday consumption is still limited (Huang et al. 2018). Extending this literature, we argue that mortality salience can systematically impact consumers' brand preferences and suggest a novel underlying mechanism - perceptions of a brand's perpetuity. Specifically, we propose that (a) under mortality salience, consumers tend to scrutinize perpetuity-related aspects of brands, and (b) exciting (but not other) brands comprise traits that pertain to low perpetuity. As a result, mortality salience degrades consumers' perceptions of perpetuity of exciting (but not other) brands, leading to decreased preference for exciting (but not other) brands under mortality salience. Five studies, utilizing different experimental approaches and large-scale field datasets that track brand preferences of more than 22,000 consumers, provide converging support for these propositions. Studies 1 and 2 show that mortality salience degrades preferences for exciting (but not other) brands. We show this effect in the lab (Study 1) and in the field, comparing consumers' preference for more than 1,500 brands before and after two deadly events - 9/11 and Hurricane Katrina (Studies 2a and 2b). Study 3 tests the underlying mechanism using a moderation approach and shows that, consistent with expectations, the effect is attenuated when perceptions of perpetuity of exciting brands are experimentally boosted. Finally, using a moderated mediation approach, Study 4 shows that perceptions of perpetuity mediate the effect. Overall, this work adds to the literatures on mortality salience and on brand preference, and offers actionable managerial insights.

■ SD14

Aula 15

Bayesian Modeling 1

Contributed Session

Chair: Sri Devi Duvvuri, University of Washington-Bothell, 219 Beardslee, Bothell, WA, 98011, United States

1 - Optimal Tiering in Matching Markets: A Bayesian Analysis Using Ultimate Fighting Championship Data

Debjit Gupta, Doctoral Candidate, Virginia Tech, Blacksburg, VA, United States, Juncai Jiang, Dipankar Chakravarti

Tiering is common in matching markets (e.g., online games, combat sports, and organ exchanges) where customers match with one another based on observable characteristics. For instance, players in online games (e.g., League of Legend) are tiered by skill level (e.g., Master, Challenger, Platinum, Bronze, etc.) and are matched with only those in the same tier. Similarly, fighters in combat sports, e.g., boxing, and mixed martial arts (MMA), are tiered by weight classes e.g. flyweight (115-125 lbs.), heavyweight (205-265 lbs.) etc. In each of these markets, the tiers are designed and enforced by a firm, which designs the market. Marketplace experience shows that choosing tiers arbitrarily can adversely impact firm performance. On one hand, too few tiers may lead to mismatches, while on the other, too many tiers may result in thin, low variety player pools within any given tier. This suggests the existence of an optimal tiering strategy. To address the above we built an empirical matching model in which individuals face tiers and form matches within each tier. Next, we examine the impact of these matches on firm performance. Then, using a detailed dataset from an organization that hosts MMA (Mixed Martial Arts) events, we empirically examine identification of the optimal tiering strategy and how the tiering mechanism influences post-match outcomes. The present study is expected to provide both conceptual and methodological insights on one-sided matching market models. The empirical setting should provide managerial insights for market design in a variety of settings.

2 - A Data Fusion Approach for Interpurchase-Timing Model Using the Incomplete Purchase Histories

Ryosuke Igari, Hosei University, Tokyo, Japan, Takahiro Hoshino

Generally, interpurchase timing models focus on purchase duration analysis in a store or on one product category purchase in-store. However, we should consider purchase behavior not only within one store or product category but also among stores (competing stores, for example), because customers can purchase products in more than one store. However, the purchase histories in competing stores cannot be obtained in general marketing environments, including in database marketing, and only accumulated interpurchase timing is observed in the database. In this study, we propose a method to estimate parameters of interpurchase-timing model directly from the sum of independent random variables, that is, sum of purchase duration at own store and purchase durations at competing stores. Concretely, we propose a hierarchical Bayes Gamma hazard model considering unobserved consumer heterogeneities. However, it is difficult to estimate each parameter from only summed durations because of identification problems. Therefore, we propose a data fusion method incorporating macro-level information into interpurchase timing model to estimate each parameter appropriately. We demonstrate the effectiveness of our method through a simulation study and the empirical analysis using a scanner panel data.

3 - Know your Limits: Comparison of MCMC Procedures for Pareto/NBD Distributed Data Sets

Lydia Simon, University of Duisburg-Essen, Duisburg, Germany, Jost Adler

The Pareto/NBD model is one of the best-known models in customer base analysis (Schmittlein, Morrison, & Colombo 1987). Over the past years, several Monte Carlo Markov Chain (MCMC) algorithms have been developed to estimate the underlying model parameters. While all these algorithms were applied to single existing data sets, whose underlying parameters are not known, we systematically compare the estimation results of the MCMC algorithms from Ma & Liu (2007), Singh, Borle, & Jain (2009), Abe (2009), and our newly developed Data Augmentation procedure on simulated data. For this purpose, we create 260 synthetic data sets from different underlying parameters, cohort sizes, and calibration periods and analyse the parameter recovery of the different algorithms by performing four chains each. Our results show that the coefficient of variation resulting from the chosen hyper parameters is crucial and should be at least one, whereas the value of the mean plays a minor role. Abe (2009), Singh et al. (2009), and our own MCMC procedure generate very similar parameter estimates. We receive stable values (i.e. consistency between the chains) for calibration periods of at least two years. A good parameter recovery affords a minimal calibration period of two years for the purchase process, five years for the dropout process, and a cohort size of at least 5,000 customers each. Our MCMC algorithm outperforms all other procedures in terms of calculating time. While the algorithm based on Ma & Liu (2007) runs significantly more stable than the other algorithms, it mostly leads to highly overrated parameter estimates.

