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## Blockchain Effects on Marketing Empowerment

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**Abstract:** Blockchain has emerged as a major revolution in the field of information technology. It is an open, immutable and distributed public ledger that is accessible by multiple parties involved in a transaction and acts as a global depository for all transactions between the parties involved. The blockchain transaction structure aims to reduce perceived risks for consumers, however, its benefit for marketing is still vague. The motivation of the present study is to investigate the effects of blockchain technology in marketing empowerment. This research has been done through a review of existing literature using an exploratory-descriptive approach and systematic review method. For this purpose, 50 articles were collected from valid databases, with the inclusion criteria considered for the research. Based on the result, five elements including reduction of disintermediation, advertising, privacy, increased security and loyalty programs were found as important components of blockchain that can empower marketing.

**Keywords:** Blockchain technology; Digital marketing; Marketing empowerment

### 1. Introduction

Increasing competition based on time, increasing information and knowledge, the complexity of the environment, the globalization of the economy, new innovations in services and production, and the growth of customer expectations have created many changes in the organizations' view of the customer category. As a result, more people are aware of the customer's importance and the benefits she can have. The most important approach to reach customers is marketing. Marketing helps companies explain the value that consumers perceive from a product or service (Rejeb, Keogh & Treiblmaier, 2020). It is also an important pillar in the economy of any country (Jain, et. al, 2021).

The rapid expansion and growth of the Internet, coupled with the emergence of new technologies, has had a profound impact on the traditional marketing mix. As a result, these modern technologies have placed consumers at the forefront of challenges related to transparency, trust, privacy, and security (Rejeb, Keogh & Treiblmaier, 2020). The widespread use of information technology, the Internet, and social media in the digital world has fundamentally altered the way consumers interact with marketers. Consequently, the adoption of these technologies can present challenges in terms of consumer

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communication, marketing strategies, and the management of the marketing mix (Antoniadis, Kontsas & Spinthiropoulos, 2019). The use of new technologies has greatly enhanced the dynamism of various marketing strategies, allowing businesses to tap into previously unexplored markets. With the help of technology, businesses are able to gain deeper insights into their existing market and gather more accurate information from consumers (Verma & Kaur, 2022). The Internet, in particular, has opened up new online markets and created new demand for products and services (Rejeb, Keogh & Treiblmaier, 2020). Information and communication technologies (ICT) have played a major role in revolutionizing virtual business models in the current digital age. One of the most destructive of them, which has strongly affected business models and created new ways in different fields, is blockchain.

