

# Investigating the impact of blockchain technology application on digital marketing

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**Abstract**

The purpose of this study is to investigate the effect of blockchain technology on digital marketing. This study is applicable in terms of purpose, and of a quantitative research type, which is a survey-cross-sectional study in terms of data collection. The statistical population of this study consists of online marketing managers and activists. The entire statistical population was considered unlimited. Due to the unlimited nature of the statistical population, 384 people were considered as a sample, based on the Morgan table. The data collection tool is a questionnaire. The standard questionnaire was extracted based on the study by Wiratma et al., (2021). Confirmatory factor analysis and model fit test and structural equation model were used to examine the data to test the hypotheses expressed in the study. The data analysis method was also using smart.PLS software. The results of the study showed that blockchain has a positive and significant effect on mega-data, which in its turn, has a positive and significant effect on digital marketing. Blockchain has a positive and significant impact on digital marketing.

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## Extended Abstract

### Introduction

With the rapid growth of e-commerce, exchanges and transactions through information technology tools and methods have increased significantly. The adoption and use of various electronic payment services and its application are important topics considered in the use of new technologies (Li & Bai, 2010). Today, much of the attention on blockchain is focused on financial services; and very little has been discussed about non-financial services companies and how blockchain technology can impact organizations, their business models, and the way they create and deliver value (Morkunas et al, 2018).

Blockchain technology has emerged as a promising innovation that can not only disrupt operational processes in the supply chain of products and services, but also facilitate risk management in the complex and interconnected global supply chain ecosystem through increased information and process flexibility (Tonnisson & Teuteberg, 2020; Esmaeili et al, 2020; Wamba & Queiroz, 2020; Gory, 2019). With the rapid growth of e-commerce, exchanges and transactions through information technology tools and methods have increased dramatically. The adoption and application of various electronic payment services and their applicability are important issues considered in the use of new technologies (Li & Bai, 2010). Much of the attention on blockchain today is focused on financial services, with very little discussion of non-financial services companies and how blockchain technology can impact organizations, their business models, and the way value is created and delivered (Morkunas et al, 2018). It monitors interactions between individuals, organizations, companies, communities, and people. They guide management and social actions. Blockchain technology at the heart of Bitcoin and other cryptocurrencies, is a chain blockmarket of an open, distributed ledger that can efficiently record transactions between two parties in a verifiable, permanent, and secure manner. This technology is protected against deletion, tampering, and financial transactions (Rega et al, 2019).

Blockchain technology is predicted to play a significant role in digital marketing in the future. According to a report in Semupdates.com (2019) of the 20 digital marketing trends that will go viral in 2020; one of them is blockchain technology in search engine advertising. The use of blockchain is a technology much broader than the financial world that can be applied to the world of digital marketing, as its functions are transparent and provide benefits to the branding process. The figure below shows the size of the blockchain technology market worldwide from 2018 to 2025, where it is predicted that the blockchain technology market will be worth \$39.7 billion by 2025. This chart shows the blockchain market forecasts that also show the use of blockchain technology (Wiratama et al, 2021).

For this purpose, the present study seeks to answer the following question: What is the impact of the application of blockchain technology on digital marketing?

### Theoretical Framework

#### Blockchain

Blockchain concepts have brought about widespread changes in the legal industry, simplifying and streamlining various processes. The same type of simplification can be seen in the accounting field. Another entity that can benefit from blockchain technology is the government. However, the benefits of this blockchain can go beyond the small projects they have implemented. Three benefits that governments can realize are increasing citizen trust in authorities, protecting crucial data, and reducing costs by increasing efficiency. While the cost savings in the financial industry can be extensive, the legal field can also implement this technology with great success. While there are many applications for which blockchain

technology can be used, it can be seen that the main place where it is used is to better organize information, which raises questions about the potential untrustworthiness of the information itself. With the emergence of smart contracts in blockchain technology, the credit requirement required in many international sales transactions is becoming obsolete and useless (Benson, 2019).

### **Digital Marketing**

The term digital marketing has been referred to as a subset of marketing management and advertising management for two decades (Kamnan, 2017). Digital marketing includes all the tools and activities used to market products and services on a digital platform (web, internet, mobile or other (digital) tools) (Vaziri Gohar & Abdolhosani, 2020).

Roshanak et al, (2024) investigated the effect of marketing mix on blockchain technology with the mediating role of perceived usefulness in customers of the National Bank of Iran in Tehran. The results of the study indicate that senior management support, supply chain integration, and innovation capability have a significant effect on blockchain technology. Also, supply chain risk did not affect blockchain technology. Finally, the role of marketing mix has been shown on perceived usefulness. Also, perceived usefulness affects blockchain technology.

Moradi ziba et al, (2023) investigated the model of digital marketing strategies in successful Iranian startups. The results of the qualitative section indicated that 241 primary codes, 46 pivotal codes, and 14 selective codes were identified and extracted. The results of the study showed that the causal conditions with 4 variables of network capability, use of artificial intelligence, marketing capability and customer knowledge have an effect on digital marketing strategies; and the results of confirmatory factor analysis showed that the model fit indices were approved.

### **Research Methodology**

This study is applicable in terms of purpose, and of a quantitative research type, and a survey-cross-sectional study in terms of data collection. The statistical population of this study consists of online marketing managers and activists. The entire statistical population was considered unlimited. Due to the unlimitedness of the statistical population, 384 people were considered as a sample based on the Morgan table. The data collection tool is a questionnaire. The standard questionnaire was extracted based on the study of Wiratma et al. (2021). Confirmatory factor analysis and model fit test and structural equation model were used to examine the data to test the hypotheses expressed in the study.

### **Research findings**

The data analysis method was carried out by smart.PLS software. The research results showed that blockchain has a positive and significant effect on megadata. The megadata has a positive and significant effect on digital marketing. Blockchain has a positive and significant effect on digital marketing.

### **Conclusion**

The present study was conducted with the aim of investigating the effect of the application of blockchain technology on digital marketing. The results of this study are consistent with the results of Roshanak et al, (2024), Moradi ziba et al, (2023), Bagheri Anilu et al, (2023), Zhang et al, (2023), Dana et al, (2022) Gholipour Domyeh (2023), Ahmadi et al, (2022), Da Silva & Moro (2021), Clohessy et al, (2020), Grishikashvili et al, (2014), Rejeb et al, (2020),

Brauer & Eriksson (2020), Ertemel (2018), and Kecskes (2018). Roshanak et al, (2024) showed that top management support, supply chain integration, and innovation capability have a significant impact on blockchain technology. Also, supply chain risk did not have an effect on blockchain technology. Finally, the role of the marketing mix on perceived usefulness has been shown. Also, perceived usefulness has an effect on blockchain technology.

According to the results of the research, it is suggested that online marketing managers and activists strengthen the technical knowledge of employees in this field by holding meetings and training courses in the field of blockchain technology. On the other hand, by focusing on emerging technologies such as blockchain and their capabilities, they should align their marketing strategy with digital marketing based on these emerging technologies.