4 - Customer Relationship Management and Social Media Usage: An Empirical Investigation

Sri Devi Duvvuri, Assistant Professor, University of Washington, Bothell, Bothell, WA, United States, Naveen Kumar Chawla

How businesses manage relationships with their customers has been impacted with the advent of social media usage in tandem with technological advancements in data collection processes. The major goal of our study is to explore the relationship between choice of product categories and consumers' evaluations of their experiences. For this purpose, we construct and implement a multivariate probit modeling framework. We use panel data generated through an online digital platform to calibrate the proposed model. Hierarchical Bayesian inference (MCMC) procedures are used to estimate model parameters. We use both product and consumer characteristics to conduct our investigation and explain results.

■ SD15

Aula 16

Entertainment 2

Contributed Session

Chair: Jinghui Qian, Rotman School of Management, Toronto, ON, M5S 3E6, Canada

1 - Enhancing Movie Sequel Success: An investigation of Product and Brand Characteristics

Sanjay R. Sisodiya, Associate Professor of Marketing, University of Idaho, Moscow, ID, United States

With over $40 billion in 2018 worldwide tickets sales (Hughes, 2018), the movie industry continues to be a critical part of the global entertainment industry. A review of the top ten grossing movies in each of the past five years indicates that movie sequels (those based on movie franchises) remain a strong contributor to the performance of the movie industry. Predicting sales for movies is challenging (Hoffman-Stolting, Clement, Wu, and Albers, 2017), but researchers find the domain exciting to pursue with potentially meaningful contributions to both theory and practice. Here, we present an analysis of product and brand characteristics that can enhance (and even detract) from box office success for movie sequels. Previous research has evaluated the role of continuity between sequels (Hennig-Thurau, Houston, and Heitjans, 2009), naming conventions (Sood and Dreze, 2006), reviews (Legoux, Larocque, Laporte, Belmati, and Boquet, 2016), the role of content (Garcia-del Barrio and Zarco, 2017), etc. We extend the body of research by analyzing the complex relationships between product and brand characteristics of movies and their resulting influence on box office performance. Our sample includes movie sequels released during 2014-18 with data was gathered from The Numbers, IMDb, and Box Office Mojo. The dependent variable is worldwide box office revenue. Results indicate that some content continuity variables enhance box office performance while others detract from box office performance. Interestingly, when considering branding effects, some interaction effects further enhance box office performance while some surprisingly have little to no effect on improved box office performance.

2 - Is Releasing Gap a Double-edge Sword? Evidence from Chinese Film Market

Fang Wu, Associate Professor, Shanghai University of Finance and Economics, Shanghai, China

International market has been increasingly important for global movie industry. However, it is not easy for a movie to achieve international success, as many international film markets are regulated and the protectionist policies countries adopt vary. The existence of these protectionist policies significantly affect the effectiveness of movie studios' international releasing strategies, which further influences the foreign movies' performance in the international market. In this research, we aim to explore the economic impact of the release gap of foreign movies on movies' box offices in a regulated foreign market (i.e., China). We emphasize that in a regulated film market such as China, local government may use various explicit and implicit protectionist policies to limit a foreign movie's Chinese releasing date, and partly contribute to a well-observed phenomenon of great variation in releasing gaps. The research questions we want to examine, therefore, include: 1) will the release gap of foreign movies definitely hurt the performance of these movies? If yes, how this happen? 2) Would the manipulation of foreign movies' releasing gaps actually help increase the overall market performance of the domestic movies? To answer these questions, we decompose the effects of releasing gap into three components: delay effect, word-of-mouth effects and seasonality effect. We then use weekly box office data for all movies that were released in China during 2008 to 2015 and empirically show that if all the foreign movies are allowed with the day-of-date release (i.e., no delay effect and word-of-mouth effect), the box offices of foreign movies will increase, while those of Chinese movies will decrease. However, the overall box offices will increase.

3 - Which Stories Are More Profitable?: Text Mining with Latent Dirichlet Allocation

Jongdae Kim, Seoul National University, Seoul, Korea, Republic of, Youseok Lee

Starting a new movie production is very risky because the budget is huge and the profitability of box office performances varies greatly across movies. Within the same context, even though the process to decide which movie scripts are allowed to move forward to pre-production, known as the green-lighting process, is important for movie studios, this process has large uncertainties and difficulties because there are few empirical evidence so that they have to depend on experts' intuitions and experiences. In this paper, we propose a new empirical approach based on text mining techniques in order to evaluate movie scripts in a systematic way before beginning a movie production. First, we use latent Dirichlet allocation (LDA) to find out latent topics from movie scripts and then extract probabilities of the specific movie script assigned to each latent topic as explanatory variables. We combine these variables and other covariates with respect to films (e.g., genre, star power, director power, sequel dummy, etc.), and perform the classification based on a movie's return on investment (ROI). We find that probabilities of specific latent topics are significantly related to the box office performance profitability. We expect our suggested model could help movie studios to make more profitable and methodical decisions in the green-lighting process.