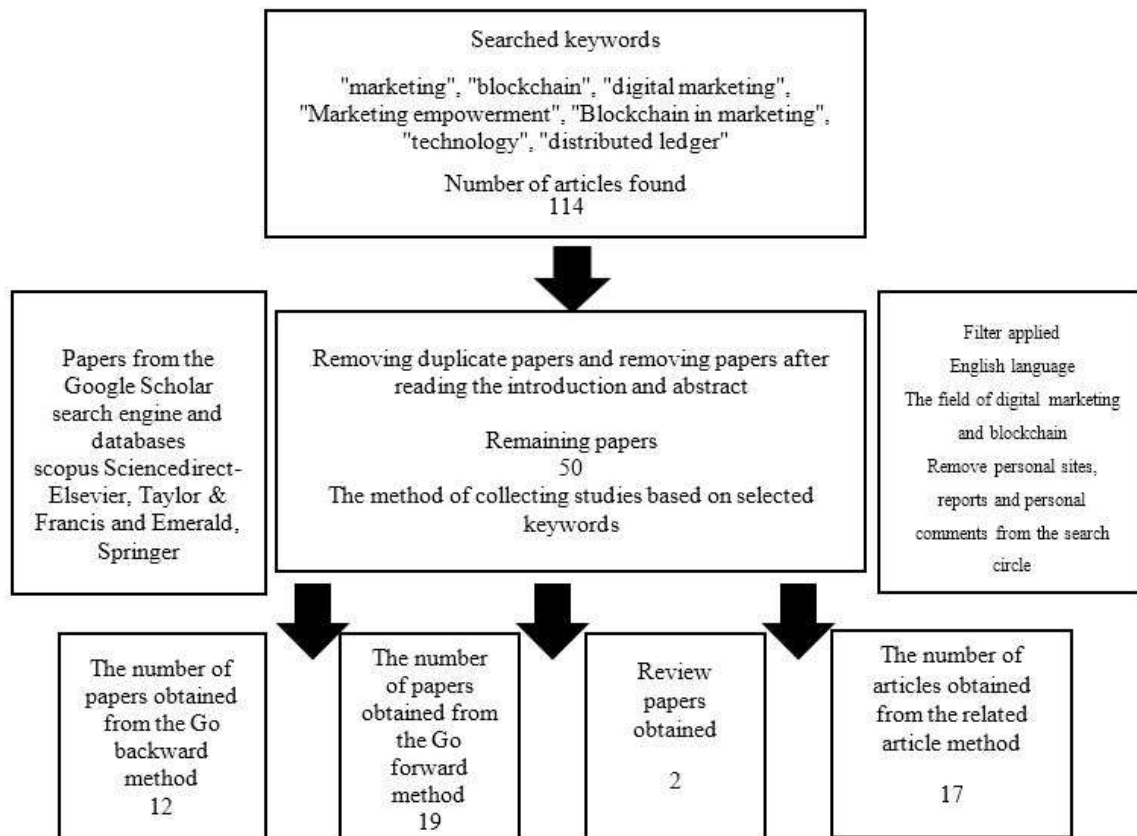
Blockchain refers to a fully distributed and immutable system for storing, cryptographic record of a fixed linear event. It was originally known as a decentralized ledger for Bitcoin. With the increasing spread of digitalization in various fields, marketing shifted to digital platforms. This technology has the potential to create value in various fields, from banks to internet companies (Jain, et. al, 2021). The use of blockchain applications, which are based on distributed ledger technology, has provided innovative solutions for business problems such as efficiency, security, disintermediation, balance of power in the value chain, and immutability of record keeping (Verma, et. al, 2019). Thus, the interest in blockchain in marketing is due to increase attention, accountability, honesty and transparency in reliable interactions in society and business (Stallone, Wetzels & Klaas, 2021). Providing fast transactions with close to zero transaction cost on blockchain, as well as minimal roles of intermediaries, by increasing control over personal information by consumers, leads to the development of consumer trust and services (Jain, et. al, 2021). By storing transactions and information in a decentralized and secure way, blockchain creates many potential applications for marketing (Peres, et. al, 2023).

Despite being present in the industry for a decade, blockchain has not received much attention or research in terms of marketing. A closer investigate of the theoretical foundations and background of existing research shows that there is a lack of depth in this field. While current research has focused on the potential of blockchain in digital currencies and finance, there is a growing interest in exploring its application in other industries, particularly marketing. Given the potential impact of blockchain on the marketing sector and the marketing mix, a thorough analysis is necessary to facilitate its faster adoption in this field. By identifying the prominent components of blockchain that are used to empower marketing, companies take appropriate actions and planning to take advantage of this technology, and by having a knowledge and understanding of it, they prevent possible challenges of its implementation.

## **2. Methodology**

The methodology of this research is a qualitative method and its purpose is exploratory and descriptive. This study has been done by systematic review method with Webster and Watson (2002) and Watson and Webster (2020) approach of online databases, books, and papers. A systematic review is a method that enables the evaluation and interpretation of all available research related to a research year, topic, or event of interest. In this paper, different databases with heterogeneous disciplines are used to collect papers. These few selected databases have wider resources and have been more active in humanities and management research. Figure 1 show the name of the database and the process for selecting papers. In this study, a systematic review was conducted in the category of English-language research. The search was conducted with the desired keywords among the authoritative scientific journals using quantitative, qualitative, and mixed methods. Papers related to management or humanities were included, while those related to engineering, medicine, sports, etc. were excluded. To narrow down the scope of articles,

