Thursday, 9:00am - 10:30am

**TA01**

*Ethics*

**Contributed Session**

Chair: Daniel Böger, Bielefeld University, Universitystraße 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 (CSR) 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 Sheh and Babyak (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 D6I, 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’ D6I 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 D6I 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 D6I 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 are often driven directly 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 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 #boycottbrand 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, issuing company, boycotting topic) regarding this impact, we derive strategic implications on how to deal with this increasing challenge for business and in particular marketing practice.

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**TA02**

**Aula 02**

**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 “exitting” 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 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 spillover patterns. Our results show that prohibiting tobacco sales in pharmacies has no cross-category spillover effects and may lead to distortions in competition between retail chains by changing the nature of store visit behavior by consumers.

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**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 was executed within each store and 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 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 category combinations.

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

Piyush Kumar, Associate Professor of Marketing, University of Athens, 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 boreasortments they compete against across the various points of sale. This 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.

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**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 supermarket 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) matter. Competition elasticities are also moderated by market-environment characteristics. Finally, the authors find that supermarket competitive reactions are generally justified from a sales maximization perspective, retaliations significantly mitigate the competitive impact. In summary, this research provides generalizable insights to guide managerial decision making in the competitive supermarket industry.
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 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 Koilsarici, 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 perfectionist (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 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, Duddham, 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 studies (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) 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 items 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-discriming) 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 Vogsera, 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 deducting 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 - Peer Effects in Adoption and Usage of Crowdfunding Platforms: 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 consequences and effects 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 customers' 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 top brands increase their valuation 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.

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's success/failure rates in previous solicitation attempts. Model solution allows 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).

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 consequences and effects 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 customers' 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.

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

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

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 respondent; “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, 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 m-lab (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.
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, Ayelot 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 consumer preferences. 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, (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-Berkley, 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, Dellla Bitta and McGinnis 1981, Bearden and Teel 1984, Urbanby and Weibanker 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 their 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 pay to the consumer, as has been posited in the literature. We explore the implications of ignoring this mechanism on search outcomes and market structure.
marketing software. In this project, the authors use a combination of field and lab advertisements may be displayed while retaining the underlying protection by ad advertising lets these users actively decide whether a limited number of targeting and can result in higher 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 commerce 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 marketplaces 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 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 unexpected consequences of busts and recommend that law enforcement agencies consider them in their enforcement strategies.

2 - Utilizing Geographical Location Data to Better Understand Online Customer Journeys
Rene Laub, Goethe University Frankfurt, Frankfurt am Main, Germany, Evett 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 offline 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 creative 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 local 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 to show 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
Maik Eisenbeiss, University of Bremen, Bremen, Germany, Nicoriegard
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 the 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 advertising 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 matches their specific needs 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.
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? Rulin 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 underevaluated. 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.

4 - Predicting Customer Behavior with LSTM Neural Networks Mainak Sarkar, PhD Student, ESSEC Business School, Cergy, France, Arnaud De Bruyne

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.


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 context-specific variables predict more accurately than domain-specific variables.
4 - Accommodating Non-Poison 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 Poison 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 reflects individual transaction patterns.

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

Banggang Wu, Wuhuan University, Wuhuan, 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 engagement-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 behavior can significantly increase customer purchase, while rewards for customers’ purchase failure 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 for businesses.

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**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

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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 when 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

Kyuwon 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

Yutke 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-shaped 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, Yilong 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.
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 explore how 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, tweets, 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. Countless 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 Vitorto, INSEAD, Fontainebleau, France, Frederico Belo, Vito Gali, 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%, quasi-fixed capital for 56.7%, form 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.

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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. FCCP draws from a “mythic community” whereas GCCP 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 various 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. Sritam, Werner J. Reinhartz
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 database with information regarding the ad design (e.g., creativity, information, narrative transformation that each affords). The analysis involves data from a particular company that has used both kinds of positioning appeals at various 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.

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, even though we have little to no evidence on 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 firms’ commitment to sustainability as a part of their market value proposal.
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 (Wells 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 than 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-additive function for millennials, but not as a signal of wealth and status, but as a signal of the values that Millennials share with their cohort. Four experiments (lab and Mturk) using different stimulus, predictors/services, and measures, suggest several key findings. We find that Millennial luxury consumers purchase luxury for social-additive 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 than 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 Rackwitz, University of Hamburg, Hamburg, Germany

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 examine 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 (e.g. 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.

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 Meyvis

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 cleaning 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

SadraCetnophat, PhD Business Administration, Justus Liebig Universitat 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

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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, Luis 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 underlining 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, reduces anxiety in stressful situations, and facilitates 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
SongJing 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](https://example.com/ta18.png)

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
Nursafiah 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 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 usual 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 organizations towards 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 effect of guilt, but concurrent positive and negative responses. Thus, we extend the existing work by documenting a qualitatively diverse 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 forecasting and include 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. Whether and co-evolve 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 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 = 0.082).

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 e-mailed 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 (β = 0.15, wald = p < 0.05). Analyzing data 60 days and 90 days after the end of the recruitment period showed similar results.

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 Xie

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 an 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 the product 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 wellness 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 wellness 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. Nair, Case Western Reserve University, Cleveland, OH

1 - Impact of GMO Information Disclosure on Consumers’ Choice
Younju 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 US. 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-equilizing 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, Nailing 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 in 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 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 a negative effect on long term brand growth. Finally, we find that the results are similar across national brands and private labels.
3 - The Role of Social Media in the Monetization of News Content
Michaela Dragan ska, 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 long term.

4 - Optimizing the Composition of Paid Content in a Freemium Model
Daniela Schmitt, University of Mannheim, 1.5, 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 offers a low-end version of the product for free and a high-end version for a fee. For instance, a newspaper 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.

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
Kinishk 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 spot market competition increases, 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.

3 - Market Competition and Quality Erosion
Jiwoong Shin, Yale School of Management, 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.
have demanded large field experiments designed specifically for this purpose and adoption. Many seeding strategies have been proposed, but empirical evaluations hope that seeding a behavior at more connected individuals leads to more individual is expected to have more friends than a random individual, with the uniformly at random is a basic but compelling strategy in that it distributes seeds 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 describes a step in 4A: Understanding the effect of bargaining procedures on the collaborative outcome, and shows how collaborators should (not) bargain.

### 4 - Evaluating Stochastic Seeding Strategies in Networks

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 describes a step in 4A: Understanding the effect of bargaining procedures on the collaborative outcome, and shows how collaborators should (not) bargain.

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

Nitesh D. Chawla, Northern Illinois University, DeKalb, IL, 60115, United States

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.

### 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 form 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.

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 engines. However, as number of social media and e-commerce sites increases, the sites intended for transactions or social interactions have 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-Stöltling

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).

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 “mee-mee”) refers to a piece of information that quickly spreads through the internet and brings a craze of sharing and imitating among a large scale of netizens. This 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 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 difusing and discussing internet memes with online consumers in various of social network platforms such as Sina Weibo, Twitter, and Facebook (businessforlight.com, 2016), and Gucci posted a series of pictures combining its new products with internet memes in its official Instagram account (Thompsonmara, 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.

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

Eunhoo 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 Caldiero, Associate Professor of Marketing, FGV - EABE, 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 differ in their 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.
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.

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 online. 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 urgent 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 and analyzing 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, (2) specifically, what kind of shared knowledge attracted more “likes” and comments, (3) how does the language style differ between most “liked” and least “liked” shared knowledge, and (4) how can the 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 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.

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, Minkyun 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 reviews. We develop a deep learning model to address this. 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 reviews (from the deep-learning model) and overall ratings. We evaluate the source of model’s superior performance, as well as the advantages of the proposed model over alternative approaches. We find that the proposed model (CNN-LSTM) outperforms the baselines on both “simple” and “hard” tasks (scattered sentiment) and the pure sequential, LSTM model does best. Second, in estimating the relationship between attribute sentiment scores 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 - STEM and Teens: An Algorithm Bias on a Social Media 

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 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 often 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.
 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 in-game 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. 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 customer-to-customer influences, supporting the implementation of differential firm strategies.

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 (e.g. Aaker, 1996; 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 modeling. 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.

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 will 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 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 pairwise 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.

Tsztwai Wey-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 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 stages (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 influence further influence emotions and behavioral responses to BE. The research sheds light on affecting consumers’ emotional responses to BE through managing cognitive responses to these 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 (NCSS, 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 (Shebu et al., 2016). Brand personality is an effective way to communicate an NPO’s identity (Hou et al., 2009) and positively influence pro-social behaviors and community involvement (Shebu et al., 2016). Research also shows brand personality influences charitable giving (Venable et al., 2005; Sargent et al., 2008), fundraising efforts (Hou et al., 2009; Sargent et al., 2008) and volunteer recruitment (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 communication tactics can influence both personality and development of 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 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.

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 in to 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 investigation tests 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 has not been accounted, when the duration of recency effects is discussed. Hence, we discuss 1) how long recency
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 systems 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 pageview numbers 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.

2 - How Streaming Changes the Competition Between Artists in the Music Business
Christian Hotz-Behofsits, Vienna University of Economics and Business, Vienna, Austria, Nils Wloevert, Eitan Muller

Music streaming services provide consumers with on-demand access to an 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 creates 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 upsurge (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 from 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
Sivaramakrishnan Siddarth, University of Southern California, Los Angeles, CA, United States, Dinakar Jayarajan, Jorge Mario Silva-Rioso

Most new car dealers also sell relatively high-quality used vehicles 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 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.

INFORMS MARKETING SCIENCE – 2019

4 - Shifting the Balance of Power: A Structural Empirical Analysis of how the Used Car Market Impacts Automobile Manufacturers and Dealers
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?
We-Shi Lim, National University of Singapore, Singapore, Singapore, Yini Sarah Gao, ZiQiu Ye

The expansion of the online marketplace (e.g. Taboo.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 counterfeiter seller and an online marketplace. Firstly, we find that the online marketplace never deters the counterfeiter seller. Secondly, we show that whether the luxury brand sells on the online platform depends critically on the characteristics of the counterfeiter sellers. In particular, we show that the impact of the quality of the counterfeiter on the entry of the luxury brand is non-monotonic. When the quality of the counterfeiter 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.

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5 - Channel Choice when Consumers Seek Exclusivity
Axel Stock, University of Central Florida, Orlando, FL, United States, Sonia Klucarova-Travani

In markets where consumers seek exclusivity, such as fashion and cars, brands have chosen a variety of channel strategies to deliver their products. This paper builds on 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 that 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 to the other firm. We then provide evidence that empirically supports our model with data from Chinese smartphone retailers. Our research offers managers in these markets insights on how to optimize retail strategies to maximize profit in this competitive environment.

2 - Holiday Effect on Smartphone Replacement in China
Motokatsu 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 Sheh (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 supporting the existence of theoretical frameworks for predicting reasons behind consumers’ resistance specific to e-waste recycling.

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 the decision to purchase 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 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 a 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 how people generate online WOM (Berger, 2014) and how WOM affects sales (Babi□Rosario et al., 2016). Less is known, however, about how WOM affects perception and behavior towards communicators. For example, communicators often generate positive content in order to attain status and followers (Angelis et al. 2012; Ratchas 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. We find that an ongoing sentiment 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 approached with positive action orientation. We show that holding credibility constant, thereby underestimating its importance, positivity enhances followership. These findings can help review platform managers enhance system credibility and 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 product category 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 interest, 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 appeared 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.
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

Causally 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 “easy causes” that are easy to advertise, the needness 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 (R2(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 (rRanges = .22 -.58, p < .01). Supporting predictive validity, a regression model with all Time 1 measures as predictors showed Intuitive anti-corporatism positively predicted anti-corporate donations (β = .33, p < .01) whereas Logical anti-corporatism negatively predicted them (β = .25, p < .01). No other measures were significant (p > .10). Our results support a segment 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, Houqi Rafieian, Anubhav Aggarwal, Scott Swain

Companies have traditionally abstained from publicly taking positions on political issues. However, over recent years some executives have chevroned 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 Atay, 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 23% 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.
of rural consumers. In the paper we propose a quantity-based measure of welfare effects. We show that deviating from uniform pricing can improve welfare induced competition in urban areas compared to rural areas, implying uneven market share, indicating competition thrives under the veil of non-price strategies?