4 - The Impact of Preview on Movie Performance: A Copula Approach

Youseok Lee, PhD, Myongji University, Seoul, Korea, Republic of, Sang-Hoon Kim

Marketing managers often have to make decisions about how to trigger word-of-mouth or when they should implement a particular promotional plan. Managers who want to generate word-of-mouth (WOM) before a new product release, for instance, must decide what marketing tactic to use and when to put it in play. Making optimal timing decisions can mean a considerable boost in the performance of a product or of the firm itself. For example, providing product samples too late could reduce consumer appeal, while, on the other hand, starting too early could generate buzz that disappears before the product launch. These decisions are crucial, especially when consumers are unable to evaluate the quality of a product before its use and depend on other consumers' WOM. In this study, we consider the decisions made around movie preview scale and preview timing as typical product samples in the movie industry. We model and identify the impact of preview scale and optimal preview timing by separating a movie's success into its first weekend ticket reservation rate and its final audience numbers. Our assumption is that both factors are key to a movie's success. As distributors need enough time to spread WOM, having a preview too early may not be effective because of the ephemeral nature of buzz. Therefore, there may be an optimal timing window for a preview to maximize the positive effect of WOM, and ultimately, the financial performance of the movie. To identify this optimal timing, we present a new approach that jointly models the initial and final performances. Specifically, we use copula modeling to investigate the dependence between the outcomes in question. By allowing the simultaneous examination of the factors driving both the initial and the final performance, this method can offer us a better understanding of the impact of preview timing on the success of the movie. In fact, based on the non-normal distribution of movies caused by blockbusters and flops, copula is an ideal approach to capture the fat tails typical of this market.

5 - The Importance of Career Networking: Evidence from Movie Actors

Jinghui Qian, The Chinese University of Hong Kong (Shenzhen), Shenzhen, China, Xinlong Li, Andrew Ching

We study how individuals make use of peer-to-peer versus hierarchical networking to help market themselves to potential employers. We argue that a stronger peer-to-peer network facilitates learning from the co-workers' skills and collaborative skills and therefore improves one's work performance. We further argue that a stronger hierarchical network could have a negative effect which goes beyond the direct human capital accumulation implication. Specifically, it could influence a manager's or an officer's hiring decision and create bias or unfairness in the process of recruiting. We test our hypotheses using a large dataset from the movie industry. We find evidence that actors with a better peer-to-peer network are associated with better movie box office performance, suggesting a positive learning effect of peer-to-peer networks. In contrast, we find actors with a better hierarchical network are associated with poorer box office return, suggesting a potential mismatch between movie roles and actor skills. We also find that actors with a better hierarchical network are more likely to get a leading role. However, for big budget movies, hierarchical network ties could not further improve one's chance to get the leading roles. In addition, we find evidence that leading actors with stronger hierarchical networks are more likely to be associated with movie failure. This effect is more pronounced for small budget movies perhaps because the budget constraint may force producers and the director to focus on a small set of actors. Unfortunately, this may increase the likelihood of mismatch, which could lower the quality of the movie. For big budget movies, the mismatch is less likely to happen because the director and producers can afford to do a more extensive search.

■ SD16

Aula 17

Emotion III

Behavioral Track

Chair: Jannine Lasaleta, Yeshiva University, Queens, NY, 10016, United States

1 - Mood Bias Correction Activated by Ad Taglines: Sensory-Focused versus Functional-Focused Judgment

Yi-Wen Chien, Associate Professor, National Taiwan University, Taipei, Taiwan, Chung-Chiang Hsiao

For over the past five decades, a great deal of previous research has demonstrated that mood states influence judgments in an assimilative manner where judgments become more favorable when consumers are in a good mood rather than a bad mood. However, in the current research, we focus on investigating consumers' attempts to correct for such mood effects in their product judgments. The current research is designed to make two related conceptual advances. First, we examine whether consumers are able to self-activate correction processes to remove the mood's influences from their product judgments by bias-prompting taglines embedded within the ad itself. In past studies, consumers' corrections for bias corrections have generally been invoked by external corrective instructions provided by experimenters. In order to more directly demonstrate the relevance of correction for mood-based bias to consumer behavior, it is important to reduce the gap between advertising practice and these corrections. Therefore, in much of the current research, we examine the correction-inducing impact of taglines embedded within the ad itself. Second, we examine whether the corrective magnitude would be different depending on different types of judgments according to the contexts in which moods are viewed as inappropriate biases or reasonable inputs to judgment. Prior research has identified incidental moods as having greater impacts on sensory-focused judgments rather than on functional-focused judgments. We believe, if moods are viewed as relatively appropriate information for forming sensory-focused judgments but as relatively inappropriate for forming functional-focused judgments, it could be that the magnitude of bias corrections for mood bias would be larger for functional-focused judgments than for sensory-focused judgments.

2 - The Grateful Judge: The Attributional Effects of Power and Gratitude on Blaming Behaviors

Hyunjung Crystal Lee, Assistant Professor of Marketing, Universidad Carlos III de Madrid, Madrid, Spain, Andrew Gershoff

We investigate how consumers' sense of power and feelings of gratitude influence their causal attribution of an unfortunate incident and their subsequent decisions to help solve the issue or blame the target involved in the incident. Using 3 studies, we examine this phenomenon in product harm crisis and charity appeal contexts. High-power perception orients individuals to take an agentic perspective, which reduces the need to consider external influences. Thus, we propose that individuals' self-perception of high-power will lead them to make less external attribution and more internal attribution regarding the incident, which increases blaming behaviors. If this is so, then changing high-power individuals' mindsets to consider external causes should make them reduce automatic internal attributions and decrease the target-blaming. Research has established the importance of external attributions of one's received benefits in cultivating feelings of gratitude. Accordingly, we propose that feelings of gratitude will lead high-power individuals to make more external attribution of incidences. As predictors of power perceptions, we measure individuals' sense of power in study 1, social dominance orientation in study 2, and feelings of self-importance in study 3. In all three studies, we find that individuals who perceive greater power make more internal attribution of the target incident. Yet, feelings of gratitude prompt those high-power individuals to make a more external attribution, which leads to less blaming and more prosocial decisions. We show that gratitude's effect on attribution is the greatest for individuals who do not naturally consider external influences than those who are already mindful of external influences in their lives.

