



Blockchain: a game changer for marketers?

Mark R. Gleim¹  · Jennifer L. Stevens²

Accepted: 3 January 2021 / Published online: 13 January 2021

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Abstract

Marketers are faced with understanding and implementing new technologies at a greater rate than ever before. Yet despite the emergence of blockchain technology over a decade ago, it has received very little attention by academic researchers in marketing. Given the unique attributes of blockchain—transparent, decentralized, and immutable—it can create a more secure, customer centric, and open marketplace for consumers and businesses. This research contends that blockchain has the potential to transform businesses and is a technology that marketers need to be acutely aware of and prepared to utilize. We seek to generate discussion and future research on the impact of blockchain on five distinct areas: cryptocurrency, digital platforms, supply chain, online advertising, and market research.

Keywords Blockchain · Customer loyalty · Innovation · Sustainability · Marketing strategy

1 Introduction

The emergence of blockchain in recent years has provided it prominence within the public spectrum; however, it has yet to be utilized to its full potential. Bitcoin is the most publicly known form of the technology, yet blockchain helps to power Provenance, a supply chain platform; Ubex, a digital marketing platform; Measure Protocol, a marketing research platform; Lemonade, an insurance platform; and Inxeption, a digital commerce platform, among many others. Additionally, 84% of executives surveyed by PwC in 2018 note that their companies are actively

✉ Mark R. Gleim
mark.gleim@auburn.edu

Jennifer L. Stevens
jennifer.stevens4@utoledo.edu

¹ Harbert College of Business, Auburn University, Auburn, AL 36849, USA

² College of Business and Innovation, The University of Toledo, Mail Stop #103, Toledo, OH 43606, USA

involved with the technology. Thus, the fundamental question for marketers is: What impact will blockchain have on marketing? This research seeks to spark discussion and future research on the impact of blockchain for marketers.

Blockchain is a “peer-to-peer network that sits on top of the internet” (Iansiti and Lakhani 2017, pg. 5). Essentially, blockchain is a decentralized, transparent, immutable database of records and digital events. A block (coded information) is created and then shared and verified by millions of nodes (computers) in the chain. Whereas traditional records and transactions are stored on servers, blockchain decentralizes the information. This reduces the threat of vulnerabilities (e.g., hackers, corrupted servers). Since the information is not stored in a single location, everyone on the network has access to it. The public nature of the network seeks to increase trust among users (Ghose 2018; Zheng et al. 2018). While blockchain is built on the idea of transparency, the identity of users remains anonymous. All transactions are publicly available and transparent; however, user information is kept private by providing a coded public address for each person. The public address is typically used to send or receive cryptocurrency and can be changed frequently by the user via a digital wallet that creates a new public address. This helps to ensure users remain anonymous while on the network, however, to transfer the funds to a hard currency, a person needs to leave the network, which could make one vulnerable to identification.

Blockchain also ensures that information and transactions are stored securely and cannot be altered without a consensus of participants (Zheng et al. 2018). Once the data has been distributed, the secure hashing algorithm (SHA) makes it practically impossible to tamper with (Shahzad and Crowcroft 2019). Any attempt to change the input, which generates the 256-bit SHA, will result in dramatic changes to the SHA, thus not matching existing records. Essentially, a user is only able to change information in their own block and would not alter the millions of others connected to the network. To proceed with an action, consensus mechanisms, or rules that decide on the contribution of users, are in place. Consensus mechanisms exist in a variety of forms (e.g., proof of work, proof of stake, byzantine fault tolerance, proof of elapsed time, proof of burn); however, they all seek to ensure a single user is not able to manipulate the network and everyone benefits appropriately.

Given the unique attributes of blockchain—transparent, decentralized, and immutable—the underlying assumptions that drive existing theories and research are largely not transferable. Blockchain can create a more secure, customer centric, and open marketplace for consumers and businesses; however, if it is treated the same as existing technologies, it may cease to be integrated any further.

2 Research agenda

Despite the unpredictability surrounding blockchain’s future, it is important for marketers to understand the potential that exists. Given the opportunities presented by blockchain, we provide research questions for scholars to consider in the areas of cryptocurrency, digital platforms, supply chain, online advertising, and market research (see Table 1).