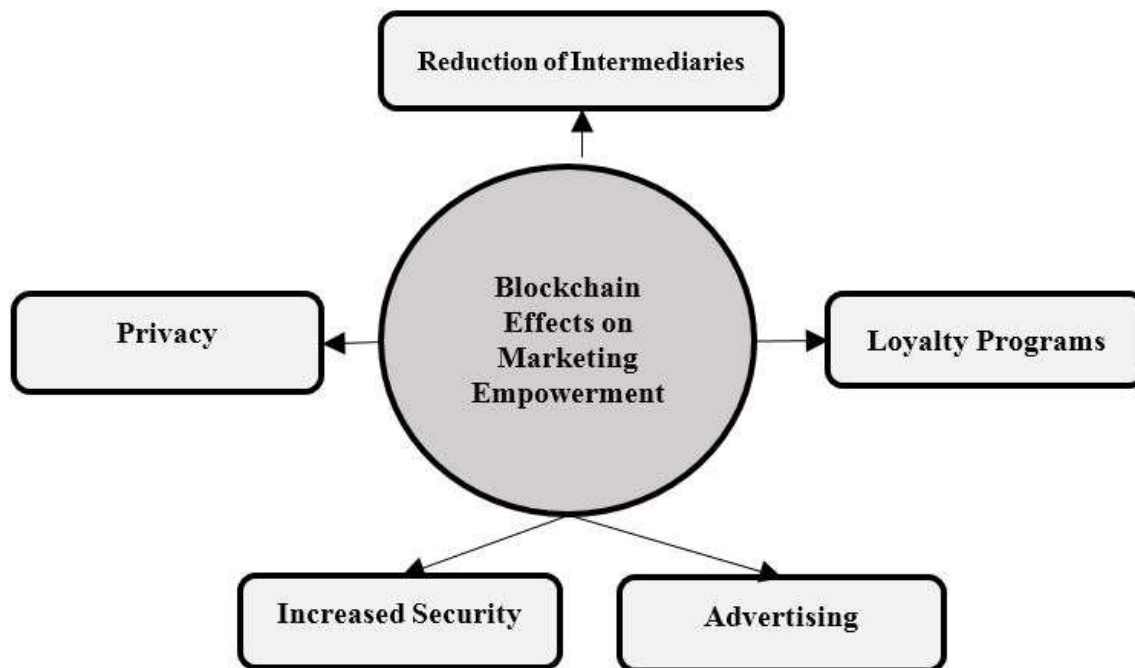
specific keywords such as “marketing”, “blockchain”, “digital marketing”, “Marketing empowerment”, “Blockchain in marketing”, “technology”, “distributed ledger”, and operators such as “+” and “and” or “or” were used. About 114 articles were collected, after removing duplicate and unrelated articles, those that remained were the basis of the work, and the Go backward, Go forward, and related articles were used for a more detailed and comprehensive review. Additionally, we collected review papers that contained the relevant keywords. After careful consideration, we selected 50 papers for our review, excluding dissertations. As research on this topic is scattered, our aim was to identify the key components of blockchain for marketing empowerment through a systematic review.



**Figure 1. Process of Resource Collection**

### 3. Findings

The literature review reveals that the five most prominent and frequently mentioned components of blockchain in marketing are the reduction of intermediaries, privacy, advertising, security, and loyalty programs. These components are illustrated in Figure 2, which presents the results of the systematic review.



**Figure 2. Blockchain Effects on Marketing Empowerment**

Below are the components and the impact that blockchain has on them, as supported by existing theoretical foundations.

### 3.1. Advertising

Advertising are information about goods and services for consumers. This information helps consumers to make choices among different brands based on their needs, desires and problems they face (Luo, Zhang & Liu, 2015). Digital advertising is a communication method in which information and messages about products, services and ideas are conveyed to consumers through digital media (both traditional and interactive media) (Gordon, et. al, 2021). Digital advertising refers to all advertising activities that utilize digital devices or the Internet (Kumar & Brar, 2018). This form of advertising has gained popularity among marketers due to its advantages, such as targeted communication, personalized content, flexibility, and cost efficiency (Gordon, et. al, 2021; Ma & Du, 2018). However, the constant violation of consumer privacy in online advertising has led to conflicts between consumers, advertisers, publishers, and intermediaries, as they are dissatisfied with the current model of digital advertising. Also, the dematerialization of digital assets poses challenges to prohibiting illegal copying, downloading, sharing, and protecting legal rights (Liu, Zhang & Han, 2021). In recent years, the lack of trust in online advertising has increased. The prevalence of computer robots, increasing click rates, privacy concerns and marketers facing an uncertain digital environment are among the existing problems (Gleim & Stevens, 2021). The advent of blockchain technology offers significant potential to alleviate consumer concerns by providing greater transparency and control over how advertisers and marketers use their data (Adigüzel, 2021). The second generation blockchain based on smart contract is the main field in the field of online advertising (Pärssinen, et. al, 2018). By incorporating blockchain into marketing strategies, businesses can seamlessly integrate personalized customer information into their advertising messages, resulting in more effective and targeted marketing efforts. This, in turn, creates