3 - The Dual Impacts of Nostalgia on Consumer Switching Behavior

Yuwei Jiang, The Hong Kong Polytechnic University, Dept. of Management and Marketing, Hunghom, Hong Kong, Zhongqiang (Tak) Huang, Xun (Irene) Huang

This research examines how nostalgia affects consumers' switching behavior. While the common practice of nostalgic marketing tends to assume that nostalgia can help customer retention, we found that nostalgia can lead to more consumer switching behavior. However, this effect only occurs when consumers focus on the consumption outcome and reverses when consumers are led to focus on the consumption process. Our results also reveal the underlying mechanism of this phenomenon. Nostalgia can induce dual motivations— approach motivation and savoring motivation—which have divergent implications for switching behavior. When consumers focus on the outcome of consumption, heightened approach motivation drives the effect of nostalgia on switching behavior. Conversely, when consumers focus on the process of consuming a product, nostalgic consumers have a greater motivation to savor the current experience, which causes them to stay with the current option. The results and conclusions offer new insights into nostalgic marketing and antecedents of switching behavior.

4 - Nostalgia Promotes Healthy Eating

Jannine D. Lasaleta, Assistant Professor, Yeshiva University, New York, NY, United States, Carolina O. Werle, Amanda Pruski Yamim

Despite having a pervasive presence in marketing, little is known about how feeling nostalgic influences consumer motivation. We contribute to the literature by testing nostalgia's influence on healthy eating. One prominent outcome of nostalgia is increased social support (Lasaleta et al. 2014, Wildschut et al. 2006). Social support is considered a self-control resource (Pilcher and Bryant 2016), and is associated with healthy eating (Hefner and Eisenberg 2009). On one hand, healthy food is associated with long-term benefits but less immediate pleasure. On the other hand, unhealthy food is associated with long-term detriments but instantaneous pleasure—and linked to failures in self-control (Fishbach and Labroo 2007). Therefore, we predicted that nostalgia-evoked social support promotes healthy eating, which we define broadly as favorable attitudes and consumption of healthy foods or unfavorable attitudes and the restriction of unhealthy foods. We reasoned that social support acts as a self-control resource, which promotes healthy eating. Three studies found a significant interaction between nostalgia condition (nostalgia vs. neutral) and type of food (healthy vs. unhealthy) on healthy eating. Study 1, a pilot study, found that nostalgia decreased unhealthy food consumption, and had a directional inverse effect on healthy food consumption. Study 2 showed that nostalgia increased positive attitudes towards healthy food. Study 3 aimed to replicate study 1 using a larger sample and found that nostalgia increased the consumption of healthy food, but decreased consumption of unhealthy food. Study 3 also provided process evidence that, as theorized, nostalgia increased social support, which accounted for an increase (decrease) in healthy (unhealthy) food consumption.

■ SD17

Aula 18

Culture

Behavioral Track

Chair: Candan Elmer, University of Central Lancashire, School of Business and Enterprise, Preston, PR1 2HE, United Kingdom

1 - Baby, You Can Drive My Car – Effect of an Interdependent Mindset on Sharing Possessions

Maayan Malter, PhD Student, Columbia Business School, New York, NY, United States, Gita V. Johar

Most consumer behavior research focuses on consumers' decision to acquire ownership and consume goods and services. However, in the sharing economy, non-ownership modes of consumption have become increasingly common. We investigate under what conditions a consumer will share possessions with others in a sharing economy program. Specifically, we look at how a consumer's self-construal (interdependent vs. independent) and feelings of the product as part of the extended self, influence the decision to share. In a cross-national study (Qualtrics Panel in India, Singapore, and the U.S.), we find that consumers in more interdependent culture countries are more willing to share their possessions than consumers in more independent countries. Within country, we also find a positive relationship between individual differences in interdependence and willingness to share. The perception of the identity and closeness of the sharing partner also influences willingness to share. Across all countries, consumers are more willing to share their possessions with in-group others than with out-group others, but in independent culture countries, consumers are more likely to express indifference between in-group others and out-group others. Though an interdependent self-construal is associated with more sharing in general, it may be limited to close others, while an independent self-construal may be more open to sharing across types of people. These results have implications for marketing managers that need to better understand how to increase consumers' openness to joining sharing economy services, and for society which needs to develop strategies to reduce material production without limiting consumption, and to improve long-term sustainability.

2 - Equivalence Test of Measures over Time in Cultures: Motivations of Brand Preference

Christine Eunyoung Sung, Montana State University, Bozeman, MT, United States, Roger Calantone, Patricia Huddleston

We conducted two studies to investigate the influence of a cultural dimension (individualism) and social interaction factors (social belonging and public self-image) on consumers' motivations to buy prestige brands. Individualism was drawn from Hofstede's cultural dimension theory. For these studies, three country samples (US, Poland, South Korea) were chosen based on their different levels of individualism (high, mid, low) at two different time periods. After strict measurement equivalence tests between constrained and unconstrained models at all levels, we tested our SEM (Structural Equation Model) and confirmed that social belonging, influences brand preference and is mediated by public self-image. For the U.S. and South Korea, consumers with low social belonging were more likely to show high prestige brand purchase behavior. For study 2, we tested cultural instability of measures over time with cross-country consumer panel data (N= 3,622). Among these countries, we found that Korea (low IDV) shifted its values over time and had intergenerational differences in brand equity.