3 - The Persuasive Power of Online Social Presence
Rahil Hoseini, 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 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 (Gelen et al., 2003; Lowenthal, 2010). However, despite the fact that today’s consumers have increased information 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 deosolate 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. This study 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.

4 - Prominence and Price Search under Limited Consideration
Ruiling 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 (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 to 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 allowing 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 in demand 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 consumers.
Thursday, 2:00pm - 3:30pm

TC01

Aula 01

International Marketing 1

Contributed Session

Chair: Sajeech Sajeech, 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 possesses 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 Elijdenberg, 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 activation is processed. 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 that 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-savyness 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

Sajeech Sajeech, 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.
1 - 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 faster access to 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 find 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 Golli

In this paper, we document persistent differences between a product’s search 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 prior 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. Additional 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 theBuy Box. However, it remains unclear how to best place an item through the Buy Box placement auction, what 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. LL 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.

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

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 Golli

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

4 - Statistical Inference for Average Treatment Effects Estimated by Synthetic Control Methods
Kathleen T. LL Assistant Professor of Marketing, University of Texas McCombs School of Business, Austin, TX, United States

TC03

Aula 03

ISMS Doctoral Prize Winners Special 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 multidimensional 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: 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 $779 billion in sales and accounted for one in eight jobs in the U.S. This industry is also particularly well-known for its high turnover 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 set of 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 tests 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 2x2 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 underlying 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 green 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 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 - 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 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

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 Koensigberg, 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 forgos 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 precariuos 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.
Optimization (SEO). For investors, these findings suggest that all else being equal, sharing reduces the housing price premium by about one-third. The effect is and a difference-in-differences approach, we find that there are unambiguously more advertisements and viewers on the platform with skipable ads. Under reasonable conditions, the skipable 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, Tansel 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 deception, 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.

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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 advertising 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 skipable ads. Under reasonable conditions, the skipable ad format is a strict Pareto improvement, which raises the surplus of advertisers and the profit of the platform.

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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.

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3 - Interactive Advertising: The Case of Skippable Ads
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 as yet 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 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 Sharing
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 CN¥ (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
Yuexin Gu, Assistant 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, the "individualized social signal bias," which consequently impacts 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" also affects product strategy. 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.

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Digital Marketing 3
Chair: Yiting Deng, University College London, London, E14 5AA, United Kingdom

1 - Media Response to Social Media Sentiment: The Case of the National Anthem Protests
Winche 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 media's 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 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.

Digital Marketing 15
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
Winche Wang, Assistant Professor, University of Michigan, Ann Arbor, MI, United States, Stacy-Lynn Sant
that in individuals with a strong moral compass are more likely to participate in online
the participation decision—in which campaign to participate. Four studies show
an individual’s moral compass, the drive to distinguish right from wrong, shapes
sharing shamming in form
and educating others) and negative (causing harm to the wrongdoer) sides of
the assumption that users acknowledge both positive (preventing similar cases
and dignity, through exposure of personal details. A preliminary study confirmed
bein
g 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 considered 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.
Deep Learning Model (DLM) becomes popular in marketing academia and practice. However, one criticism about DLM is the lack of the structure, that is, 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 the peripheral processing data and the other for the central processing data. 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 the two peripheral processing data and central processing data, and similarly applied the central processing DLM to 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 on the MSEs. We show the details in our presentation.

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 sequence processing approach 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.

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 behavior 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 operationalize. 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.
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) business model that allows users 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 modeling that may 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 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 interaction terms 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
Juruizhao, 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
Marisa Schaaritscheid, 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 expertise to flesh out idea contents. 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 on 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 M Turk 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 crowdfunding participants 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 merchanisms.

3 - The Moderating Role of Influencer Effect on Product Innovation Adoption
Beatrice Orlando, Sapienza University of Rome, via del Castro Laurennziano 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 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 lake 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, Ammarah 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 temporal 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 466 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 temporal distance for investors, hence providing actionable insights for entrepreneurs seeking funding for ventures on crowdfunding platforms.
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 and provide 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.

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 search for announcement articles 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 provinces have lower abnormal returns than those located in the western provinces. A number of 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. Our results are consistent with the opinions of 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 Juntunen

The decisions whether a multi-product firm markets its goods under a joint or 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 spillover.

2 - 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.

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 going 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 a field experiment 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, 2005) 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 the 1960s (Pefo, 1968), and has 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 vs. gay couple. Surprisingly, it was found that self-brand connection between 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 other factors. While, for the low image brand, the self-brand connection can be easily damaged by ad content.

5 - Is Online Shopping: Can Offline Stores Impact Online Product Returns?

Evidence from an Apparel Company

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

In this paper, we try to examine the impact of offline stores on online product return rates. For the latter, we distinguish between products of different price levels (higher-priced versus undiscounted, and unisize 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-priced products (i.e. higher-priced, multi-size or undiscounted) are decreased whereas returns of lower-priced products (i.e. lower priced, unisize or discounted) are not affected. To obtain additional evidence, we also analyze 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 product purchase and post-purchase behavior and take between-product variation into account.

Additional analysis shows that the main factor for channel differences relative to 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, and the influence of distance 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 (higher-priced versus undiscounted, and unisize 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-priced products (i.e. higher-priced, multi-size or undiscounted) are decreased whereas returns of lower-priced products (i.e. lower priced, unisize 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 product 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, Anibah Mukherjee, Ping Xiao, Noshir Contractor

What is the value of the online community (“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 crowdsources ideas from the crowd. To assess the commercial potential of crowdsourced ideas, the firm asks the crowd (who are also the 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 produced by iconic crowdsourcing portal, Threadless.com, between 2003 and 2010. In total, our data consists 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 evaluation 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 opening of offline stores solely based on offline sales and profits, we consider this decision as an exogenous shock to online product returns. To get the local 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 the corresponding local market. Finally, we discuss the implications of our findings for online and offline retailers.
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 develop and apply 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 uncanniness 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, Eliiran 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 startups. 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 in 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.

1 - The Shape of Water and Other Liquid Assets: The Influence of Ecologically-designed Packaging on Brand Valuations
Vera Heredia-Colaço, UCP - Católica Lisbon School of Business and Economics, Lisboa, 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 1960. 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, the authors examine the effects of ecologically-designed versus single-use plastic bottles 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, Winston-Salem, NC, United States, Weixin Liu, Yiyong 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 PM 2.5 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, price, promotion, and packaging, 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 do. 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, Heather T 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 Zhu, 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, market 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 conflicting 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 intervention 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 impact in supporting market practitioners in the design of effective interventions for promoting greener choices.

■ TC18

Aula 19

Self Control

Behavioral Track

Chair: Fabian Kraut, Muenster, Am Stadgraben, 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 Haubl

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. Consequently, highlighting 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 Mokammal Dorriz, Bocconi University, Milan, Italy, Siegfried Dewitte

Self-control choices involve a tradeoff between short-term and long-term consequences (Hoch and Loewenstein, 1999). While deciding which alternative is more attractive 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 mode (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 moderates the role of self-control in the food domain. In two studies (N=646), 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 Chiu

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
F kabian Kraut, Chair for Value-Based Marketing, University of Muenster, Muenster, Germany, Sonja Gentscher, 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 process 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.

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, Chakravartli Narasiman

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 firm’s 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, Dinaia 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 customers’ 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 customize.

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 Android 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 Millennium Copyright Act while it is legal to jailbreak iPad.

4 - Dynamic Pricing and Consumer Advertising in Prescription Drug Markets
Ablik 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' dissonant 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.
Emergence of social media platforms has stimulated scholars’ interest in investigating the effect of online advertisements on brand attitudes and purchase behavior (e.g., 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 (Fhus 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 expenditure 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 less 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 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-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.
3 - Evaluating and Improving the In-game Anti-addiction System: Implications for Consumer Usage and Welfare
Xi Chen, Erasmus University, Burgemeester van Hall 50, Rotterdam, 3062PA, Netherlands, Xiuming 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, governmental and retail 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.

4 - Remote Coaching of Small-Business Entrepreneurs in Uganda: Insourcing, Outsourcing or Consulting
Stephen J. Anderson, Stanford University, Stanford, CA, 94305, United States
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 936 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.

3 - Remote Coaching of Small-Business Entrepreneurs in Uganda: Insourcing, Outsourcing or Consulting - Insourcing, Outsourcing or Consulting
Stephen J. Anderson, Stanford University, Stanford, CA, 94305, United States, David McKenzie
Many small firms lack the marketing and finance expertise needed for firm growth. The standard approach is for firms to train their entrepreneurs personally to 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 and implement skills in 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 expertise in the market via insourcing or outsourcing. We conduct a randomized controlled trial 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.

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1 - Assessing Ad Block Effects in Mobile Display Advertising
Xiliang Lin, JD., Mountain View, CA, 60615, United States, Tho Le, Harikish 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 pure competition - 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 ask 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 estimation that captures the incentives to an advertiser from such ad-blockers, and present estimates of this effect from 30+ randomized controlled trials implemented on the home page of JD APP. We find ad-blocking effects vary, and may be small.

2 - Trade-offs in Online Advertising: Modeling and Measuring Advertising Effectiveness and Annoyance Dynamics
Vilma Todri, Emory University, Atlanta, 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 test 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, 14833, 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 views 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 8.8% 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, Shrishil Biswas, Jean-Pierre Dubé

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.

Insights into the Consumer-generated Content Process
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 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 live-point to a two-point distribution), combining ratings taken from different rating formats and the design of “optimal” ratings systems.

Extremity Bias in Online Reviews: A Field Experiment
Dina Mayzlin, University of Southern California, Marshall School of Business, Los Angeles, CA, 90089-1424, 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.

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.
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 matching it to a lower dimensional vector space amenable to standard analytical techniques. United, 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’ annotation 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 occurrence of online reviews, and that reviewers complaining low 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
Xueqing Liao, 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 food sharing platform in China, 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 Ching, 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 have 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 hand, 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 favor of their.

3 - Knocking on the Inside of Beauty Influencers
Serind 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 beauty 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, our findings 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, Abhishhek 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-Universität 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. Mohon 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 SCANPRO 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.
The emergence of second screen phenomenon is one of the most fundamental changes in TV viewing behavior with 84% of U.S. consumers using a second screen while watching TV (Nielson, 2014). One of the main second screen activities consumers engage in while watching 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 screen viewing. 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 for channels. These findings show the most between the times an ad is aired. 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 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-variables using a Hierarchical Linear Model. Second, we study whether television advertising shifts the composition in the terms of conversations. We develop a LSTM Recurrent Neural Networks 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 structure. 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 relationship 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

Well Hermann Weiger, Assistant Professor, University of Goettingen, Germany, Osama Elshewy, 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.

Firms are increasingly relying on social media as a channel for marketing communication. Previous research shows that posting on social media enables companies to group 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 lead 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.

Machine Learning 4

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 represents 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, our findings enhance 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 applications 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 University of China, Beijing, China, Jianbo Cheng, Zelin Zhang, Peter T. Popkowski Leszczyc, Evelyn E. Hartvy, 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 card 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 a 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.

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 Valentin-Chi, Massimiliano Montaguti
Over the years, people have increasingly shared their personal information with companies in exchange for their services. Similarly, 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
JieWen (Brian) Wang, 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 Wiertinga
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 unfamiliarity 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 return probability.

INFORMS MARKETING SCIENCE – 2019
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 Tamaa, 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 large numbers 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 difficulty 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 shortcomings 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.
that show distinct patterns in how marketing competences are developed over the use sequential analysis to identify systematic patterns of firm growth trajectories. Based on a unique startup’s likelihood of survival and performance, we proxy organizational strengthening the positive effect of country-level product recalls. The findings, which show novel light on the positive spillover effects from product recalls, generate actionable guidelines for business practice.