added value for customers. Ultimately, the implementation of blockchain in marketing can greatly enhance the overall quality of marketing communications (Madhani, 2022). Blockchain can be used for targeted consumer advertising (Adigüzel, 2021). Ensuring that advertising dollars reach the desired goals is one of the main challenges of the advertising industry, and blockchain has the potential to reduce this problem. The tokenization of advertising reach data can help create platforms in which users are compensated for watching an ad. This can improve targeting by providing more reliable information about who is actually exposed to the advertising message and track their response (Peres, et. al, 2023). Finally, blockchain can support the development of advertising platforms and new channels (Stallone, et. al, 2023).

### **3.2. Reduction of Intermediaries**

An intermediary's role is to connect buyers with sellers (Gomez, et. al, 2019). One of the key advantages of blockchain technology is its potential to reduce the need for intermediaries or centralized institutions. Instead of relying on human intermediaries, blockchain relies on transparent computing protocols (Krakovsky, 2015). Today, the most commonly used method for verifying ownership of assets and conducting transactions is through mediation. However, this approach not only leads to higher costs and longer processing times in the event of intermediary failure, but it also poses a credit risk. Blockchain aims to address these issues and change people's reliance on trust in human intervention by utilizing reliable mathematical algorithms (Nofer, et. al, 2017). It seems that blockchain technology can create a world where the risk of intermediaries is eliminated (Micheler & Heyde, 2016). Elimination of middlemen is a benefit for consumers and marketers due to lower prices, as third parties or middlemen who take a percentage of the total amount are eliminated (Lorne, et. al, 2018). In fact, removing intermediaries can decrease financial and operational costs and increase profit margins. The near-instant transactions of digital assets on the blockchain make it a promising tool for implementing contracts without intermediaries, as well as for storing data with unprecedented levels of security and efficiency in various economic activities (Antoniadis, Kotsas & Spinthiropoulos, 2019).

### **3.3. Increased Security**

Information security is an essential feature because brands are stewards of consumers' personally identifiable information. Of course, marketing security means real-time control, which includes immediate management and control of personally identifiable information of consumers to prevent misuse and data leakage. Previous research has noted that information security concerns are a significant barrier to online marketing. This is because online shopping relies on sensitive and personal information such as credit card details and home addresses that many people are reluctant to provide. transmission attacks or unauthorized use of bank cards enabled through false authentication, unauthorized account access, theft of credit card information, database attacks, identity theft, content manipulation, misuse of cookies, patent and copyright infringement, Data loss or theft is potential online threats. The approach based on blog records and cookies to track the online activities of buyers may pose risks to the privacy of economic consumers (Adigüzel, 2021; Wertheim, 2020). But, in blockchain, transactions are cryptographically signed, time-stamped, and sequentially added to the ledger and hence cannot be altered once recorded, preventing fraud and manipulation of activities (Madhani, 2022). Blockchain helps strengthen the security of digital marketing and ensures that transactions and information are securely stored and cannot be changed without the consensus of the participants. The implementation of blockchain in marketing can be a solution to the long-term problem of data security. This technology

has the potential to increase the level of security, because it is a security-oriented technology that secures processes and data. Additionally, blockchain technology facilitates secure exchanges and records details of transactions, assets, data, and contracts (Madhani, 2022). The peer-to-peer structure of the blockchain network allows for direct communication between network members and provides advanced levels of security, eliminating the need for additional layers of security. Each blockchain transaction is owned by a specific individual and the data within a block cannot be altered by anyone. This level of verification allows for the monitoring of crucial marketing processes. Furthermore, blockchain offers a high level of flexibility in terms of data usage and disclosure permissions (Peres, Schreier, Schweidel & Sorescu, 2023). The decentralization of the blockchain not only makes it harder to hack a single user account, but also harder to crash the entire network (Adigüzel, 2021).