3 - Country of Origin Effect in the Context of Hotel Services

Chau Phuong Bao Nguyen, Graduate Student, Hitotsubashi Univeristy, Tokyo, Japan

Country of origin (COO) effect refers to consumer bias based on the origin of product manufacturer or service provider. This study examines the effect of COO on consumers' expectation and perceived performance of hotel services. The author conducts surveys on foreign guests' expectation and perception of the service quality at two high-end accommodation types in Japan: one conventional Japanese-style accommodation (ryokan) and one Western-style hotel. The surveys adapt items from the LODGSERV model (Knutson et al., 1991), which is based on the SERVQUAL model for assessing service quality (Parasuraman, Zeithaml, & Berry, 1988), with customizations for the hospitality settings. To explore the COO effect on expectation, the phrase "Japanese hotels" is used in exchange for "Excellent hotels" in the surveys. Then, comparisons are made between the expectation and perceived performance at each hotel, as well as between survey results at these typically different accommodation styles. This comparative analysis examines the COO effect on hotel service quality. The study contributes to the knowledge of the COO effect in the service field and helps service managers take advantage of cultural elements to increase perceived service quality.

4 - Ethnicity and Advertising Representation in a Newly-divided Britain

Candan Celik Elmer, Seniour Lecturer, Associate Professor, University of Central Lancashire, Preston, United Kingdom, Paul Antony Elmer

This study explores emerging attitudes among young British consumers. It adds a new perspective to the existing literature on ethnicity and advertising and explores emerging cultural scripts, at the meeting point of ethnicity, consumption, and social role. The study occurs at a salient historical moment, a period of social and economic turbulence within which new cultural scripts emerge.The 2016 Brexit vote placed new emphasis upon the national context, and began a period when political and media attention focussed relentlessly upon division and difference; the period coincided with an unprecedented increase in recorded hate crime (29% rise in 2016-17) and under such conditions, discussion about the representation of ethnic minorities in advertising assumed a new centrality. The use of uncontested ethnic stereotypes in advertising is problemmatic; existing research links the inaccurate portrayal of characteristics to viewers adopting distorted opinions about the represented groups (Rubie-Davies et al, 2013). This study examines the attitudes and behaviours of young British consumers, and reveals how they define the social roles of models who are drawn from different ethic groups. It draws on a broad sample (N=500) and asks them to select the ethicity of the cast in a fictitious advertising campaign, and the resulting analysis shows how social scripts and stereotypes are becoming redefined. The study progresses under the broad thesis that advertising has the capacity to reflect social values as well as to define them, so that acts of advertising practice do not just stimulate economic development and patterns of consumption, but also influence social conduct (Ting, 2015).

■ SD18

Aula 19

Experiment 1

Contributed Session

Chair: Dajun Li, Tsinghua University, SEM School, 30 Shuangqing Road, Beijing, China

1 - Consumer and Product Success Profile

Tanya Kolosova, InProfix Inc, Boca Raton, FL, United States

Consumer and Product Profiles are blueprint for identifying consumers attitude in relation to product attributes. Consumer and Product Profiles outline critical attributes of products to be offered to consumers and to bealigned with consumers preferences to assure the product satisfies consumers' needs now and will be demanded in the future. Consumer and Product Profile development process comprises from gathering data via simple surveys aboutproduct attributes and consumer preferences. The analysis of these data results in a Consumer and ProductProfile that describes the differentiating consumer preferences regarding specific product attributes. Unfortunately, this survey data is often inappropriately analyzed, and it leads to a wrong assessment of Consumer & Product Profiles, incorrect inferences about consumer preferences and product attributes strengths and misleading recommendations on how to improve the product. We developed innovative mathematical approaches, algorithms and software solutions that not only help toovercome the problems with analysis of consumer and product surveys, but also help to build Consumer andProduct Profiles in fully automated and scalable way. Our solutions provide accurate and reliable informationabout the preferences of an individual consumer, her/his perception of product attributes, and eventually createan accurate quantitative estimation of Consumer and Product Profiles. Product designers, manufacturers and retailers can use Consumer and Product Profiles to create products thatmeet customers' needs and expectations, create hyper-targeting marketing campaigns, personalize and optimize product prices etc. All this can be done in a scalable and automatic way.

2 - An Experimental Paradigm for Studying Exposure to Fake News

Jason M.T. Roos, Erasmus University, Rotterdam, Netherlands, Alina Ferecatu, Martina Pocchiari

The phenomenon of fake news undermines the goal of maintaining a well-informed citizenry. In this paper, we develop, validate, and demonstrate the value of an experimental paradigm for measuring a variety of effects caused by exposure to fake news. This paradigm complements existing methods for studying fake news by helping researchers address questions that current methods cannot: How does exposure to fake news change attitudes about the (real) news media, or trust in others? And what impact does it have on news consumption, or the likelihood to share news stories with others? The method we develop allows participants to be ethically exposed, in a highly controlled setting, to both real and fake news items. Like their real-world counterparts, these news items describe information that is consequential for later (in-experiment) decisions. Importantly, the paradigm provides a method for manipulating participants' exposure to fake news without misinforming them. This makes it possible to study the effect of mere exposure to fake news, rather than a combined effect of exposure and misinformation. And because the experimental paradigm does not (necessarily) involve deception, it is especially suitable to experiments in behavioral and experimental economics. We demonstrate the paradigm, and show how it can be applied to experiments using a wide range of dependent measures, including those involving individual judgements and strategic interactions.

