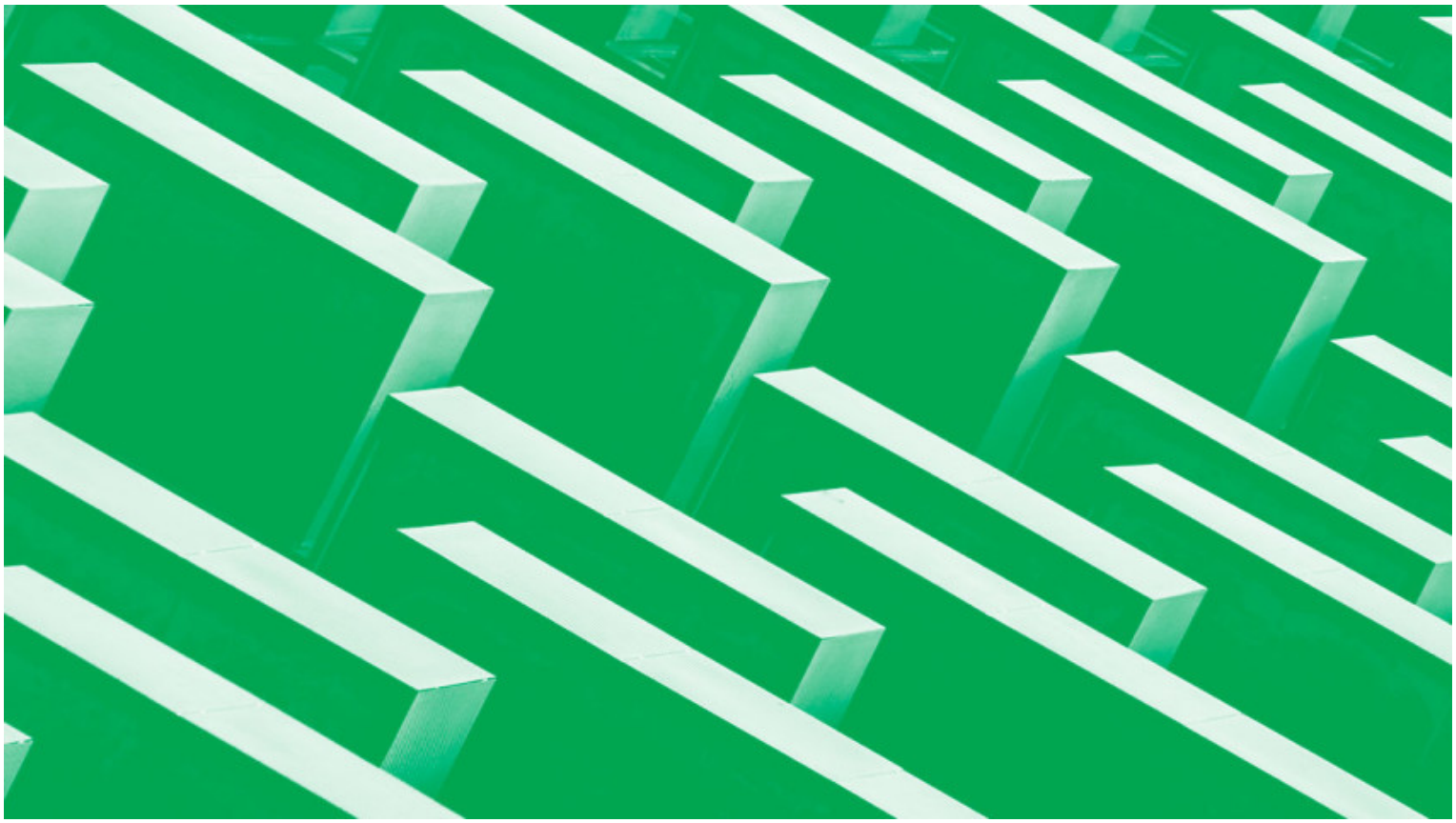
DATA

What Blockchain Could Mean for Marketing

by Anindya Ghose

MAY 14, 2018



MARCIA STRAUB/GETTY IMAGES

Companies are collecting more data than ever before, and are making significant business decisions based on it. Of the 4 Vs of Big Data (Volume, Velocity, Variety, and Veracity), we have now seen ample evidence of the impact and importance of the first three. A higher "Volume" of data has led to more efficient decision-making in numerous instances, such as in programmatic marketing and in banking. Research has shown how leveraging high "Velocity" data — such as data from mobile devices — has unearthed knowledge that has helped firms better understand their customers. The

significant potential of high "Variety" data — data that is unstructured in the form of text, images, videos, and so on — to make better predictions has been documented in numerous academic studies. But what about issues related to the accuracy, reliability, and transparency of the data itself, which basically comprises the fourth V, "Veracity"? In the field of data-driven marketing, an answer to addressing this limitation lies in blockchain technology.

How Blockchain Works

Here are five basic principles underlying the technology.

1. Distributed Database
Each party on a blockchain has access to the entire database and its complete history. No single party controls the data or the information. Every party can verify the records of its transaction partners directly, without an intermediary.