### **3.4. Privacy**

Online privacy is a complex issue. Organizations have some data collection techniques that can identify, collect, track and manipulate customer information. Certainly there are challenges of misinformation and ethical abuse. Hence, to counter such threats, some consumers provide false information to websites to block targeted online advertising systems. But, this is not a long-term and transparent solution (Rahman, 2021). The decentralized nature of blockchain is a suitable solution to mitigate privacy issues. Because, it helps to ensure that data breaches do not occur. Blockchain helps consumers have more control over their personal information. Therefore, this implementation is effective in increasing privacy protection in marketing. Because consumers can provide their information to a brand that is approved and trusted. Although the distributed ledger of the blockchain is accessible, the identity of the user remains hidden or anonymous and hence privacy is protected (Madhani, 2022). The identity of the user in the blockchain platform is anonymized, which makes it almost impossible to violate the privacy of users. With the use of blockchain technology, consumers are given full control over their personal data and are even getting paid for viewing brand advertisements and sharing their identity with them (Al-Ahwal, Mladenović & ZareRavasan, 2022). By implementing a digital marketing system that utilizes blockchain, many privacy concerns can be addressed. Because interactions are routed through random points in the network, online shoppers can entrust their personal information to a blockchain-based platform. As a result, their real identities are safeguarded from manipulation or misuse. In this way, customers' online privacy can be effectively managed through the use of blockchain technology (Rahman, 2021). By using the privacy protection mechanism of blockchain cryptography, the private information of traders can be protected according to various application scenarios. In fact, the transaction process, the identity of the traders is not revealed and the details of the transaction are not seen by any third party or irrelevant party. Trust problems between nodes are solved by adopting cryptography privacy protection mechanism. The effectiveness of the exchange between nodes is judged based on the rules of the program in the blockchain by following a fixed algorithm, the interaction in the chain and the storage of data are done anonymously without resorting to personal identity and address (Liu, Zhang & Han, 2021).

### **3.5. Loyalty Program**

Keeping existing customers is more profitable than attracting new customers, and since the cost of attracting new customers is much higher than keeping current customers, therefore, keeping loyal customers is one of the main goals of marketers. Today, loyal customers are considered a vital part of the success of organizations. In recent years, the competition to attract and retain customers has

encouraged marketers to use loyalty programs and develop them (Shamsi Ghoshki, et. al, 2012). Customer loyalty programs are a marketing plan designed to increase loyalty by providing incentives to consumers in the form of additional benefits. Companies are constantly looking for strategies such as reward schemes to reach ideal customers (Rahman, 2021; Qu, et. al, 2011). Loyalty programs are implemented in various industries to generate more profit and increase sales for brands. Companies must ensure that in a competitive marketing environment, customers remain loyal to their services and products (Verma & Kaur, 2022). With the decentralized nature of the blockchain, customers can track and trade their reward points, freeing customers and brands from having physical coupons. Blockchain technology has become increasingly popular for both B2B and B2C loyalty programs. By utilizing blockchain, companies can create a secure and interactive environment that was previously unattainable through centralized and traditional loyalty schemes (Rahman, 2021). This allows brands to have more control and provide consumers with incentives such as digital currency rewards, micropayments, and cash savings (Rahman, 2021). The use of blockchain and smartphone apps can transform loyalty programs and schemes by incorporating tokens. This tokenization leads to a more comprehensive and transparent experience for customers, as all interactions with the brand are easily monitored (Antoniadis, Kontsas & Spinthiropoulos, 2019).