3 - Beyond Money: Toward a Value of Experiential Purchases

Sookyoung Key, Doctoral Student, Korea University Business school, 415 Business Building, 145 Anam-ro, Seongbuk-gu, Seoul, 02841, Korea, Republic of, Jacob C. Lee, Seungbeom Kim, Mina Jun

Recently, a growing body of literature has examined comparisons of consumption timing between experiential purchases (e.g. travel, concerts, sporting events, dinners out) and material purchases (gadgets, jewelry, bags, cars). The literature has provided evidence that people sometimes prefer to delay consumption, so that they can savor an experience that will be consumed in the future. However, by introducing price discounting, we examined the case of consumers having a preference to consume experiential goods now, and material goods later. Because simply being exposed to money cues can decrease the savoring which is the significant benefit of delaying experiential consumptions. To deal with this concern, we conducted an experiment using experiential and material purchases that were matched on the degree to which they were time-limited and budget-limited. Furthermore, we set two types of price discounts on the item which will be purchased later: namely, a 20% discount and a 50% discount. The results show that respondents are likely to buy material goods now, and experiential goods later, when respondents were provided with a discounted price. Specifically, in the case of a 20% discount, participants were significantly less likely to consume experiences later. In the case of 50% discount, which is the bigger discount, the greater preference reversal was shown. Therefore, the results are in line with the hypothesis that monetary thinking - facilitated by price discounts - reduces the savoring of experiential consumption, resulting in having a preference to purchase experiential goods now, and material goods later.

4 - Micro, Macro or Celebrity? The Differential Effects of Influencer Types on Consumers' Source Credibility Perceptions and Purchase Intentions

Kristina Klein, University of Bremen, Bremen, Germany, Jan-Michael Becker

Marketing managers are shifting their advertising budgets to digital channels, as consumers, to a large extent, make use and share information of any kind (e.g., videos, photos, blogs, etc) online, increasing the importance of these channels. Within these channels, marketers plan to invest large shares of their budget into so-called "influencer marketing." Influencer are individuals that are active on social media platforms, providing content to their (numerous) followers. According to business reports, influencer themselves have become "the new brands," as consumers trust them more than traditional advertisement. However, different types of influencer exist, with common classifications being based on their number of followers. So-called "micro influencer" have a smaller amount of followers and are perceived as more authentic and credible than "macro influencer," who have millions of followers. Interestingly, no research so far empirically investigates the effects of different influencer types on the dimensions of source credibility and subsequent consumer behavior (purchase intentions for an endorsed brand), even though anecdotal evidence suggests that these types are differently perceived in terms of credibility or trustworthiness. We investigate these differential effects under two important conditions, multiple product endorsement and two types of advertising disclosure. Both conditions are important to consider - influencer often endorse multiple products at the same time and legislation forces them to clearly indicate advertising posts as such. We employ an online experiment with a 3 (influencer type: micro vs. macro influencer vs. celebrity) x 3 (advertising disclosure: no vs. hashtag vs. flag) x 2 (multiple product endorsement: yes vs. no) between subjects-design. Our results offer insights for managers wanting to select the "right" influencer for their digital marketing campaigns.

5 - Free or Not? A Field Study of O2O House Cleaning Services Platform

Dajun Li, Tsinghua University, Beijing, China

We study a market for a one-of-a-kind service (e.g., online and offline home cleaning services), where a cleaning platform mediates between the householders (consumers) and learner(providers). The platform sets service fees to balance own revenue and cost with attracting both old and new customers. The past literature suggests that agents should charge free or low fee (1 dollar) to attract new consumers as more as possible. But they ignore the short term and long term effect difference between free trail and low fee trail products. For the short term, free trail service could attract more new customers than low fee trail. On the other hand, for the long term, low fee trail could have better old customer retention rate (rule out the free riders). The platform exits the trade off between early stage more new customers or later stage more old customers. In order to figure out on which condition should firm conduct free trial or low fee trail or regular fee, we conduct one survey, one lab experiment and one field experiment in a real e-house cleaning services platform in China. For the field experiment part, we conduct a 3(Price: free vs. low fee vs. regular fee) X 2 (Tenure: short vs. long term) mixed design with price as a between- subjects factor and tenure as a within-subjects factor. We examine customer purchase amount, retention rate, repeated usage and CLV (customer life value) under different pricing policies and time periods.

■ SD19

Aula 20

Structural Models 1

Contributed Session

Chair: Dinara Akchurina, INSEAD, Boulevard de Constance, Fontainebleau, 77305, France

1 - Quantifying the Economic Value of Flat Rate Bias in a Two-Sided Platform: Evidence from the Taxi Industry

Wei Miao, National University of Singapore, Singapore, Singapore, Junhong Chu

Previous literature has documented evidence of consumers' behavioral biases in terms of cost minimization when making choice among various pricing schemes for their service consumption, for instance, flat rate bias and pay-per-use bias. In this study, we examine whether such behavioral biases present in a two-sided market from both buyers' and sellers' side. Specifically, we utilize an exogenous event that a taxi company in Singapore added a flat rate option, together with its previously existing metered option, into its mobile booking app. We first model riders' demand for flat rate trips and metered trips in a random utility framework, explicitly taking trip uncertainty associated with metered option into consideration. We then model drivers' vehicle localization decisions as a dynamic discrete choice problem utilizing demand side estimates and solve the supply system using the concept of oblivious equilibrium. In the counterfactual experiments, we quantify the economic value of introducing flat rate pricing and provide insights for managers and policymakers.