2. Peer-to-Peer Transmission
Communication occurs directly between peers instead of through a central node. Each node stores and forwards information to all other nodes.

3. Transparency with Pseudonymity
Every transaction and its associated value are visible to anyone with access to the system. Each node, or user, on a blockchain has a unique 30-plus-character alphanumeric address that identifies it. Users can choose to remain anonymous or provide proof of their identity to others. Transactions occur between blockchain addresses.

4. Irreversibility of Records
Once a transaction is entered in the database and the accounts are updated, the records cannot be altered, because they're linked to every transaction record

In recent years, a major pain point for brands and advertisers has been the lack of transparency and accountability in being able to ascertain how their ad dollars have been spent. Digital advertising is complex, because ensuring that the media that was purchased was actually delivered as it was intended, is non-trival today. Ad fraud is pervasive, and costs marketers and publishers a significant amount of money. Forrester reports that as much as 56% of all display ad dollars were lost to fraudulent inventory in 2016. And the cost of ad fraud globally is expected to increase to $50 billion over the next decade. A recent study into the state of programmatic advertising revealed that 79% of advertisers surveyed expressed worries about transparency, with over a third regarding the lack of visibility on third parties as one of their key concerns. It's why we are increasingly hearing that major brands like P&G have cut their ad budgets, because their media agencies failed to give them the transparency they needed.

Blockchain can make data-driven marketing more transparent by validating and analyzing every consumer's journey through verified ad delivery, confirming that a real person saw the ad

that came before them (hence the term "chain"). Various computational algorithms and approaches are deployed to ensure that the recording on the database is permanent, chronologically ordered, and available to all others on the network.

5. Computational Logic

The digital nature of the ledger means that blockchain transactions can be tied to computational logic and in essence programmed. So users can set up algorithms and rules that automatically trigger transactions between nodes.

as per the specifics of a media contract. Marketers will able to control how their assets are delivered by monitoring exactly where their ads are being placed, alleviating ad fraud from automated bots by ensuring that real followers and consumers are engaging with their ads, and ensuring proper ad engagement tracking that will lead to more precise digital attribution.

Another fundamental pain point in the mobile economy is experienced by consumers. Companies are overwhelming their customers with too many ads, emails, coupons, and messages. The reason they send out a dozen different messages is that they don't know much about consumer preferences, as astonishing as that might seem in todays' data intensive economy. The current practice is often akin to throwing a dozen darts in the air and hoping one will hit the bullseye. A survey of brand and agency marketers revealed that 94% of marketers don't have a single view about their consumers that could have facilitated cross-platform continuity. Therefore, there's a disconnect between consumers and marketers with respect to what people want, when they want it, where they want it, and how they want it. This problem manifests itself when you see that same display ad for a hotel following you from one website to another, even though you already made a booking for that hotel two days ago. Blockchain technology can prevent the same display ad from being over-served to anyone, ensuring the optimal frequency of ad serving for each consumer. Studies have shown that when it comes to the impact of frequency of ad exposure on consumers' propensity to buy, anywhere from four to six ad exposures is optimal. However, it has been nearly impossible to deliver on this optimal goal due to issues of data quality (the fourth V). A smart contract on blockchain can fix this by providing a level of tracking and transparency that is currently not available to brands.

If consumers share more of their preference information, brands will know more about them, which in turn will increase the relevance of their messages and decrease the frequency of advertising. But for some consumers, an impediment to sharing information with firms is often a lack of trust with what firms might do with that data. Blockchain's inherent ledger-based transparency can help companies build trust with consumers. We have seen ample evidence of how consumers are willing to share their data with firms in return for better offers from the companies they regularly patronize. Their revealed preference is that they are more than willing to part with data to gain something of tangible value. This implies that brands who have earned consumer trust and who offer a relevant, value exchange will be given greater access to personal information. The advent of blockchain technology offers tremendous potential for mitigating such consumer concerns by giving consumers a transparent look at how their data has been used by marketers and advertisers. This will likely give rise to markets for consumer data that will not only give users a transparent look at how their data *has been* used by advertisers, but will also give them more control over how their data *should be* used. It also has the potential to allow newer ad tech vendors, such as telecom providers like Verizon and AT&T, a credible chance to compete against the likes of Facebook and Amazon.

All this said, we are a still a while away from actual implementation of blockchain by the ad-tech ecosystem. The key roadblock that needs to be fixed is the speed of transactions. Because of its distributed nature, where transactions are verified by "miners" around the world, blockchain generally takes between 10-30 seconds to validate transactions. This means that as of today, it cannot validate ad-tech transactions (that occur in milliseconds) fast enough. So ad tech vendors will have to aggregate ad transactions into one block to create a single transaction, but of course that reduces transparency. In the short term, brands will likely use blockchain as a post-campaign layer to validate and authenticate transactions, not in real-time, but after-the-fact. However, this is still a vast improvement over current practices.

Despite its speed limitations, blockchain will change the data-driven marketing business landscape.

Anindya Ghose is the Heinz Riehl Chair professor of business, and the director of the masters of business analytics program at New York University's Stern School of Business. He's also the author of TAP: Unlocking The Mobile Economy.