3 - Marketing Competence and Startup Performance
Zhishuo 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 competencies, 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 Marketing Orientation on Customer Acquisition
Srinath Gopalakrishna, Professor of Marketing, University of Missouri, Columbia, MO, United States, Andrew Crecellius, 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, Ankti 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 (Strvastava 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.
2 - Initial Coin Offerings (ICO) - The Role of Naïve Consumers in P2P Fund Raising
Nitin Mehta, Professor, University of Toronto, Toronto, ON, Canada; Nikhil Mallik, 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 naive 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, naive investors and sophisticated investors can all be better off than traditional VC fund raising. We also show empirical evidence where eventually successful ICO's perform a pre crow sale of digital coins to VC's before going to the naive crowd. In practice, this information asymmetry results in a flood of low quality ICO's in 2017 raising billions of dollars from naive 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 naive 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 naive 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 successful (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 their staffs have a variety of responsibilities which are not met because of inadequate funds. Aside from requesting the local community for financial support, many teachers in these school 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.
That unobservable heterogeneity is unlikely to reverse the sign of the relationship between 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.

In this research, we shift the unit of analysis from the common one - a single commercial airings - 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, at ten percent random sample of Twitter chatters, 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.

Bilateral negotiations (typically conducted annually) between a given supplier and its decision-maker's resource 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.

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

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 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 skus 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.

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.

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 operators' 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.

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 direct mailing's ability to target customers based on their demographics, psychographics, and behavioral characteristics. In this paper, we aim to study the cross-channel effects of direct mailings and display advertising on earlier and later stages of the purchase funnel. For this purpose, we conducted a real-world experiment together with a large insurance firm and Google. In this study, we find that the insurance firm send out direct mailings and/or display advertising to users visiting the firm's website in a specific time frame. We analyze the impact of these advertisements on the users' behavior and find that the cross-channel effects are significant. Furthermore, we find that the effect of direct mailings is stronger when the display advertisement is shown on the same day as the mailing. Finally, we find that the effect of display advertising is stronger when the direct mailing is shown on the same day as the mailing. These results are in line with previous research and suggest that direct mailings and display advertising are complementary rather than substitutive.
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 personalized laundry detergent bottle), but sometimes the potential effect (e.g., a clean cloth which like a person gets rid of stains in the OLA Oxpoder 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. 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

**Health and Food**

**Behavioral Track**

Chair: Daniel Guthl, 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.
Understanding consumers’ utilization of nutrition information is of utmost scholarly and policy relevance. Recent research suggests that simple, evocative 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 chocolate) 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 consumer 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.

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**TD18**

**Aula 19**

**Social Influence Behavioral Track**

Chair: Hyeunjung Crystal Lee, Universidad Carlos III de Madrid, Calle Madrid, GETAFE, 28903, Spain

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**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 interdependent and independent 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-construct 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-construct 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 into the experiences of the context of Bollywood (the Hindi language industry in India). This industry, operating outside 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 motivation of consumer consumption, 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 met in 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.

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**TD19**

**Aula 20**

**Pricing 4**

**Contributed Session**

Chair: Arnd Vomberg, University of Mannheim, L 5 1 (Castle), Mannheim, 68131, Germany

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**1 - Brand Loyalty as a Cause for Competitive Price Promotions: An Empirical Investigation**

Dan Horsky, Professor Simon 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 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 have the option of combining a consumer’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 the 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 is uncovered by 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 Resellers
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 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, wedding gowns, 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 history 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 decreases 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 market.

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 information 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 consumer 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 Chinchanchokchai, 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.
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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 can determine the financial and accounting identity 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, 1998). 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 (EB/EX), firm performance by OBIDP 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.

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 flexibility and improving the security 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 cost reductions 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.

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 basket and brand loyalty. This is a large undertaking, made feasible only by recent innovations in data availability and statistical methodology. In particular, we exploit machine learning and data fusion techniques to combine a rich collection of data on consumer choice and store entry decisions into a unified longitudinal panel and employ and extend frontier synthetic control methods to address issues of selection and heterogeneous response inherent to this context.

This study examines pairs of subsequent choices (e.g., purchase couples) to examine the determinants of consumers’ brand sticking versus brand switching behavior in FMCG markets. While prior studies modelled behavioural 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 Leva, Postdoctoral Research Fellow, University of Parma, Parma, Italy, Michael 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.

2 - FOMO: How the Fear of Missing Out Leads to Missing Out 
Cindy Chan, University of Toronto, Jacquelin Rilkin, 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 to manage 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 successes. 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 reliable. 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.
targeting mechanisms in a randomized field experiment. We find that out-of-store pull targeting is more effective than push 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 Peperkorn, 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.
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 structural economic models to 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: Pınar Yıldırım, 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 shifts of airtime. Political advertising in the US has been proposed as a plausible candidate (Smidts, & Staar, 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 followship of political accounts and brand followship 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

Pınar Yıldırım, 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 Angeles, 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 Pervical 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 pursue 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 (study 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., 4E 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 1-9; 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 perceive incentives as inadequate 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.

2 - How the Number and Composition of Objects in User-generated Product Photos Affect Consumer Response
Purushottam Papalia, 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 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 IAS 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 effect 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
Alexan der 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.
with online and offline touchpoints? To answer these questions, we use
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 in consumers may perceive re-targeting as intrusive (Tucker, 2012; van Doorn &
Hlokstra, 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.

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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, Chong Chen, Cheng Liang, Peter T. Popkowski Leszczyc, Feiqiong Wei, Nanbo Peng

Currently, leading retailers such as 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-IDD analyses to uncover 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, the increase in purchase patterns 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, Ivy Business School, Western University, London, ON, Canada, Jiaxiu He, Rajdeep Grewal

“Image today is a power for its own sake” (McLuhan 1964). The rise of sharing economy platforms has reshaped the ways in which services are ordered and consumed, and has transformed the nature of how people interact with each other. The non-standardized nature of Airbnb properties, compared to traditional chain hotels, can result in superior value for customers, but also introduces more uncertainty. In order to distinguish the potential and perceived value of a space, it is necessary to understand the what customers see when they visit the properties. 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 aesthetic quality of the space, visual content specific to the space, and from images and information from other users. From a substantive perspective, the authors contribute to emerging literature on the sharing economy that focuses on the user reviews, aesthetic characteristics of the space, 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 pairs 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 data from a major telecom company that records the offline geographical trajectory and online browsing history of 1,269 million 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-shaped 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. Interestingly, from the above results, specifically, we can see that men and younger people browse broader and more cosmopolitan things, compared to women and older people. Interestingly, passing by a shopping zone significantly weakens the negative linear relationship, and gives rise to additional 5.82 minutes and 2.16 minutes spent on shopping and payment websites.
3 - Increasing Donor Retention with Feedback on Donation Use
Besarta Veseli, University of Hamburg, Hamburg, Germany, Edlira Shehu, Michel Clement, Karen Page Winterich Inevolving, interconnected product-service ecosystems. Our analysis also indicates that even a modest process of deservitization. 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.

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 and 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 different 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. Using a Hidden Markov Model (HMM), we empirically investigate these consumer trust dynamics, and uncover the most effective 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 patronage and positive WOM, as well as how to influence consumers’ trust states over time.

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 servitization efforts of one product firm can create 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 can drive a successful servitization move, leading to an unfavorable service paradox, or hastening the process of servitization. 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 Popovac, University of Technology-Sydney, Ultimo, Australia, François Carrilat, David Michaylik, 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 breadth 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 as 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 Villarreal Ordonez, Assistant Professor of Marketing, University of Massachusetts Amherst, Amherst, MA, United States, Detelina Martinova

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; Raia 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.

3 - Errors in Measuring Minor Attributes Using Choice Modeling

Sun Eal 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 particularly pronounced for minor attributes. We use three CBC simulations to show the conditions under which omitting minor 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 automobiles 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 preordained 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 Elshiey, 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.
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  
Aritapa Pandey, Indian Institute of Management Ahmedabad, Ahmedabad, India, Rajeev Batra, Abhishek Abhishek, Arna 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 different 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 (Rotshchild 1999, Binney et al 2003) and Attribution theory framework (Weiner 1972) we suggest that cause acts as an external 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 e-commerce 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.

FA14

Aula 15

Advertising 4

Contributed Session

Chair: Ming Cheng, Suffolk University, Boston, MA, 02108, 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 plans on customers’ purchase behaviors under a grocery retailing 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 omnichannel retailing environment. They find that after subscribing to a product, customers purchase more products and spend more with that 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 products’ consumption by reminding the customers of the brand.

FA15

Aula 16

Channels 5

Contributed Session

Chair: Cheng He, Georgia Institute of Technology, 800 W Peachtree Street, Atlanta, GA, 30308, 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 plans on customers’ purchase behaviors under a grocery retailing 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 omnichannel retailing environment. They find that after subscribing to a product, customers purchase more products and spend more with that 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 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 only does not suffice to offset the bottom-line net savings, 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? A Study of Chrysler in the U.S. Auto Industry

Cheng He, Georgia Tech, Atlanta, GA, United States, O. Cem Ozurtuk, Pradeep Chintagunta, Sritram 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.

2 - Observing Similar vs. Dissimilar Others Receive Preferential Treatment

Wooung 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 lowered preference 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 receives preferential treatment leads to different 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 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 towards 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, Fontainebleau, France, David A. Soberman

Overconfidence is the mother of all biases (Razember & 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. Overconfidence influences and overestimates 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 MarketStar, 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 activity, 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, Aristidis 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 more or less on merely 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 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, Tríza Mudíta

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 - 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 luxury 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 a 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 luxury. 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

Igliazio 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 perceive slower respondents as being more distinctive, given other product 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 are handled 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 consumerware, 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 Stöckl, Dr. (Postdoc), University of Bern, Bern, Switzerland, Bettina Höchl, 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 target users who “like” Facebook Likes. If, for example, extraverted users should be addressed, marketers show their ad to users who 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 study contributes to the literature by investigating how individual personality traits, such as susceptibility to social influence, affect consumerware.
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 (Burt 1992). At the heart 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 cost of signaling about a tie is more relevant than signaling about the individual's 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
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 reviewers 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 reviewer showed greater overlap on ratings of other products in the category, although they inflate how different their preferences are from highly similar reviewers, 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 reviewers with more similar preferences but should take even more advise, 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 hinders 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 ones they feel close to and share WOM intuitively to 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 tools 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 surveys such as focus group interview and depth interview. Because MROCs has different characteristics from other surveys that generate longer 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 languages 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.

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

Multi-category 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. 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 LASO 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 disappears or turns (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 “rationale indirection” 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.
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 (1) reveal differences across salespeople in their pricing behavior and (2) 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 than 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 equilibrium-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 and a form of credit is unique since pricing is often dispersed, 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 priced differently (Maggi 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 (1) the 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 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 at 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 condition, consumers adopt 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 simultaneously simulate their consumption of 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 partly 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. The review 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 an 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 comparing across cultures. It also provides some important implications for marketers such as understanding the adoption behavior for smart devices under varying cultural settings.
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 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 customers. In the same way, music listening through earphones while shopping will suppress unplanned purchases and reduce the purchase quantities. Relatively, we validated that listening to music on earphones will lead to inattentional blindness. Customers who are listening to music through their earphones are less likely to notice unexpected 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 IoW 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 quantification of the extent to which anthropomorphic attributions underlie these effects.

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4 - Negative Impact of Music Listening Through Earphones While Shopping on Purchase Outcomes
Takeshi Moriguchi, Professor, Waseda University, Tokyo, Japan, Mayuko Nichii, Tatsuki Inoue, Shohel Iwaskai, Shu Masamori, Aoi Yoshida

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 not causal 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 freelance 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 logistic regression 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 extent each of the two sources of information influence employers’ hiring decisions. We investigate how the model’s 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.