Traditional loyalty programs in the market today are cost-based, coalition loyalty programs, punch cards, cash back, points. Loyalty points are collected in a wallet for consumers in a blockchain ecosystem. Consumers can earn points by shopping at a company that has its own reward program on the blockchain. Elements is an example of a global loyalty cryptocurrency. Companies that have loyalty programs developed in the blockchain ecosystem have value-added services that they can offer to customers (Agrawal, et. al, 2018). This technology can create more effective loyalty programs for marketers by reducing costs and making the process more secure by eliminating intermediaries and using blockchain's unique verification capabilities. With the ability to instantly deposit loyalty points, customers can easily redeem them on the site. The integration of multiple brands and companies in blockchain-based loyalty programs also allows for instant exchange and redemption of reward points (or tokens), as well as the possibility of peer-to-peer token exchange (Madhani, 2022).

#### **4. Conclusion**

The use of information and communication technology in various fields has led to numerous digital advancements, and marketing is no exception. One of these developments is blockchain technology, which serves as a tamper-proof distributed ledger. This article is an attempt to study and identify the prominent components of blockchain for empowering digital marketing in the existing literature. Conducting this research will provide a deeper understanding of the benefits of blockchain in marketing. Through this study, five blockchain components have been identified for empowering digital marketing, based on existing literature. The future of marketing is undergoing a drastic change with the adoption of blockchain technology. This technology offers unique features that will greatly benefit the marketing industry, including cost and risk reduction, increased customer satisfaction, direct impact on credit management, loyalty programs, and digital marketing. Its implementation will also bring transparency to information and build trust in transactions due to its decentralized nature. To gain a thorough understanding and in-depth insight into this field, further studies should be conducted on other components with greater detail. Of course, the application of this technology in this field is still in its initial stage. The present study is unique in that, in addition to identifying the existing components, it has also critically reviewed the literature. By reading this article, managers and companies will learn about the prominent components of blockchain, which is a driver for empowering digital marketing.

Identifying the components of marketing empowerment is essential, because it provides opportunities for the effectiveness of actions and achieving goals and more profitability. Due to the potential of this technology in improving marketing, it is necessary to have a thorough understanding of it. Previous research has explored the potential benefits and applications of blockchain technology in the field of marketing. However, the number of studies in this area is continuously increasing, indicating a growing interest in the topic. However, the research done is not rich enough, the existing research is limited and primarily qualitative, relying on theoretical knowledge rather than empirical evidence. Some studies have examined a limited number of factors and components of blockchain in marketing, and the lack of coherent and comprehensive views in this field is evident. Additionally, there is a lack of a comprehensive framework in the theoretical literature to describe the role of blockchain in marketing. Therefore, there is a need for further investigation into the impact of blockchain on marketing strategies in various contexts and geographical locations. Despite the studies, the technical aspect of this technology has not been investigated in marketing. Due to the fact that the entry of new technologies into any field, the systems governing that industry undergo transformations from various technical and social dimensions. Therefore, it is necessary to eliminate the knowledge gap by conducting research. Research with studied approaches is needed and should be investigated in reality in this field, blockchain. A handful of reviews has examined the limitations that blockchain may pose in this area after implementation. Different aspects of implementation and requirements for the implementation of this technology should be reviewed according to the conditions of each country. Most of the studies conducted on blockchain are in advanced industrial countries, and there is a need to conduct these studies in developing or underdeveloped countries as well. The transfer path of new technologies causes changes in the existing technical systems and relationships, therefore, the successful implementation of new and emerging technologies requires a comprehensive review at the level of bite, regime, and perspective. Blockchain's impact on customer relationship management, measuring market interaction, impact on marketing mix, length of customer value, customer satisfaction, review of various blockchain is needed for better use in this industry. In their research, Al-Ahwal et. al. (2022) identified six benefits of blockchain in marketing through findings from secondary data collection (literature review) and primary data collection (experimental study review). Strengthening mediation, combating click fraud, strengthening trust and transparency, increasing privacy protection, strengthening digital marketing security and enabling creative loyalty programs are the six benefits. Some components of this research are the same as the current study. One of the limitations of this review is the lack of quality and reliable research in the field, although we used a limited number of databases to extract articles, and there may be good quality articles that are not indexed in this number of databases. Future studies could adopt other techniques and databases to include as many articles as possible on identifying other components of blockchain to enhance marketing.

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