Table 1 Summary of blockchain research opportunities and questions

Research opportunity	Representative research question(s)—consumers	Representative research question(s)—managers
Cryptocurrency	<p>What messaging strategies would best encourage customer understanding and acceptance of cryptocurrencies?</p> <p>How does cryptocurrency use vary across demographic groups? Further, how may security and privacy concerns account for any differences?</p>	<p>How can firms increase customer loyalty using cryptocurrencies?</p> <p>Would it be advantageous for companies to accept multiple types of cryptocurrency or just one?</p> <p>How can firms leverage the use of cryptocurrencies to maximize revenue (e.g., by holding it as an asset or converting immediately for a traditional currency)?</p>
Digital platforms	<p>How would consumers respond to new blockchain based platforms compared with traditional platforms? How loyal to existing platforms are consumers?</p> <p>What are the biggest challenges to getting consumers to utilize the blockchain based platforms?</p> <p>What kind of information should be presented to inform potential users of the benefits of the new platforms?</p> <p>How should the messaging be different based on demographics, or other relevant variables?</p>	<p>How do blockchain based platforms develop a competitive advantage when entering a market with existing dominant businesses (e.g., Amazon)?</p> <p>How do existing platforms compete in a blockchain based environment? Is it advantageous to adopt the technology and keep the brand recognition it has? Or is it better to carve out a niche by purchasing a startup that would compete in this area?</p> <p>What opportunities exist for existing industries that are ripe for change (e.g., travel, sharing economy, banking) to embrace blockchain technologies within their current platforms?</p>
Supply chain	<p>What impact will real transparency in the supply chain have on consumers?</p> <p>How do consumers value supply chain transparency with regard to sustainability? Will it lead to more sales, the ability to charge more or an enhanced image?</p>	<p>What impact will blockchain transparency have on a company's supply chain? Would it lead to fewer partners in the supply chain or have an increased risk of disruption?</p> <p>Will it encourage more firms to adopt sustainability initiatives and discourage greenwashing?</p>
Online advertising	<p>What will drive the move to blockchain for digital advertising—consumers or businesses? Will consumers respond more favorably if well-known brands lead the charge?</p> <p>Are consumers willing to give up some of their online privacy through verified profiles for a more relevant and rewarding online experience? What kind of reward or payment would be appropriate for users that interact with digital ads?</p>	<p>How will blockchain allow for digital marketers to more accurately measure ROI of ads due to increased transparency? How would this impact the expected ROI for digital ads?</p> <p>What value would digital ad buyers (e.g., brands or ad agencies) find in transparent results?</p> <p>What brands or products would be best suited to utilized blockchain based digital ads?</p>
Market research	<p>What type of smart contract would be appealing to participants? What elements of the study design or smart contract would most impact participation?</p> <p>How much would participants expect to be paid based on specific smart contract stipulations?</p>	<p>What are the most important conditions (e.g., click rate, time per page view or question) to include in a smart contract for survey participants? How does the type of data sought (e.g., survey, experimental) impact the conditions of the smart contract?</p>

Table 1 (continued)

Research opportunity	Representative research question(s)—consumers	Representative research question(s)—managers
	Are participants willing to adhere to the contract stipulations for cryptocurrency or would they prefer another form of payment?	What impact do the demographics of potential participants have on the smart contract conditions set by a researcher?

2.1 Cryptocurrency

The five largest cryptocurrencies by market cap, Bitcoin, Ethereum, Tether, XRP, and Polkadot, have a total value of nearly \$275 billion (CoinMarketCap 2020). Additionally, there are nearly 100 more cryptocurrencies, each with a market cap exceeding \$100 million. The growth of the cryptocurrency market presents an opportunity for businesses to reduce their dependence on credit card companies and increase customer loyalty. In fact, Facebook is creating its own cryptocurrency, the Libra. However, the wild swings in value can make it a risky, or profitable, venture. The opportunity to utilize cryptocurrencies to attract consumers may provide firms with access to a new market, as well as the potential for tax friendly gains if it increases in value. Younger consumers are more likely to utilize cryptocurrencies; however, it may alleviate the concerns many older consumers have if they know the transaction is secure.