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 store. However, 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 may not be advantageous. Instead, for many complex systems — like infrastructure, energy, water, or health care — interventions must be targeted. This research addresses such situations by further explore potential mechanisms that are consistent with the data pattern.

Aula 03 Special Session

Machine Learning and Causal Inference
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. Srinivas, Puneet Manchanda

U.S. pharmaceutical companies paid $2.6 billion to physicians in the form of gifts to promote their medicines in 2015. The practice of offering financial incentives has raised concerns about potential conflict of interest. To curb such 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-diabetes 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
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 impacts 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 (Al) 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 2p 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 the 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 natural variation due to policy changes, we evaluate 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 normally 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 retweets and comments while there is a non-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 the evidence that 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 strategies, but because 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, Zhenliang 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-flier 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-flier status incentives.
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 Inter-Continental Hotels Group (IHG), comprise transactional 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.

Aula 06

**Special Session**

**Digitization 5: Machine Learning**

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

Shawandra 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 as an incentive for companies 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 social 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, Kirkhyl 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 remains 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 personalized ads to the consumer based on a targeting rule that depends on whether an ML score crosses a threshold. In the experiment, the personalized 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.

**FB06**

**INFORMS MARKETING SCIENCE – 2019**

**FB07**

**Special Session**

**FB07**

**Marketing Insights through Machine Learning: Text, Image, and Multimodal**

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 - 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, Zhaoci 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 complement 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, Anindyia 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 modeling 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.

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 Miziuk

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. 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.

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 non-trivial 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.
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 to 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 individual heterogeneity, individual heterogeneity, and content heterogeneity. Furthermore, utilizing peer 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 betterment of 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 seekor) 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’ efforts 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) using a dynamic panel 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 Illinois 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 co-evolve through interaction between individuals and organizations. This focus group requires 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 method 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 consumption perceptions across a broad ecosystem of 933 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 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, Jингan District, Shan, Shanghai, 200070, China

Purpose - This study is aimed to help companies conduct 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, car-sharing services providers also encounter big challenges. Consumers have gradually complained about the 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 car-sharing 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 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 exit barriers and convenience exit barriers. And negative online word-of-mouth has a negative impact on monetary exit barriers and convenience exit barriers.

3 - 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 shoppers 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. Kehoe and Schmidt, 2017, and shopper purchasing), there is little 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 day 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 acquire new tenants, as their success is directly linked to the revenue of tenants in the mall.

2 - Synergy or Dysgery: Discovering Effect Modification from Customer Reviews
Kejia Yang, Herholmagc 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 dysgery 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. Success in product aesthetics either are often 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
Silang 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. The interventions 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 item 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
Ruiter 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 to structural parameters: customers’ average purchase and drop-out probabilities, and associated heterogeneity (i.e., uncertainty). In so doing, we show an interesting 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 Seifi, 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 patterns 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 the value 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 benefit 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 campaign 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, Sooonchunhyang 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 practitioners and organizers with a better understanding of the moderating effect of exhibition atmospherics.

FB12

Aula 12
Marketing Strategy 3
Contributed Session
Chair: Hossein Eslam, Lebanese American University, Lebanese American University, 13-5053 Chouran, Beirut, 1122808, Lebanon

1 - The Impact of Movie Titles on Box Office Success

Giyoung Rhee, GIST, 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 movies 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, guidance 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 regulators 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 recommend recalls if automakers do not act after analyzing consumers’ complaints. NHTSA, however, functions in a political context as Congress oversight committees reviewing 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 an effect recall process to gain undeserved 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 via 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-economic 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 heteroscedastic form in actualizing any PL. We do not assume that the PLs are financially segmented and tradable in any exchange. Our assumptions are thus very different from those of the other CAPMs, and our conclusions support the Legg rule: Optimal choice of the PLs is not only to reveal preference for limited product diversity. Showing that the Sharpe-Lintner criterion holds, we present general operational solutions based on 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.i.d. and correlated. A variety of insights follow.

5 - Investing in Corporate Social Responsibility: How Much and Where: An Empirical Study

Hossein Eslam, 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 from 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.
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 when 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 of 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 demand is always present. Implications for maximizing service profitability are explored.

3 - Bias and Selection Effects in Retail and Services Platforms Experimentation
Alinata 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 setup, 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-Hsun Chiu, University of Wisconsin-Milwaukee, Milwaukee, WI, 53202, United States

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 exhibits atypical patterns 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 effects: consumers in a promotion-oriented mindset show a weak response to loss aversion, while consumers in an prevention-oriented mindset show a strong response to loss aversion. 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.
The purpose of this study is to identify how persuasive messages on different advertising media affect the attitude changes of consumers. We assume that the depth of processing, the extent to which a person carefully thinks about an argument, is determined by how much elaboration likelihood theory have, as ELM (Elaboration Likelihood Model). In addition, according to CSCIConsumer Search Theory, we also postulated that breadth of sampling, the number of arguments that a person inspects in the completion of a search task, depends on consumer heterogeneity. Then, we applied the combined model which is proposed by Ho and Rodolf(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.

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.

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 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 insights 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 empirically test the proposed framework. The results demonstrate that the relationships between customer experience and customer churn are not static but vary over time. Most importantly, it highlights 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.

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, it is often the case that 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 different customer segments (differentiation by standard vs. non-standard modes) to maximize the customer engagement level. Therefore, in this study, we propose to answer the following three research questions (1) What would be the optimal balance between the different modes of communication (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.
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
Reectka Gupta, Associate Professor, ESSEC Business School, Singapore, Singapore, Yenc 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; Rucher 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 campaigns (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 health 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 result 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 multi-level 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 brands, and consequently has good performance of predicting consumers’ responses. We discuss the potential value of this new approach for marketing research.

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. 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
Oldunmi Omobere-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 insensitive 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 
fluence of mode of payment on consumer behavior is more pervasive 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 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 
resisting the price and subsequent negative financial consequences. Clarifying 
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 
attaining customer’s purchase behavior. When using participative pricing, 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 refrain 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 (GBWW) combines exactly those two beneficial properties, i.e., 
full pricing power used together with a default price and asking for money back. 

GBWW 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, GBWW 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 Mainman, 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 Panama (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 temporarily 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 theory in health promotion, health education, 
and children developmental theory, by documenting how price promotions 
influence children’s purchase of healthy food in the noisy real world.

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 (Lumard et al. 2016). These feelings 
lead to increased perceived social support, trust, and patronage intention for the 
online store (Chattaratan, Kwon and Gilbert 2012); and they also enhance 
perceptions of agent expertise, information credibility, website trust, and patronage 
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 (Ranus and Foss 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 
algorithm’s affect these judgments. For example, does it matter what data the 
algorithm uses, how it computes that data, or what type of prediction 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 
cheaper as well as more likely to occur (Studies 1, 2, and 3), but felt closer to 
human recommendations (Study 4). We also find that these differences are 
affected 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
Chenneng 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 
each 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 their level of skill at using 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 - Customer Receptivity to Medical AI

Andrea Bonazzi, 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 2018), 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; Leacham 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 in 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, our 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 sample of 2,478 responses, the results of our regression analyses confirm the hypothesis 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 level of features following enacted attention to IRP would maximize WTP. Our quantitative model shows that significant effect exists 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 significant 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

Doreen Pick, Professor, University of Applied Sciences Merseburg, Merseburg, Germany, Stephan Zielecki

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 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 WTP 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 strategy and customer relationship marketing.

3 - Reference Price Effects in Vacation Rental Markets

Shrabaste 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

Digitization 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 customers. We provide implications for companies, 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 usage by approximately 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.

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 Quuppa is more accuracy. In this research, I applied this system for the in-store shopping behavior at the grocery store, and gather 231,566 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 consumer subgroups, including those with 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 effects of the HSR labelling initiative are equitably realized across consumers of different economic and socio-economic background. To address non-financial consumer benefi ts of opaque offers and challenge the current assumption that opaque goods need to imply a price advantage to attract consumers.

3 - Minimum Wage and Consumer Nutrition
Mike Palazzolo, University of California-Davis, Davis, CA, United States, Aditya 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 - (Sur)prise 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 undisclosed opaque goods remaining unexplored. Therefore, we aim to investigate the effects of undisclosed opaque goods on sales, customer satisfaction, and product evaluation. Data from our field experiment show that offering part of a product assortment opaque 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 opaque 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 benefi ts 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 its 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 his investment levels during an 18-month period, we find that customers in the treatment conditions on average earned 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 characteristic through which the performance-based referral reward operates and its implications for managers.
Inform Marketing Science – 2019 FC01

Friday, 2:00PM - 3:30PM

FC01 Aula 01
Modeling CB 2
Contributed Session
Chair: Haoyu Liu, HKUST, Clear Water Bay, Kowloon, 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 Balagué

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, and 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 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 Hui, 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 nutritional 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 (remind of cumulative prior calorie intake at the end of the 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 Interebran-Endocrine Synchronicity
Willem Verbeke, Erasmus University, Rotterdam, Netherlands, Haoyu 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 function. Firstly, 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 a 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, 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” (Fertonbaugh 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 elderly 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 customers 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 AÇIKGOZ, Istanbul Technical University, Istanbul, Turkey, Esra Arıkan

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.
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 labeling 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 labeling.

**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; unhealthy 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 on-shelf 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, overall, 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, Uit Die La Libera, Amsterdam, 7835O, Netherlands, Billiken, Aylin Aydilini, Peerter Verleg

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 Informatve 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 Liebam, Jocelyn Sacco

Front-of-package and on-shelf nutrition labeling 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

**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 Karthikeyan

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 chums 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.
Content providers commonly deliver their content together with a preview, which allows consumers to simulate their consumption experience and lure 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 images, 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, Modin, 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 elect the associations they describe. We demonstrate the platform’s operation by collecting large, unpaid, 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 crowdfunding website, we decompose 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 crowdfunding 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 lift 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 7 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.

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 Gong, 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 platform. 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 fed content from the topics that the user has subscribed to, a social network-based algorithm, in which the feeds are determined by the subscriber’s interests and the interactions on various topics. 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 more followers) 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.
Models of costly sequential search generally describe consumers as inspecting products consecutively; however, they decide to stop searching, or switch, 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 to 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.

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 to this point of which, consumers 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 user 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 data. 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.

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 customers’ 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 and estimate the conditional average treatment effect (CATE).
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 (“I am mine if I have it, if it is mine and if I have the right to control it”). This view of ownership from a “use” perspective (“I am 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 from three 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 intangible goods 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 practitioners 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 (Haibl & 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 was 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 (Pronli & 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 and 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 approach of using past behaviour 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.

### FC09

**Aula 09**

**Networks 1**

**Contributed Session**

**Chair:** Xiang Yu, Hitotsubashi University, 1850035, Tokyo, Japan

**1 - Online Communities and Social Network Structure**

Wensi Zhang, University of Southern California, Los Angeles, CA, United States, Yang Shao, PLA University of Science and Technology, PLA, 1850035, China

This paper aims to understand the co-evolution of online communities and social network. In particular, 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**

Xilliang 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.

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**INFORMS MARKETING SCIENCE – 2019**

**FC09**

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**FC08**

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**FC09**
3 - How Complementarity affects Volatility in a Retail Product Network
Jack Cadeaux, University 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 23 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
Iris Chiu, Hitotsubashi University, Tokyo, Japan, Waoita 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 earns 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 information 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 combination of capacity, this study investigates 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.

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 53% 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 extent 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 shopping 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 final model 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. Then we 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.

Aula 11

Decision Making 1

Contributed Session

Chair: Lal Guler, The University of Texas at Austin

1 - Risk Averse in Prospect, Risk Seeking in Process

Laxi 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

Majiu 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 the consumer’s mind 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 is not true for 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 minute more 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 and 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, little is known about how 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. tradeshows, 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 depending on 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 probability 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 and 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, 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 those 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

Pan 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 clumsiness 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, Liqun 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 settings. 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 Conjunct 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 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 chicken bar market, 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 they provide, 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 corrects 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’s differential willingness to respond. This way, we also offer a framework to study what generally contributes to willingness to respond.