2 - Estimating the Demand for Blockbuster Movies with Endogenous Choice of Release Date

Weichen Yan, New York University, New York, NY, United States

Setting the release date for a blockbuster movie is one of the most important decisions a distributor (studio) can make: opening during a high-demand weekend reaches out to a wide potential audience; but most likely it also exposes the blockbuster in question to greater competition from rival blockbuster openings during the same weekend. A crucial component of the movie release process is a good understanding of the demand for and supply of blockbusters. First, an understanding of how observable movie characteristics influence demand. Second, an understanding of how timing of release affects demand through seasonal effects. Third, an understanding of rival studios' release and advertising strategies. A number of authors have attempted to estimate the supply for and/or demand of blockbuster movies. Papers that estimate the studios' strategic release game (and more generally, entry games) tend to work with reduced-form payoffs. Demand estimation, in turn, is typically implemented by assuming that supply (which movies are released at which dates) is exogenously given. However, given the endogeneity of release decisions, this approach is bound to result in inconsistent estimates. In this paper I estimate the demand for blockbuster movies in light of the studios' endogenous release-date choices. Specifically, I propose a model which combines studios' release date (entry) and advertising choices with demand for movies. I assume that studios optimize by setting release dates followed by advertising budget. Studios' payoffs are structurally determined and depend on demand behavior. I show that, in this context, demand parameters are identified. I then adopt a semiparametric modification of the Berry, Levinsohn and Pakes (1995) estimator which accounts for the choice set endogeneity. I compare my estimates to the estimates from a model that does not account for the endogeneity of entry and advertising decisions. I also use the estimated model to run a number of counterfactuals, including allowing for the coordination of release dates across studios.

3 - Split-second Decision-making in the Field: Response Times in Mobile Advertising

Khai Chiong, University of Texas at Dallas, Richardson, TX, United States, Matt Shum, Ryan Webb, Richard Chen

In this paper we take the class of drift-diffusion models from psychology and neuroeconomics, which were developed to jointly explain subjects' choices and response times in quick, split-second decision tasks in laboratory experiments, to a field setting - app users' response to advertisements on their mobile devices. We specify a two-stage drift-diffusion model to accommodate features of mobile ads. In most mobile ad platforms, including our application, there is an initial priming stage where ads are non-skippable and users are being forced to watch the ad. The ability to make a choice is only then presented in the second (decision) stage. By combining response time with choice data, we separately identify a user's utility at the priming stage, and the user's utility at the decision stage. Using our model estimates, we find that the effect of diminishing priming (and making the ad skippable) on click-through rates is heterogeneous across users. However aggregate ad revenue would reduce by 14% in the counterfactual that ads are completely skippable. In addition, the click-through rates from forcing viewers to watch the entire 30-second ad are virtually the same as forcing them to watch only the first 10 seconds, thus rationalizing the practice of many online platforms (eg. YouTube) where users can skip an ad after 5 or 10 seconds.

4 - Quantifying the Effect of Basket Recommendations on Consumer Online Grocery Search and Purchase Decisions

Dinara Akchurina, INSEAD, Fontainebleau, France, Paulo Albuquerque, Raluca Ursu

To simplify the tedious and repeated process of shopping for groceries, many online grocery retailers implement recommendation systems that suggest a basket of products to consumers based on their past purchase history. The idea behind these recommendation systems is to predict the set of products a consumer would like to buy on a given visit and recommend them. However, recommendations themselves can have an effect on consumer search and purchase decisions, not only for recommended categories but also non-recommended ones if consumers are time constrained. Specifically, by reducing the effort required to search in a focal recommended category, recommendations free up time consumers can spend searching for non-recommended categories. Using data on consumer search and purchase decisions from an online grocery retailer, we show descriptive patterns consistent with the idea that the recommendation of focal categories can increase the probability and depth of search for non-recommended categories. We then develop a structural model of consumer search for multiple products where the effect of a time constraint is reflected in the assumption of search costs increasing over time.

■ SD20

Sala delle Lauree

WOM II

Contributed Session

Chair: Elham Yazdani, University of Georgia, David Eccles School of Business, Salt Lake City, UT, 84112, United States

1 - Effect of Consumers' Behavior in Posts and Feedbacks on the Purchase of CPG Products: Influence of User-generated Content

Takashi Teramoto, Yokohama National University, Yokohama, Japan, Akira Shimizu, Kaichi Saito

This study explores the effects of consumers' behavior in posts about consumer packaged goods (CPG) and feedbacks to these posts on their purchase by investigating the influence of user-generated content (UGC). In addition, it examines the differences in these effects across experiences of media contact (TV commercials, product websites, and in-store displays), topic framing styles (entity-oriented and situation-oriented), and consumers' characteristics (opinion leadership, need to belong, and perspective taking). Although numerous studies have examined the relationship between the topics and sales of targeted products, the relation between consumers' behavior in posts and feedbacks and purchase behavior is underexplored. To bridge this gap in the literature, this study employs a binomial logistic regression to model the trial purchase of targeted products and a Gamma regression model for increasing the rate of purchase of the targeted product categories based on data on 5,000 panelists including their purchase history, UGC history in posts and feedbacks, and demographic and psychographic information. The results reveal that the effects of posts vary across experiences of media contact, topic framing styles, and consumers' characteristics. Specifically, the analysis reveals that situation-oriented posts promote greater feedbacks than entity-oriented posts, whereas entity-oriented posts promote a larger number of trial purchases than situation-oriented posts. These results point to the role of posting UGC in promoting the trial purchase of targeted products and raising the purchase amount of the targeted product categories.