2.2 Digital platforms

Like the disruption Amazon brought upon the marketplace, blockchain could provide the foundation for an upheaval of digital commerce platforms, not only B2C, but also B2B. Inception, for example, is a cloud-based digital commerce platform built on blockchain. Blockchain enables an efficient and secure communication and transaction platform for manufacturers and customers, which reduces costs and exposure. Amazon analyzes third party seller data as it seeks to develop its own products, which leaves many manufacturers vulnerable (Mattioli 2020). However, blockchain would enable sellers to utilize their own, or a third-party, platform, such as OpenBazaar, without having to pay the fees, or give control of their data to a server-based platform like Amazon.

Similarly, blockchain has the potential to upend entire industries. Just as video stores, travel agencies, and many retailers have ceased operations due in large part to the Internet, blockchain could make some digital platforms obsolete. The online booking sites (e.g., Travelocity, Expedia) that replaced travel agencies could be replaced by blockchain platforms. This would largely eliminate the fees currently paid by airlines and hotels and create a more secure reservation platform for users. In the sharing economy, Uber, Lyft, Airbnb, and many other platforms could be eliminated if blockchain replaces the centralized databases of those companies (Marr 2018). Blockchain could facilitate the entire transaction from service request to payment via cryptocurrency, enabling a transparent transaction and improved pay for workers. However, the banking industry may undergo the greatest transformation. In addition to customers no longer requiring the basic service of monetary storage, blockchain may

help to facilitate costly cross-border transactions, while also automating invoices and payment collection. In fact, Barclays has invested in CrowdZ, a blockchain based B2B payment platform, to help facilitate transactions (Nicol 2019).

2.3 Supply chain

The impact of blockchain on the supply chain, in particular its transparency, is immense. Provenance, a platform and consultancy for supply chain transparency, enables firms to verify the origin and journey of a product as they seek to gain trust in sustainability efforts. Consumers have more access to information than ever before and companies like Provenance can take that a step further. Companies can now tell the story of the product from inception, to creation, to transport, to the consumer's hands. The environmental, social, and financial impact of the product can be monitored and assessed to ensure the claims made by the company are accurate. A transparent supply chain should reward those who are doing things responsibly, while encouraging others to join the movement.

2.4 Online advertising

The lack of trust in online advertising has grown in recent years. From privacy concerns, to the prevalence of computer bots, to increased click rates, marketers face an uncertain digital environment (Hart 2017). Ubex, a global advertising platform based on blockchain, aims to help mitigate those issues. Blockchain allows for consumers to have authenticated and verified profiles on the network. This enables users to opt-into viewing ads and is rewarded for interacting with them. Rather than the revenue going to the website showing the ad, consumers are compensated for interacting with the ad. Additionally, the information that was once collected and sold by websites is now under the control of the user. Given the financial ramifications for companies like Google and Facebook that thrive on ad revenue, blockchain-based ad platforms are likely going to face stiff resistance. However, brands that are skeptical of existing forms of online advertising may find the advantages of blockchain beneficial compared with existing methods.

2.5 Market research

The attributes of blockchain make it an appealing technology for use in market research as well. From a privacy perspective, the decentralized nature of blockchain helps ensure that the data breaches (e.g., Target, Home Depot) do not occur (Zheng et al. 2018). Also, with the growth of sites such as MTurk and Prolific, data quality has become a concern for academics. Smart contracts can be created on blockchain that ensure payment is received once the agreed upon conditions are met (Dolgui et al. 2020). These conditions could be anything set by the researcher (e.g., time spent per page or question, click rate). The smart contract helps to ensure that participants are intentionally completing the survey, thus reducing blind responses, and helping to ensure high quality data. Stipulating the specifics of the contract would be determined by the researcher based on collection requirements and then agreed to by qualified participants. Participants would be paid an agreed upon amount via cryptocurrency once the

chain verifies that the contract has been fulfilled. Each person also has a verified profile, thus ensuring only one response per person. The use of blockchain would enable researchers to have greater confidence in online data collections.

3 Conclusion

Despite its progression over the last decade, blockchain has yet to be fully embraced or make the impact many suspected it would. It is important that marketers be aware of the potential implications of blockchain since it may be a technology that reshapes our economic system.

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