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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 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 tackle the sampling challenge due to choice-based samples in panel data setting. Specifically, we consider two different types of panel structures (static 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
Sunjee 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 well as 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 underestimated 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 the 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.
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 “Sam” Min, California State University-Long Beach, 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.

■ FC16
Aula 17

Language 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 deceptive 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 Nugoti, 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 consumers, 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 Frize, Franziska Volckner

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 Social 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
August 18

Consumer Judgment and Decision Making

Behavioral Track

Chair: Xin Deng, Shanghai Jiao Tong University

1 - Overestimating the Valuations of Others: People Perceive Others as Experiencing Everything More Intensely

Minha 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, we find consistently 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 environmental 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, Ohjinn 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

Xin Deng, Shanghai Jiao Tong University, Shanghai, China, Liangyuan 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 are more likely to exhibit 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). 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.
capabilities designed into smart agents may influence 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 important 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 (t(169)=6.91, 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 one’s phone to grey scale for only a few minutes a day led to a significant decrease in the actual usage of the phone. These findings are important as the phone is a highly effective tool to deliver a wide range of applications to consumers. However, whether turning the phone to grayscale is a more effective method than usage tracking remains an open question.

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) (Alcott and Gentzkow 2017), and firm performance (Carvalho, Klage, and Moenich 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 increasingly popular and accessible 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 how misinformation (Lazer et al. 2018; Pennycook and Rand 2018) and VR (Ballensk and Lauff 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 increases the perceived veracity of statements, but not when the VR environment creates a false sense of reality in a virtual world. Their perception thus should not 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. 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 processes (e.g., trust, liking, etc.) over the interaction. In study 2, we create two analogous videos of smart-agent physician - human patient interaction using software-generated avatars of the human physician (actor) matching facial expression (empathetic/impressive). We examine how the (smart agent) oncologist’s facial expression influences patient persuasion and the mediating process (e.g., anthropomorphizing 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 important understanding of how facial expression capabilities designed into smart agents may influence patient persuasion and the mediating process (e.g., anthropomorphizing attributions driving trust and liking).

Chair: Yiyin Gao, Chinese University of Hong Kong, 12 Chak Cheung Street, Shatin, NT, Hong Kong, 999077, Hong Kong

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 usually differs from the theoretically optimal plan 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

Chair: 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 usually differs from the theoretically optimal plan 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, Lecc, Italy, Luigi Piiper, Luca Petruzzeili, Donato Scozzoli, 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 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 Dehmati, Philip Sterin

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

Yiyin Zhang, Chinese University of Hong Kong, Hong Kong, Youngnak 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 larger 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, Beaucelle 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 Bezwada, 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 when 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, Università 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, Andrés 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, LUSS 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 these 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-Eng Park
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, LUSS 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’ affective, behavioral, and emotional responses toward intelligent technology. In addition, we study the effects of this association on consumers’ experiences 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 have led to the appearance of streaming television, which is the digital distribution of television content as streaming video delivered over the Internet. 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 Arifoğlu

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 the MVP the entrepreneur should develop and when (i.e., at what development level) to launch it, and 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 incentivize 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 previous offerings for segments of potential customers.

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, ParamVir 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 across 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? (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 engaging 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 alleviated by human perception-based bias against machines, despite the objective competence of disclosed chatbots. Fortunately, such negative impact can be alleviated by

FD05

Aula 06
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, Jinhong 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 warning of an overdraft and unpaid item 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 data 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.

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 functionalities of AI-powered products may influence consumers’ adoption of them, but the impact of the physical appearance of these products has largely been unexplored. This paper 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 increase consumers’ likelihood of adopting AI. 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 evaluating brand offers 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?
Soo Young Kim, Columbia University, New York, NY, United States, Bernd H. Schmitt

Engineers are increasingly using human-like features to design the 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 more positive responses (e.g., affective, cognitive, and social). 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, η² = .22 vs. .43). They also felt more positively toward themselves in “self” perception (p < .05, Mself = 4.19 vs. Mself = 4.99), as well as “other” perception (p < .05, Mother = 4.03 vs. Mmother = 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 uniqueness (95% CI: -.61, -.14). The results add to the growing literature on consumer perceptions of robots, contributing a personal-identity-perception 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, Fangyuchen

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 2018). 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 cases (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 (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 prosocial behaviors to prosocial organizations. (Keywrods: Robot, Artificial Intelligence, Inspiration, Prosocial Behavior)

4 - Ghost in the Marketing Machine: Consumer Susceptibility to Exploitative Offers from Humanlike versus Machine-like Artificial Agents
Aaron Garvey, Tae Woo 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 humanlike agents of an AI agent increases trust (Watz, 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 machine-like (vs. human-like) 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 offers 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 humanlike 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)

3 - Capturing Information to Fuel Growth
Rex Yuxing Du, University of Houston, Houston, TX, 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 trends and opportunities into growth opportunities. For each topic, we try to offer sufficient detail to drive the field of marketing science forward.

FD07
INFORMS MARKETING SCIENCE – 2019
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, Jianwoong Shin, Ken Willbur

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 in the second half of the past century, but digitization has opened some of those traditional relationships. Major changes include how marketers conduct and evaluate campaigns, how advertising markets and channels are organized, how customers respond to advertising, 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. Sriniv, University of Michigan, Tony Cui, Anindita Ghose, Raghu Ram Iyer, Catherine Tucker, Sriman 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 bona fide or not. We review extant and ongoing research in omni-channel 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, 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 trends and 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 Kalaignan, 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, 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 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 endogenously 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 Hadiji, 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 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.

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, learning 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 (as the RFM models), LSTM-based artificial neural networks are trained to build rich internal representations of each customer 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, CIV, probability models, forecasting.

2 - How to Capture Model (Mis-)specification in Structural Equation Modeling
Andreas Falke, Universität 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.
4 - Understanding Network Positions through Modeling Community Structure

Araş Yazdıla, 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 the spread of a social 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 connections, or communities, 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

Huili Xu, 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 APs, 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's venue is at the new locations is very sparse, if not empty. Thus, we propose a new recommender system that incorporates location features as well as personal interest and social influence, while at the same time handles the data sparsity problem for travelers. We show how the effectiveness and efficiency of our recommender system is influenced 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 reply 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 surge rates increase, 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

Jinhao 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 saleswoman 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 communications cost is very 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, when a common language system has a pure redistribution effect on value capture between the engineer and saleswoman 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 5 Teaching Associate, Vienna University of Economics and Business, Vienna, Austria, Gila E. Fruchtner, Thomas Reuutter

In this paper, we study the dynamics of production relocation decisions from one country to another made by goods manufacturers. The focal 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 image increases the effect 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 decision trade-offs and partly indirect impacts of the 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. This paper demonstrates 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 professionals 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 much nuanced picture. Firstly, accountability can also decrease 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 imagine 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 decreased 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 decreases the 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.
1 - Conversations with a Chatbot: Are You Ready to Open Up Your Pocket?

Minkyun Ahn, KAIST College of Business, Seoul, Korea, Republic of, Dwayne 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 chatbot 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 stronger conclusion 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 or 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 mobile 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 to be 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 learning 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 linear 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 forms 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.
compute the probability change of a brand associated with a marginal increase of marketing variables. We interpret hidden variables by determining difference sets in contrast to the best MVL model. The overall best likelihood. We evaluate model performance by the log pseudo-likelihood on household panel data for 42 brands in ten food categories. Household attributes demand and studying the optimality 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 pellets (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 interdependencies 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 interdependencies 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 conditionally on their outlook on personal finance, regional, or national economy. We collect 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 economic conditions 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 captures decisions and links 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.
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 are increasingly capitalizing on this habit 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). Drawn 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 experiment established causality: brand selfie-taking increased actual brand choice even when 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

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 endorsers, 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 an extremely 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 positively correlated with their responsiveness. To the extent 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, Ncefa 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 retargeted group. The treatment 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
Woohoe Shin, University of Florida, Gainesville, FL, United States, Wilfred Amaldoss, Jinzhao Du

We study 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 Janakiramana, Subodha Kumar

In this study, we examine the impact of implementation of in-store CRM system by a multichannel retailer on consumer 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 rich dataset of purchase 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 prescriptive insights 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 meet 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 tactfully 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.

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INFORMS MARKETING SCIENCE – 2019

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 academies 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 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 of 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 (disourage) 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 Hum, Hong Kong, Rui (Juliet) Zhu, Sangsuk Yoon, Ernest Bashkin

Growing number of food retailers use sweet and pleasant food smells to increase their sales. This 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.

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Aula 18

Construal
Behavioral Track
Chair: Eugene Chan, University of Technology-Sydney, 810/18 Park Lane, Chippa Vale, 2008, Australia

1 - Donate: Nonprofits’ Assertiveness and Individuals’ Donations
Matteo De Angelis, LIUSS 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 induces 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 construable appeal that uses an assertive language (nonassertive language) enhances recipients’ intention to donate money when the message is construed at a low-level (high-level). Findings of a 2 (language assertiveness) x 2 (construal level) 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, Aлина Nastasou, 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 program’s 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 a practical 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, Nishin–hi 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 influenceability, type of the 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 organizational influenceability.

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 reasoned 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, Virginia, 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 differently 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
Vestna Zlabar, University of Ljubljana, Faculty of Economics, Slovenia, Barbara Catter, Peter Marenin

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 applied 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 CV research, 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 in context of serv-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 normomethodological valids.

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, Yanqeng Zhou, Yujin 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, VivaAerolitus, 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 Chinese 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.
We quantify both short term and long term effects. We also find that customers promote promotion and through mere exposure to the advertisement of the promotion. (purchase and expenditure decisions) both through participation in the channel. We find that the gift card promotion impacts customer response based fashion retailer that regularly runs gift card promotion on its online rewarding customers with a gift card to be redeemed against a future purchase.

expenditure threshold on regularly priced (as opposed to discounted) products, by expense tracking as measured by user login frequency.

Additional analyses show that budget compliance and influence are amplified by 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.

Sales response functions w...
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INFORMS MARKETING SCIENCE – 2019

Saturday, 9:00AM - 10:30AM

■ SA01

Aula O1

Artificial Intelligence and Value Creation in Marketing

General Session

Chair: Margherita Pagani, Emlyon Business School, EM Lyon Business School, Ecully, 69134, France

1 - Unraveling Heterogeneity in Customer Experiences with Service Robot Constellations

Margherita Pagani, EM Lyon Business School, 23 Avenue Gué 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 × 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 depend on four sources of heterogeneity: service robot features, customer characteristics, service provider 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 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, Eqty, 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, bias, 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 methods used in recommender systems algorithms. Using a dataset in the entertainment industry, we measure the algorithm fairness for each methodology and compare the results. Finally, we improve the existing methods by proposing a new product recommender system architecture 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 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 Laborde, Vlaerct Veroucroy

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, regulatory 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 O3

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 Schläther, 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 Goldberg, 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, Goettingen, Germany; Martin Schläther, 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 and enhances 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 a set of utility functions that allows predictions of adoption rates at any time. Using detailed information on insurance premiums, adoption is used to evaluate the model against real data. We find that the model successfully predicts past and current adoption rates.

3 - One Man’s Trash is Another’s Treasure: Configurations for Consumers’ Adoption of Bio-plastic Products Using Qualitative Comparative Analysis
Ilaria Conti, University 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: PHAs) 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 highest 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
Miremard 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 tradeoffs 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 to evaluate the effect of a major, but otherwise unexpected 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 consumers 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; Akshita Arora, 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 several 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 among 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 higher 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 alliances ending within 4 years of formation. Alliances dissolve due to various reasons such as inter合伙人 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 firm’s performance remains elusive. The relationship between alliance dissolution and performance of rival firms is further complicated in emerging market context by the 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 Hunnenman, Stefan Wyts

Prior research has shown that strategic alliance announcements can serve to reduce firm idiosyncratic risk. Still, more than 50 percent of alliances terminate shortly 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 misguided 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 a 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
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 Telis’s observation (2013, p. 2) that “perennial success belongs to those firms that innovate unremittingly.” 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 differently, 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, Marlia Koval

An important gap in the 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.