2 - The Impact of Online Community Evolution on Product Sales in the Gaming Industry

Elham Yazdani, University of Georgia, Athens, GA, United States, Shyam Gopinath

Past research has looked at different measures of WOM and their impacts on either firm performance or WOM generation process. In this research, we focus on the role of online community evolution on product sales after controlling for factors such as seller's reputation, shipping country and method of payment. Our research context is the gaming industry which is one of the most popular sections of the entertainment industry. Our research shows how online community evolution can impact sales of different game genres. Our unique dataset also allows us to investigate the impact of a comprehensive set of online social media measures on product sales across two competing platforms.

3 - Not All Previous Reviews Are Read: Focusing on Subsets of Rating Sequences

Yoonsun Jeong, University of Wisconsin-Milwaukee, Milwaukee, WI, United States, Jimi Park

Although the majority of consumers read only a handful of reviews before making a purchase, prior research has assumed that consumers read all previous reviews from the earliest ratings. In this research, we empirically model subsets of review ratings in two distinct dynamic processes: (1) as a function of the passage of time and (2) as a function of the sequence of reviews. We confirm that ratings increase with the length of time the first review has been posted. Counter to existing findings suggesting a sequentially decreasing pattern of ratings, we find that ratings increase sequentially once we control for the ratings of previous subsets. It appears that more information becomes an incremental source of better decisions for buyers. Based on motivation theory, we first demonstrate that ratings are indeed affected by a limited number of previous ratings before moving in the opposite direction in an attempt to have a higher impact. In other words, after reading a subset of the previous reviews, adding another 5-star rating to a product with an average of 4.8 is unlikely to have a perceived usefulness. Instead, adding a 1-star rating would have a larger impact and thus may be worth the "cost" of submitting it. Second, we argue that the positive impact of more information on decision quality (i.e., more accurate estimates of utility) dominates the negative impact (i.e., information overload) when reviewers are affected by a limited number of previous reviews. As more reviews become available, the subsequent reviews are likely to be longer in order to have an impact. This in turn allows consumers to have more accurate estimates of utility as more diagnostic opinions become available. Such individual behavioral forces can lead to a significant increase in the diagnosticity of public information, leading to higher ratings. Supporting this idea, we employ review length as a proxy for the amount of diagnostic opinions. We confirm that (1) review length increases sequentially and (2) higher ratings of the previous sequence of 6 reviews are associated with longer review length.

4 - Using Consumer Neuroscience to Investigate the Association between Word-of-Mouth and Interpersonal Closeness

Patrizia Cherubino, Sapienza University, Roma, Italy, Rumen Pozharliev, Matteo De Angelis, David Dubois, Andrea Bonezzi

Because of its central role in consumers' decision making and companies' performance, word-of-mouth (WOM) has been receiving a great deal of attention in marketing and consumer behavior literature for many decades. While WOM research has traditionally focused on explaining what factors drive the sharing of either positive WOM or negative WOM in isolation, more recent work has started investigating the issue of when consumers might be more likely to share positive versus negative WOM and vice versa. In this study, we build on previous research on WOM and interpersonal closeness and extend it in three ways. First, by testing whether the valence of information shared influences the neurophysiological mechanisms associated with reward. Second, by studying whether the type of audience one talks to influences the valence of information shared, and more specifically whether the interpersonal closeness between WOM sharer and recipient affects the system of neural and biological mechanisms that respond to the anticipation and/or receipt of reward. Third, by using a combination of neuro and biological indicators including eye-tracking, electroencephalography (EEG), Heart rate (HR), Galvanic Skin Response (GSR) that were previously associated with rewarding experience. This project's expected results would suggest marketers to encourage consumers to share positive WOM in weakly-tied networks and communities, such as LinkedIn, (rather than in strongly-tied communities, such as WhatsApp or Facebook), where people typically find sharing positive information about themselves particularly rewarding. Also, our expected results would urge marketers to adopt a novel approach to negative WOM.

5 - Luxury Versus Mass Market: Unsustainability, Guilt and Negative Word-of-Mouth

Matteo De Angelis, LUISS University, Rome, Italy, Cesare Amatulli, Giovanni Pino, Gianluigi Guido

Sustainability represents today one of the most relevant priorities for companies of any sector. The luxury industry, however, seems to have only recently started to embrace it. Indeed, global luxury companies have been increasingly undertaking initiatives aimed at improving their contribution to the environment and society, but they keep facing the issue of how to embrace sustainability without undermining the values that typically attract consumers to luxury. The present research tackles this issue by offering a novel perspective about the role of sustainability in luxury. While recent studies have focused on the sustainable actions that luxury brands can undertake to improve consumers' perceptions, we focus on the effects of luxury brands' unsustainable actions. Specifically, we investigate whether and why communication messages involving unsustainable luxury products may increase consumers' intention to engage in negative word-of-mouth (NWOM) about the manufacturing company. We propose that, when confronted with messages revealing that a purchased product has been produced in an environmentally or socially unsustainable manner, consumers experience a higher sense of guilt over luxury products than mass-market products. Guilt, in turn, drives consumers' intentions to generate NWOM about the producer. We also propose that the positive effect of guilt on NWOM intentions is moderated by consumers' individualistic orientation (i.e., the effect will be more pronounced among consumers with a higher versus lower individualistic orientation). Across three experiments, we find evidence for our predictions. Overall, this research contributes to advancing the extant literatures on sustainable luxury, emotions associated with luxury consumption, and word-of-mouth.

Author Index

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z