

The Roles of Blockchain Technology in the Financial Sector

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Abstract

The modern trends of digitalization have completely transformed and reshaped businesses, practices and a number of industries. Blockchain technology is believed to be the latest advancement in industries such as the financial sector, where trust is of prime significance. Blockchain technology is a decentralized and coded security system which provides the capability for new digital services and platforms to be created through this emerging technology.

Keywords: Blockchain technology • Improvement • Financial sector

Introduction

Payment instruments and systems have been developing and changing as a result of new advancements in technology and business processes, and the rapidly increasing demands of consumers. The main objective of any payment system is safe and smart transactions. The development of digital or crypto currencies is the latest revolution in the domain of money transfer [1-3].

As far as technical aspects and shortcomings of blockchain technology are concerned, the phenomenon of decentralized currencies has already stimulated academic research. In addition, this trend has prompted amendments and expansion of regulatory status and measures and economic analysis [4-10]. The concept of decentralized trust comes as a counter solution to traditional client-server architecture. The data and the actions do not need to be processed by a mediator if the central authority is removed from the system. Subsequently, the transactions become irreversible and the cost of transactions is also reduced. Moreover, the requirement for trustworthy governments, private firms, mediators and counter parties is also eliminated. Rather, trust is placed in the protocols and the infrastructure [11].

Blockchain technologies are identified as the significant technical innovations in the digitalization of asset ownership. Besides providing a secure audit trail that cannot be corrupted, the blockchain has been described as a multipurpose programmable platform for managing ownership and contracts. The latest advancements in the distributed transaction are mainly facilitated by the blockchain and fundamentally distributed database technology. Blockchain technology can build financial tools such as payments, smart contracts and trading records, and reduce undesirable dealings and their subsequent impact. Blockchains can serve as a transactional mechanism for 'sharing economic' service as it naturally solves trusted recording of large-scale P2P activities. The importance of such a transactional mechanism increases with the emerging 'Programmable World', where an increasing number of physical objects (the Internet of Things) become programmable and connected to the Internet.

On the basis of our existing literature review, it is presumed that apparent research gaps are found in the modern tools associated with blockchain technology. Both the practical and theoretical views of blockchain technology need additional research studies. The essentially decentralized nature of these payment systems and platforms are linked to a number of critical challenge.

For instance, how both privacy and trust can be assured in such a platform-mediated network, and how to determine and reduce the risks and challenges. Beneficial, reliable and more efficient services for consumers can only be realized with a better understanding of these challenges and subsequent benefits [12-14].

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The growth and the effects of new payment platforms can better be understood through the information systems (ISs) studies on open platforms. These studies offer approaches for enhancing third party participation. The governance of open source development communities has also been discussed in earlier research. Governance in this context encompasses how to acquire the direction, coordination and control of partially or completely autonomous individuals and organizations. Governance has been addressed by the open source research in three different ways: several enticements for autonomous developers to take part in open efforts maintaining support for essential coordination activities and developing a culture that welcomes open contributions [15-19].

New digital payment systems are being launched specifically to cater for the need for banking services; and the new systems do not currently handle the previously non-existent needs. As per the findings of previous studies, competing with well-known prevailing trends within the banking sector—which is heavily regulated by rules and regulations—has become extremely difficult. According to Ali, a remarkable historical example from an institutional environment has been presented: new payment systems by using blockchain technology were not only meant to reduce cash payments, but the banks also view this setup as a safe and secure method of handling consumer payments. Moreover, mobile operators aspire to benefit from increased revenue by using SIM cards for payer identification. Negotiations on pricing, openness, etc. of the platform strategy were directly affected by the conflicting goals. Hence, a challenging battle is being faced by the new digital payment platforms using blockchain technology in the heavily regulated financial sector [20].

Discussion

More recently, international associations, including the United Nations (UN) and the International Monetary Fund (IMF), as well as developed countries such as the US, Britain and Japan, have paid close attention to the growth of blockchains and discerned various applications in different sectors. According to the claims by some researchers, blockchains have the potential to reshape the banking domain. No central storage and permissions are needed for blockchains, resulting in major disruptions in the financial sector—particularly in payment clearing. Various global financial institutions have been framing

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Received 09 April 2021; **Accepted** 23 March 2021; **Published** 30 March 2021

ideas using blockchain technology since 2015. Likewise, there has been widespread optimism regarding blockchain adoption in the banking sector. A survey conducted by McKinsey in May 2016 with global banking executives revealed that blockchain applications will have a considerable impact within 3 years and was under-considered by half of the executives; and according to some researches, blockchain applications will have a considerable impact within 18 months. As per the prediction of another survey of 200 global banks, almost 15% of banks intend to extensively implement blockchain technology. In addition, IBM was of the view that commercial blockchain would be owned by 66% of the banks within 4 years. Therefore, the following proposition is offered:

For financial organizations to adopt and use blockchain technology throughout the financial sector it is necessary to collaborate together through the blockchain consortium. To decentralize the current financial system, it is very likely that it will take a long time for blockchain to be adopted and used throughout the banking industry because changes in financial systems and transformation of the system of financial organizations must be generally accompanied.

In the case of interbank payment, the move to introduce a closed distributed ledger that does not go through the central bank is accelerating. In international financial transactions, the closed distributed ledger service, including banks and customers, is evolving in the international payment service. Blockchain technology, based on origin of the distributed ledger led by Bitcoin, is already evolving as a new flow of finance. As the introduction of distributed ledgers focused on financial organizations is widespread, closed distributed ledger technology is predicted to be a pioneer in the future innovation of finance in terms of reliability, stability and efficiency.

As technology evolves, the needs of consumer and related environments change. At the same time, there is an increasing opportunity for individuals to be compromised by information such as hacking, and there is a strong need for blockchain technology because of the efforts of organizations that are trying to defend hacking. To promote market movements, the government and related organizations should recognize and support the power of blockchains in individual and business transactions, public services, etc., through the development of original technologies and expanding knowledge regarding best practices [21-27].

Conclusion

The blockchain technology is predicted to play a significant role in the future directions of the financial sector. Firstly, users would be able to better manage their transactions and data in many areas. Execution of transactions would be ensured in all respects without the involvement of a third party. The financial sector would thus be able to determine the smart solutions for managing their data according to their needs on a P2P network. Blockchain technology could revolutionize the surrounding ecosystem of financial tools. It can more effectively and efficiently contribute to user authentication, automatic encryption on data and recording data access histories. However, a number of challenges still persist, for instance, standards, scalability issues, interoperability, security incidents, and wasted resources. In addition, blockchain applications offer solutions for the complete replacement of existing systems. Therefore, the transition will not be rapid or straightforward. However, blockchain development is still in the early stages and these obstacles will eventually be overcome, thus opening the way for many exciting possibilities.

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How to cite this article: Ali, Omar. "The Roles of Blockchain Technology in the Financial Sector " *Bus Econ J* 12 (2021) 004