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 Fantano, Gabriele Pizzi

In recent years, marketing and retail literature solicited new research adopting novel 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 will compare with more traditional and supervised data analysis methods. Accordingly, the aim of this paper is to compare and contrast machine learning approaches 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 Scarpì, University of Bologna, Bologna, Italy, Gabriele Pizzi, Mathieu Olivier 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 existing 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 Piaciello, 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 their 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 fluctuations.

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SA05
consumers can exploit their naive peers by having access to superstar products and information of superstars, products of high quality and mainstream design that become more informative over time. Optimal firms' responses and consumer terms.

fake news (when the rewards it collects from content sharing are high in absolute terms). 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 crowdsourcing 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).

I consider a model of consumer ratings in horizontal markets. When consumers are uninformed about products' features, ratings summarize 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 naive (and, hence, lower) buyers. These 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, favors the formation of superstar 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 naive consumers sometimes prefer lower quality products at lower prices, whereas 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 naive consumers sometimes prefer lower quality products at lower prices, whereas rational consumers can exploit their naive peers by having access to superstar products at relatively low prices. 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SAO8

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

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 inmediatly and collects a referral fee when its buyers buy a product from the referred retailer on its website. In general, the referral service can be adopted unless the inmediatly 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 referred retailer, its equilibrium price distribution with the referral service has first-order stochastic dominance over that without the referral service.

SAO9

Aula 09

Methods 2

Contributed Session

Chair: Constant Pieters, Tilburg 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).

4 - Demand for Negativity: An Empirical Analysis of Voter Response to Negative and Positive Political Ads

Bowen Liao, University of Rochester, Rochester, NY, United States, Bret 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 Presidental 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 when that 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.

4 - Softening Online Retailer Competition with Referral Services

Chen Jin, Assistant Professor, National University of Singapore, Singapore, Ruobin Ling, National University of Singapore, Singapore, Junhong Chu

This paper investigates 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 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.

Chair: Chen Jin, Wharton School, 1919 Market Street, Unit 1304, Philadelphia, PA, 19103, United States

Aula 09

4 - D em and for N egativity: A n Em pirical A nalysis of Voter R esponse to Negative and Positive Political Ads

Bowen Liao, University of Rochester, Rochester, NY, United States, Bret 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 Presidental 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 when that 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.

Chair: Chen Jin, Wharton School, 1919 Market Street, Unit 1304, Philadelphia, PA, 19103, United States

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 mis specification 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 mis specification 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.
im plications for m arketin g theory an d m arketin g practice. 

behavioral decision-making literature, however, informs us that the framing of the probabilities may affect the outcomes. Moreover, the 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 work is threefold. 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 exhaustively-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 methodology 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 worldwide 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 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 matter greatly from theoretical and practical perspectives 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, correction for measurement means, product indicators, and the structural approach. Monte Carlo simulations show that even when the interacting variables have reliabilities of .80, the moderation effect is hardly estimated by the simple means and multi-group methods, whereas the other methods fare better 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.
3 - Understanding Product Competition with Representation Learning
Fanglin Chen, New York University, New York, NY, United States, Xiaol Liu, Davide Prosperiio, Isamor 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 Haupi, Humboldt-University of Berlin, Berlin, Germany, Stefan Lessmam
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 an 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.

Aula 11

Decision Making 3
Contributed Session
Chair: Jimi Park, Hawaii Pacific University, Honolulu, HI, 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 seems to play a major role in changing consumption quantity and indicates that larger served portions lead people to overeating (Rolls, Roe, Kral, Meengs, and Wall, 2004; Zlatevska, Dubelar, 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- and 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 reaction 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.

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 Lefere, 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.
A R disproportionately benefits lower-priced products and less popular brands. We purchase products and brands they have never purchased before. Furthermore, influence of A R differ across customer and product characteristics. Findings dataset from a major Chinese bank, and leverage a quasi-experimental 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.

**Dynamic Models 1**

**Aula 14**

**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 Kean 1996). However, given that our memory is often imperfect, the existing models potentially overstate the role of the trial purchase by strategic consumers; that is, consumers who 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 temporarily unavailable for an extended period between seasons. The periodic availability of these products provides a unique opportunity to examine the role of forgetting over 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 five existing approaches to disentangle informative and prestige advertising effects (Akerlof 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, Sorairo 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 impact on purchasing decision media, 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 contextual 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 Phielker

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 (e.g., 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) affects later funnel variables (firm-created word of mouth) affect the later stages. In addition, offline media creates a backdoor for interaction effects between media at later stages of the funnel. Furthermore, media effects seem to depend on the type of media (print vs. online) they support the funnel when organic progression is low, but not when the platform converts well on its own. For managers, these findings provide 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 is 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 competitors of firms. Our empirical 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, indicating negative association 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: Yi-Zhe Lin, University of Calgary, Calgary, AB, T2N0R5, Canada

1 - How Celebrity Endorsement Works in an Interactive Media? Do Celebrity Worship and Need for Cognition Matter?
Debasish 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 existing 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 Incongruent
Akhtiro 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 become 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 consumers 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 hypotheses. This study conducted three experiments to test the marketer hypothesis that acceptance of really new technologies by facilitating consumers’ inferences, its findings would be 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 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 product name written on the package may affect consumers’ processing fluency and product 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) with 2 between-subjects test. The participants also 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 the cast-shadow pointing to the 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 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 significantly more on the high-price end of the distribution. These results are consistent with the notion that oil wealth leads consumers to tilt their consumption toward higher-quality (hereafter, CW) and need for cognition (hereafter, NFC) are two prominent psychological constructs that explain consumers’ emotional and cognitive can affect 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 product name written on the package may affect consumers’ processing fluency and product 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) with 2 between-subjects test. The participants also 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 the cast-shadow pointing to the 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.

5 - Consumers’ Reward Redemption in the Loyalty Programs: A Goal Theory Perspective
Yi-Zhe 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 (Capuzzi and Ferguson 2005). Dotori et al. (2014) observed that reward redemptions encourage both pre-reward and post-reward purchases (i.e., redemption momentum), and thus they advocated active redemptions and to activate the redemption momentum. 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 pursue 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.
1 - Hassle Savings as a Strategic Variable
Purushottam Papalia, 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 often come at the cost of users' 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 (LPs) 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 LPs and SEPs. 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, Kanta Srinivasan

Bitcoin is a P2P alternative to traditional payment channels like Visa/MasterCard/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 that use post-transaction 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 on 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 segmentation of consumer incentives 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, 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 ads when users make search inquiries, but also may 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 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.

4 - Does Airbnb Make the Hotel Industry More Competitive? A Behavioral Analysis
Chair: Channa Yoon, KAIST College of Business, Dongdaemun-gu, Seoul, 02453, Korea, Republic of

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 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. Moreover, 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 - Personalized Pricing and Product Differentiation
Xi Li, City University of Hong Kong, Hong Kong

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2 - The Effect of Local Trends on Consumer’s Graphical Information Processing

Jülia 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 care (e.g. paper thickness), 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 suggested relations 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 cars enables them to monitor whether the purchase goal is sufficiently attained before leaving for check out. Thus, we contribute to explaining 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, ECSIU, 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 when 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 content, ad 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.

1 - The Effect of Disclosing Labor Cost on Consumer Preference

Lucas Stich, Ludwig-Maximilians-Universität München, München, Germany, Christoph Ungenach, Christoph Pilch, Mairhin 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, Cecil 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 of desirability bias (Windschitl et al., 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 (Gurian 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 et al., 2006; Ralph et al. & Ahtiala, 2015; Proulx et al., 2015; Singer and Schonbar, 1961). 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.
Firms do not typically disclose information on their costs to produce a good to consumers. However, data have provided 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.

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 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 extend our understanding from using won awards in communicating their products and company to potential customers.

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.

The use of attractive endorsers has been found to bias consumers’ judgments every day. However, data have 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-promoting taglines embedded within the ad itself, are able to remove the endorser’s influence from their product judgments. More importantly, we would like to examine whether such corrections will be moderated by attitude confidence. According to the naive 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 into 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.

Consumers’ purchase histories allow firms to adopt behavior-based price discrimination when introducing an upgraded product to the consumers who are not loss averse. The author incorporates the choice-set dependent preference of consumers in to 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.

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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
Juhyun 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 consumer 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 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 dimension 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 Wölmert, Vienna University of Economics and Business, Vienna, Austria; Dominik Papis, 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.
2014) have highlighted that firm’s with strong brand equity have lower total viewed as short term expenses and minimized and rarely considered long-term investments. 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 debt 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
Aslak 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 factors affecting bankruptcy risk? 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 shareholders’ returns 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 firm 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
Joesop 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 firm’s (social-based) performance measures to explain the influence of organizational aspirations on various decisions such as R&D spending, its influence on marketing spending 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 (perceived 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 increase advertising when performing above self-aspirations. 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.Y. (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 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.
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 SL Wang, The University of Hong Kong, Hong Kong, Bennett Yin

User-innovations (i.e., innovations invented by individual users for their own benefits rather than mass market’s needs), have become the 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 (Heinzer 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 prior research (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-goal 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 higher risk (increasing cash flow volatility) in the early period of transitioning to SaaS. However, the performance downturn 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 flatness out in the subsequent years as the impact is incorporated into the stock price. Vendor capabilities significantly 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?
Sajeet Nair, University of Southern California, Los Angeles, CA, United States, Siddharth 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 previous studies, we find that, on average, for 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 before it is yet to be launched 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 levels 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 effects 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.

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
Vincent 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 (EATs) 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 with the 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) What 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.
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 algorithms from the Generative Adversarial Network (GAN) using techniques of the Picture-Data Analog. 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.

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 Udouji, 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 to use person-first language, but the actual language used depends on the disorder (Study 1). Also, 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 controllability 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 exact 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 compensation towards the least vulnerable. The result is a divergent pattern of pro-social behavior toward the strongest and the weakest, supporting the theory among six distinct donor bases (n = 1900) with a variety of giving scenarios with actual monetary decisions.

### 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 in 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 the causes that member 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

Wei-Deng Deng, Rotterdam School of Management, Erasmus University, Rotterdam, Netherlands, Maciej Szynianoowski

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 Lucifer, Rosa Cacabelos, Egon Franck

Popular press and recent survey results suggest that promotional, or fake reviews are on the rise. However, due to time and location, there is 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-effect experiment where we 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 on 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

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. Liu, 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 (organics) 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 retail 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 Sayed, 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 marketplace: 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 thus pay fake traffic. A private exchange does not have these problems, but it creates market inefficiency by forcing 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 open exchanges while also allowing 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.

3 - How should a Firm Respond to Online Reviews?
B.P.S. Murthy, 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 a number of interesting issues. Prior literature suggests that literature 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 responses 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 managerial response to different review types (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 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.

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, 38000, France

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 purchases, 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 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-purchase promotions, 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 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 observe a slight negative effect on retention in the PD group compared to the control group.

Digital Marketing 10

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 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.

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 extension is such that 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 Steam users over a period of 6 months. We analyzed the patterns of more than 1,000 new games (i.e., products) launched in that period. Surprisingly, our results show that adopting 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, adopting 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.
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 sending international students 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 Liu, Zheng Fang

Due to a drastic escalation in environmental problems, governments and organizations have extensively invested to stimulate 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 instanitizing 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? 
Shaneeek 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 our 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. This is not consistent with the idea that past 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 to 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.
1 - The Role of Language Structure in Persuasive Communication
A. Selin Atalay, Professor, Frankfurt School of Finance & Management, Frankfurt am Main, Siham ElKhilal, Florian Elsässer

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 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. Attributes of the sentence 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 element has 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 about 10%, 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. These are often to increase the click-through rate. In the context of public media, the optimization objective is not always as simple as a click-through rate. Public broadcasters seek to increase social cohesion and enlightenment 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. 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. In this paper, the optimization objective of recommendation engines is often to increase the click-through rate. In the context of public media, the optimization objective is not always as simple as a click-through rate. Public broadcasters seek to increase social cohesion and enlightenment 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. 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.

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 segments that can be bought by marketers for ad targeting. There is a strong value 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 customers. We use held-out 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, Mauritius 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 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 as an argument against recent legal developments on the preservation of consumer 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-effective 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.
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 manufacturers. 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 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 handcapping 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.

Luxury Brand Licensing: Free Money or Brand Dilution?
Kenan Arifoğlu, 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 more profitable when followers’ aspiration is strong, which implies that a decentralized licensing system can be more efficient.

A Dual-self Model of Environmental Consumption: Theory and Empirical Findings
Wujuin 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 assumed 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 $x$, 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 $x < x^*$ 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.

Incentive Design for Operations-Marketing Multitasking
Tinglong Dai, Associate Professor, Johns Hopkins University, Baltimore, MD, United States, Rongzhao 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 components or substitutes in the compensation plan, where they become substitutable 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.

Do Promotions Increase Health? The Moderating Role of Sales Promotion Among Consumers’ Exercise and Purchase Behaviors
Seongsoo Kang, Assistant Professor, Cardiff University, Cardiff, United Kingdom, Hwag 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—utility 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 their 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.

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 extent 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.

Do Promotions Increase Health? The Moderating Role of Sales Promotion Among Consumers’ Exercise and Purchase Behaviors
Seongsoo Kang, Assistant Professor, Cardiff University, Cardiff, United Kingdom, Hwag 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—utility 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 their 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 multiple 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 customers’ 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 “seamless” feature is the critical factor differing 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-Cosnea Fuhrmann, LMU Munich, Munich, Germany, Katharina Schlomann
Relevance: The purpose of this study is to analyze the trade-off between personalization benefits and consumers’ 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 focus group 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, navigational 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.

3 - A Multilevel Model of Business Model Innovation, Industry Informativity, 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 informativity. Industry informativity is the prevalence of stand-alone 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 informativity 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 developing 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 informativity on sales performance. Our model aims to help managers in developing economies understand how to react to the threats posed by industry informativity.
4 - Psychological Drivers of Satisfaction and Repeat Engagement in eSport

Daniele Scarpini, Associate Professor of Marketing, University of Bologna, Bologna, Italy, Francesco Raggiottis

In 2017 there were 191 million eSports enthusiasts worldwide and the “League of Legends” eSports tournament had 12 million spectators than the NBA final. 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-sports’ satisfaction and repeat engagement. To the best of the authors’ knowledge, this is the first attempt to develop a theoretical framework for understanding the phenomenon of eSports and for addressing edgework in non-physical settings. Essentially, we hypothesize that e-sports 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 to e-sports developers’ deeper 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 biased 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. 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? Towards a Theory of Sensory Flamboyance and Subtlety in Consumption

Tanuha 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 embalming 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 habits 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.

■ SB15

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 activity 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.

- ‘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. identity 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 a 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, Mónica Casabáyó, 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 80% of new products fail within the first 3-5 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 Simulated Annealing (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

Competition 2

Contributed Session

Chair: Ivy S.N. Chen, Hong Kong Polytechnic University, Dept. of Management & Mkbg, 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 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-construct. By measuring the proportion of experiential consumption expenses on youth sports and entertainment (vs. material purchases) 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 Vokkarane, 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 choices 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 (at least in our data)? 3. How responsive is each firm's study 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 and shape product-market choices and performance over industry sectors?

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 of 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, 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 methodology 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; Tunerul and Tells 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 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

Existent research has shown that product bundling is a profitable form of price discrimination and firms use it to help deter entry through various entry and exit implosion of product bundles. For example, how do changes in market structure impact the number and the composition of product bundles that firms produce? This raises a number of questions including how the empirical context of the U.S. cable industry. This industry has experienced dramatic 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 paper 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 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 developed 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

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 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 randomly ignore prices in-between (Chen et al. 2012; Res 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 costs (i.e., option 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. This, 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 the first to formally model consumer 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 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, payoffs, levels, and delays from a low predictable to a high 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 Oncüler

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, 128
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, Satadru 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 Babakus 2012). We conduct a study with four-hundred-eighty 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 Baksayev

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**

Sokientie W. Dogo-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 contents. 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 who hold 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.
Multiple 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 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 time 1 and time 2). 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 service 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 Wagenheim
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 Lilen (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 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 alignment is rarely 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 forwards 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.

6 - The Influence of the Reply to Online Review on Observing Consumer
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 consumers’ 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 consumers’ 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 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 École 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 skills to contribute, 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 encyclopaedia 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 requisite knowledge or.rar files, the greater the inaccuracy, the greater the motive to review the inaccuracy. In addition, the impact of having contributions revised or replaced affects the motivations 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 published 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 (whether potential) or actual 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, Jiaon 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 launched 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 subsequent reviews. Based 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 the 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 for product heterogeneity and reviewer heterogeneity. The second study supports the moderating effect of prevention focus. Our paper contributes to the literature by showing how rewards impact value 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 Dehmary, University of Groningen, Nettelbosje 2, 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 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, Nöémi 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 detrimental to firms if the involved manufacturer or retailer has a strong brand but it 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, Andrica Ordamini

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, multiretailer chains 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
Keyvan Dehmany, 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 counted 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 lemons 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
Alineza 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 1,800 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.

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, CUIHK 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 many 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 levels 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 abilities. 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 other channels has led to quicker adoption (or rejection) and shorter lifecycles. Because of competition and fast breakthroughs in technology market, it can be 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 in the tune of 8-12% for a top-25 North American newspaper. We then delve deeper into indicators of digital engagement that characterize this cross-channel spillover. Our results offer implications for product portfolio management and bundling decisions for media and entertainment product firms.

5 - Estimating Success of Own and Competitor’s New Products with Pre-Release Buzz
Olivier Schaer, Lancaster University Management School, Lancaster, United Kingdom, Nikolaos Kourentzes, Robert Filides

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

Media Monetization
Special Session
Chair: Inyoung Chae, Emory University, Atlanta, GA, 30322, United States
Co-Chair: Adithya Pattabhiramaialah, Georgia Institute of Technology, Atlanta, GA, 30308, United States

1 - It’s Free if You Want it: Measuring Spillovers from Online Engagement
Adithya Pattabhiramaialah, Georgia Institute of Technology, Scheller College of Business, Atlanta, GA, 30308, United States, Eric Overby, Lizheng 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 in the tune of 8-12% for a top-25 North American newspaper. We then delve deeper into indicators of digital engagement that characterize 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 Clausen, 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 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.
In recent years there has been a significant discussion on whether demographic and behavioral targeting in online campaigns is accurate (Neu mann et al., 2018) and 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, Ji hyeon Ha

Given the abundance of free online content, news media organizations face challenges in monetizing their content while retaining online traffic and 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 exposure, 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 the boundary conditions of this relationship.
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.

**2 - Regulating Privacy Online: The Early Impact of the GDPR on European Web Traffic and E-Commerce**

Samuel Goldberg, Garrett Johnson, Scott Shriffer

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 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 4% reduction in third party interactions in the week after enforcement, which fully reverts 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 websites’s self-reported ad selling partners. In sum, we find a muted online response to the GDPR early on, prior to significant enforcement actions.

**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.

**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 Shriffer, 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 4% reduction in third party interactions in the week after enforcement, which fully reverts 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 websites’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 Shriffer

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 1385 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, complyance 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, 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.
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 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 local product under recall), except for the effect of indegree centrality.

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 consumer engagement: 1) Playtime, 2) Spending, and 3) Performance. We also observe that the magnitude of such effects is substantially heterogeneous across consumer’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.

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 consumers; while interestingly, call to action messages (e.g. “click here”, “learn more”) do 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.

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 invite some social friends 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.

Information providers in the modern digital economy profit from consumers’ frequently checking for information. We study the dynamic information design of a firm that 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 consider generalized push strategies that allow the firm to push 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.
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 Yegiyian

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 (SMIs), 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 posted four-stage model, found that only 16 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
Myyounghee 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 for 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 the effect, 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 dataset 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 price change 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.
The large penetration and use of mobile devices is a fast and global phenomenon. The availability of mobile information has enabled firms to better understand customer behavior and to design new services based on these technologies. Previous literature on mobile marketing has focused 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.

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 Blvd, 12 Chak Cheung Street, Shatin, Hong Kong, Hong Kong, Marcel Goic, Sebastian Alejandro Rios

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
Zhibin 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 the first-degree price discrimination. Superior information occurs when data aggregation enables a firm to learn beyond consumption 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 suspsions 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 achieve its optimal 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.

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 is an 'optimized menu of contracts' for each salesperson- that 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.
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 is the linear 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 separably 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 Boger, Martin Meissner, Reinhold Decker

Due to their 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 need 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 understudied. Previous investigations have examined individuals' social factors (i.e., opinion leadership and degree of influence centrality, susceptibility of influence, and dyadic tie strength between two people) that contribute to the diffusion of behavior. However, how we use these factors jointly to identify influencers remains unclear—especially given that they could have different strength of influence 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 maximize 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.

2 - Nationalism in the Produce Aisle: Using Country of Origin Labels to Stir Patriotism and Animosity
Amir Helman, 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 different 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 of 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.
Auctions


to 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 incentives 
conflicts between publishers and advertisers, and inefficient pricing in advertising 
rates. 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 forecasting behavior by 
throughout showing and empirically testing the implications of impression 
quality heterogeneity in digital advertising markets. Moreover, our findings 
encourage to practice, helping advertisers screen publishers against opportunistic 
behavior.


2 - Pricing and Participation in Business Markets with Affirmative Action Policies

Simha Mummalainen, 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 vendor who loses 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 fully account for competitors’ behavior, and instead 

rely upon heuristics when deciding what price to set and whether to compete for 
a contract.


Entertainment 1


correspondence 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 

entertainment events have been made in recent years, but those live entertainment 

demand forecasts based on actual ticket sales have been 

done 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 types of (of one-day, two days, and three days). Results showed that 
the prediction accuracy by LSTM-RNN model including state space model, NNARX 
regression term in all ticket types satisfied MAPE (average absolute ratio error).


1 - Ticket Sales Forecast for Music Events by State Space Model and 
Neural Network Model (LSTM - RNN)

Fumiyoshi Kotodo, Assistant Professor, University of Tsukuba, 
Tsukuba-shi, Japan

Fouz (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 
entertainment events have been made in recent years, but those live entertainment 
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regression term in all ticket types satisfied MAPE (average absolute ratio error).


1 - Lemon Ads: Impression Quality in Programmatic Advertising

Francesco A Balbo, 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 incentives 
conflicts between publishers and advertisers, and inefficient pricing in advertising 
rates. 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 forecasting behavior by 
throughout showing and empirically testing the implications of impression 
quality heterogeneity in digital advertising markets. Moreover, our findings 
encourage to practice, helping advertisers screen publishers against opportunistic 
behavior.


2 - Distant Beauty and Close Service: How Temporal Distance Affects 
Aesthetic and Service Experience

Francesco Zanibellato, Cal 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 impression on visitors. The difference is in the way that cultural 
visitors and tourists buy tickets. In particular, whereas cultural venues like 
museums and theaters often rely on direct ticket sales, tourists usually buy tickets 
through third parties like travel agencies. This has important implications for 
service experience (Colbert and St-James, 2014). Despite the policy change does not seem to 

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museums and theaters often rely on direct ticket sales, tourists usually buy tickets 
through third parties like travel agencies. This has important implications for 

service experience (Colbert and St-James, 2014).


Doing so would stimulate consumption. With others less frequently, and their consumption tends to be weak. Therefore, it tended to communicate online less frequently. Although there were 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

Trizia 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 Buon motto, LUISS Guido Carli, 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 through which donations 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 in 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 NPOs’ 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

Consumer decisions are often made together with other people. Despite its ubiquitous characteristic, 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 (Md = 3.51, Sd = 1.26; Md = 3.75, Sd = 1.17; p = .53). 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 (Md = 25.37, Sd = 14.63; Md = 26.11, Sd = 8.82; p = .01; p = .001). 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.
Crowding
Behavioral Track

Chair: Ana Seckic, HEC, I, Rue de la Liberation, Jouy en Josas, 78350, France

1 - Human Density and Repurchase Behavior: The Moderating Role of Similarity with Other Customers
Ernesto G. Cocchi, 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 (Mehra, 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 (Sokols, 1972), but largely under-researched. Repurchase behavior is a primary manifestation of customer satisfaction that the literature on crowdfunding 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 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 crowdfunding 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 Vugen

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 could determine the share 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 increase consumers’ 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
Lujong 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 crowding affect affects 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 crowding 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 Seckic, 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 previously 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 target affect performance 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.
We make a striking counterclaim: Under certain conditions, firms 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.

5 - Why Do Companies Tie Donations to Consumer’s Purchases of Their Products? For Buy-One-Give-One, It’s All About Profits

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. Indeed, we find that 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 conclusions and 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 required for BOGO to be an optimal strategy.
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 end goal of marketing is the understanding of and response to consumer needs, whereas companies’ ultimate goal is happiness. Consumer happiness is a complex phenomenon that has been known to lead to happiness in travel and tourism. This movement has stimulated a growing research interest in the impact of travel and tourism on consumer happiness. Consumer happiness is a critical component of a company’s business strategy. Managers 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. non-anonymous 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.

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 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, 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 incentives. 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 in identifying which individuals are capable of providing more content (work longer) and which ones drive 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. non-anonymous 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, Zurich, 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 consumer 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 of the variables. Results show that social UGC produces higher positive 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 the options 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.
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 straightforward 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 Salto, Meiji-Gakuin University, Tokyo, Japan; Jeff Inman, Akira Shimizu, Aisuko 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 who may engage in a discounting game 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 overall firm, resulting in win-win-win outcomes.

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-value consumers prefer 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, when 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 play discrimination, 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.
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 X306, 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. Franse

   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 case studies.

2. **- A Diffusion of Mobile Application**
   - **Youngsok Bang**, Chinese University of Hong Kong, Shatin, Hong Kong, Dong-Joo Lee, Kunsoon 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 theunique 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 intertwined 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 abovementioned distinctive features in the diffusion process of mobile applications.

- **SD04**
  - **Aula 04**
  - **Behavioral Economics and Marketing**
  - **Special Session**
  - **Chair**: Paola Mallucci, University of Wisconsin, Madison, 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 agents. Ozer’s 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-1 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, Madison, 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 worst 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 customers 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 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 maps to non-originals after 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 source 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 validity of our theoretical prediction on the outsourcing decision using data from the U.S. and Japanese video game market between 2004 and 2012. This market is a classical two-sided market, dominated by two platform providers (Nintendo DS and Sony PlayStation Portable) and is known to have suffered from software piracy significantly. Our regression results show that the proportion of in-house software decreases in piracy, supporting our theoretical prediction.

3 - Detecting and Combating Social Media Influencers
William Rend, 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 firms can use 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 functional model for the response profile. This model separates the user-specific variation from the day within user variation and from the trend, while accounting for additional covariate effects. The user-specific and within user trends are estimated through functional component analysis. 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 with bots, 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
Amallesh 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 unification. 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., market, technological, and operational) on the proposed relationships. Relying the concept of knowledge recombination, social network theory and coordination theory, we propose that different structural network characteristics (i.e., cohesion, centralization, 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 impact 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.
How buyer firms and their suppliers interact during bankruptcy poses critical implications for both, but remains poorly understood. This research investigates how the overlapping yet divergent goals accompanying bankruptcy buyer firms’ reorganization efforts drive buyers and their supplier-creditors to engage in constructive and destructive acts. Relying on reciprocity theory-informed literature, we examine how a focal party responds to its counterparty’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 counterpart’s 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 counterpart’s response to these acts, second, by offering a much-needed bilinear 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 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 30,000 constructive and destructive acts by both bankrupt buyer firms and their suppliers across 344 reorganization (Chapter 11) bankruptcies over more than a decade. Whereas the focal party’s response to its counterpart’s constructive 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 prior acts.  

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 awareness. On the other hand, OTA commissions are high and they drive a hard bargain over the commission points to quality higher-level rewards from the same firm, or accumulate points and redeem rewards with competing firms. We propose 4 behavioral phenomena that capture these customer choices unique to their multi-firm loyalty program setting: (1) more reward qualification; (2) opportunity cost of redemption; (3) effort-balancing; and (4) cross-firm behavior 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 inter-firm 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.  

2 - Buyer-Supplier Interactions during Bankruptcy  
Kersi D. Antia, Western University, Ivey Business School, London, ON, N6G 0N1, Canada, Sudha Mani, Vivek Astvarsh

2 - Multi-Firm Loyalty Program Context  
Andrew Peterco, Penn State University, 457 Business Building, State College, PA, 16802, United States, Faroosh Khodakarami, Rajkumar Venkatesan

2 - The Value of Third Party Platforms in Customer Acquisition: An Empirical Investigation into the Hospitality Industry  
Agata Leszkiwicz, University of Twente, Sarang Sunder, V. Kumar, Chekita Dev

3 - Customer Redemption and Purchase Decisions in a Multi-Goal, Multi-Firm Loyalty Program Context  
Andrew Peterco, Penn State University, 457 Business Building, State College, PA, 16802, United States, Faroosh Khodakarami, Rajkumar Venkatesan

4 - The Value of Third Party Platforms in Customer Acquisition: An Empirical Investigation into the Hospitality Industry  
Agata Leszkiwicz, University of Twente, Sarang Sunder, V. Kumar, Chekita Dev

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 these customers, allow them to 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 airlines to acquire new customers. 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 engagement with the firm. We utilize a data set of 2660 book club subscribers over five years to examine the effects of the firm’s 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.

Consumer Privacy Concerns in Digital Markets  
Ayla 07  
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 behavioral 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 Forecasts, 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. Indeed, the estimates reveal a significant drop in users 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 framework for inferring individual behaviors from data following a disclosure of an exogenous information shock; in this case, a major data-breach, and discusses resilience for heterogeneity in the results to this data breach. [1]We have 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 Schunnacher, 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 cultural contexts differ in their privacy concerns. In this research, we propose an anthropological approach to assess the impact of third-party acquisition channels on consumer behavior and apply our modeling framework (interpurchase time and revenue models) to consumer-level data from a multi-brand hotel chain. Initial evidence suggests that although OTAs drive growth, the large number of obstacles 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 positions; the results are even more dramatic through the value 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.
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 stopping 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, Kozhikode, India, 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 Mortimot 2012). Also, many users are concerned with potential privacy and security issues if they see customized and/or harmful ads (e.g. Storkey 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, Oke, and Sarvary 2009) to explore the best strategy for publishers and web browsers in a duopoly market and dynamic 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, repulsion, 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 the 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. The values are combined using a simulation study based on profit maximization. This gives the optimal allocation 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 importance of channels and 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 technocrats) are similar to those towards human counterparts. Social conventions that guide interaction between two humans are also noticeable in human-computer interaction (Nass et al., 1997; Reevus 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, Calaro 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 an 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 Muili, 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 (Vishal 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 to avatar treatment level is exposed to avatars with online 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 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 Wetzels, 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 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 (LCPs) 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. Belie

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 analyzing 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.

4 - External Packaging Aesthetics: Boon or Bane? A Theory of Affect Relevance

Pragya Mathur, Baruch College, New York, NY, United States, Tanuika 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 mundane products (e.g., Belorus 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’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 more 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 evidence 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 may be due to the result from both views using 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 product-line-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
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 large payments due to high performance fee, 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.

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**Game Theory 3**

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 under different information designs. 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 Chiyoan 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 total 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 Timoami, Assistant Professor, Indian School of Business, Mohali-Punjab, India, Anup C. 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 as 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 monopoly retailer allowing him to increase his profit.

4 - Why Bitcoin will Fail to Scale?

Nikhil Malik, Carnegie Mellon University, Pittsburgh, PA, United States, Mannmohan Asier, 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 5,000. Bitcoincommunity 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 resolve the 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 pay 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 identifications 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
Branding

Behavioral Track

Chair: Polina Landgraf, IE University, Volkhovsky, 3, Saint-Petersburg, Russia

1 - Excluding Your Customers? The Moderating Role of Relationship Norms on Customer Responses to Brand Exclusion

Zhiwei 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 brand. 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 quasi pro quo 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

Petr 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’ stereotypes (purchase intentions and positive/negative 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 WOM 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—applied implicit theories (e.g., entity or incremental theory) and consumer’s implicit theories. 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 brand partner. 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 Stamatoglouannis, Haiyang Yang

Consumers frequently encounter death-related information (e.g., news about terror attack’s or natural disasters), which can make their mortality salient (Greenberg et al. 1996). 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 persist 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 designs 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 moderate the effect. Overall, this work adds to the literatures on mortality salience and on brand preference, and offers actionable managerial insights.

SD13

INFORMS MARKETING SCIENCE – 2019

SD14

Bayesian Modeling

Aula 14

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, Juncal Jiang, Dipanjan 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 Legends) 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 build 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 Igarı, Hosei University, Tokyo, Japan, Takahiro Hoshide

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 market 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, a 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 analyze 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 outperform 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 overestimated 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.
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 impacts 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 ads are viewed 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 inappropriate 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 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 orient 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 tendencies. If this is so, then changing 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 curbing feelings of gratitude. Accordingly, we posit that 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, Zhongjiang (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 consumers 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 reveal the underlying mechanism of this phenomenon. Nostalgia can induce dual motivations—approach motivation and saving motivation—which have divergent implications for switching behavior. Whereas consumers focus on 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 lower motivation to switch. Overall, switching behavior 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. Lasalata, 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 (Lasalata 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 (Fischbach 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 test 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, nostalgic increased social support, which accounted for an increase (decrease) in healthy (unhealthy) food consumption.
4 - Ethnicity and Advertising Representation in a Newly-divided Britain
Can dan Celik Elmer, Senior 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 uncontroverted ethnic stereotypes in advertising is problematic; 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 ethnic groups. It draws on a broad sample (N=500) and asks them to select the ethnicity of the cast in a fictitious advertising campaign, and the resulting analysis shows how social scripts and world views become 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).
3 - Beyond Money: Toward a Value of Experiential Purchases
Sookyoung Key, Doctoral Student, Korea University Business school, 415 Anam-ro, Seongbuk-gu, Seoul, 02841, Korea, Republic of, Jacob C. Lee, Seungbom 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 items 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 timing of experiential consumption, resulting in 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, influencers 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 3 influencer types (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 two fees. For the short term, free trial service could attract more new customers than low fee trial. On the other hand, for the long term, low fee trial 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 trial or regular fee, we conduct a 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. The experiment examine customer purchase amount, retention rate, repeated usage and CLV (customer life value) under different pricing policies and time periods.
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 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 cost required to search in a focal recommended category, recommendations free up time users can spend searching for non-recommended categories. Using data on consumer search and purchase decisions from an online grocery retailer, we show that 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 Shinzui, Kaichi Salto

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 to examining 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 model 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 the raising the 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 earlier turn. 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-intuitive results indicating a decreasing pattern of ratings are examined in this paper. Specifically, we show that recommendations 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 diagnostically 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, Runen Pozharlev, 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 will 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: Un可持续性, Guilt and Negative Word-of-Mouth
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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 takes on 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.