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The Role of Blockchain Technology in Increasing Transparency and Efficiency in the Global Sharia Financial Sector

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ABSTRACT

The background of this research focuses on the role of blockchain technology which is increasingly receiving attention in improving transparency and efficiency in various economic sectors, including Islamic finance. The Islamic financial system, which prioritizes the principles of fairness and openness, requires solutions that can strengthen transaction integrity and reduce operational costs and risks. Blockchain, with its decentralized and security mechanisms, offers great potential to meet these needs on a global level. The purpose of this study is to analyze how the application of blockchain technology can improve transparency, operational efficiency, and compliance with sharia principles in the global Islamic finance sector. The study also aims to explore the challenges of blockchain implementation in countries with a growing Islamic finance ecosystem. This study uses a descriptive qualitative method with a case study approach. The data was collected through literature analysis, interviews with Islamic finance industry experts, as well as observations on blockchain projects implemented in the sector. Data analysis techniques are carried out through thematic coding to identify trends, opportunities, and obstacles in the application of blockchain technology. The results show that blockchain has significant potential in increasing transparency through immutable transaction recording and automated auditing, as well as being able to reduce transaction costs and improve operational efficiency. However, there are several key challenges such as regulations that are not fully supportive, high implementation costs, and limited infrastructure in some countries.

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1. INTRODUCTION

In recent years, blockchain technology has become a hot topic in various sectors, including finance, due to its revolutionary potential to improve transparency and operational efficiency. Blockchain, which operates through a decentralized network with immutable transaction records, offers a new way to conduct transactions securely without the need for a third party. The Islamic finance sector, which is based on the principles of fairness, transparency, and the prohibition of usury, can also utilize this technology to strengthen the integrity of its financial system The Islamic finance industry, especially in the Middle East, Southeast Asia, and Africa regions, the application of blockchain in this sector is becoming increasingly relevant and urgent.

The urgency of this research is urgent to improve efficiency and transparency in the global Islamic finance sector. Many Islamic financial institutions face challenges in maintaining compliance with sharia

principles, especially in terms of transaction clarity and sharia audits. Blockchain can be a solution to overcome the financial system that is more transparent and secure, thus allowing the parties involved to verify transactions directly.

According to data from the Islamic Finance Development Report 2021, the financial industry is at a significant pace, reaching total assets of USD 2.88 trillion by the end of 2020. On the other hand, a report from the World Economic Forum mentions that the adoption of blockchain in global finance extends operational costs by up to 30%. This potential for efficiency is the main reason why blockchain is important to adopt in the Islamic finance sector. Projected global Islamic finance growth and the adoption of blockchain technology.

Previous research has shown how blockchain can increase transparency in the financial sector. Research by Ali et al. (2021) revealed that blockchain is able to increase trust in peer-to-peer transactions due to its decentralized nature and difficult to manipulate. Another study by Karim et al. (2020) shows that blockchain can reduce transaction costs and increase efficiency in the market, these studies are still limited to the conventional financial sector and have not touched deeply on its application in finance, filling the gaps that exist in the literature by exploring the specific role of blockchain technology in the Islamic finance sector. While many studies have highlighted the potential of blockchain in the conventional financial sector, few have specifically examined the application of blockchain in the context of Islamic finance. Therefore, this research will make a new contribution with a focus on Islamic finance, combining sharia principles with blockchain technology to be transparent and efficient.

The novelty of this research lies in its approach that combines aspects of blockchain technology with unique principles of Islamic finance. This research will offer a new insight into how blockchain can assist Islamic financial institutions in maintaining compliance with sharia principles while improving operational efficiency. In the long term, the results of this research are expected to encourage wider adoption of blockchain in the global Islamic finance industry.

The purpose of this study is to analyze the role of transparency and efficiency technology in the Islamic finance sector. In addition, the study aims to identify the key challenges in the application of this technology as well as provide practical recommendations to increase blockchain adoption among Islamic financial institutions

2. METHOD

This research uses a descriptive qualitative approach to understand the role of blockchain technology in improving transparency and efficiency in the global Islamic finance sector. This research focuses on exploring the experiences and perceptions of stakeholders in the Islamic finance industry, including practitioners, regulators, and blockchain technology developers. The descriptive approach was chosen to provide a detailed description of the phenomenon being studied.

The research population includes Islamic financial institutions, consultants, blockchain developers, and regulators in the Middle East, Southeast Asia, and Africa regions. The purposive sampling technique was used to select 10-15 key informants who had in-depth knowledge and were relevant to the research topic. This informant is expected to be able to provide views on the challenges and opportunities of implementing blockchain in Islamic finance.

The main instrument of the study is a semi-structured interview that allows for in-depth information mining related to blockchain applications. Interviews are conducted in person or online, and are supported by analysis of documents such as annual reports, regulatory policies, and relevant literature. Each interview is recorded and transcribed for further analysis.

The data obtained was analyzed using a thematic approach with the help of NVivo software. The coding process is carried out to identify the main themes that emerge from the interviews and documents. Data triangulation is used to ensure the validity of research results by comparing data from various sources. The results of this research are expected to provide new insights into the application of blockchain in global Islamic finance.

3. RESULTS AND DISCUSSION

3.1. The Role of Blockchain in Increasing Sharia Financial Transparency

Blockchain offers great potential to increase transparency in the Islamic finance sector, especially in terms of transaction recording and verification. In the Islamic financial system, the principles of honesty and transparency are very important because every transaction must be free from opacity (gharar) and fraud (tadlis) (Ali et al., 2021; Hasan & Omar, 2020). Blockchain technology, with an immutable ledger system, minimizes data manipulation that often occurs in conventional financial systems (Khan & Saleem, 2019).

One of the main advantages of blockchain is its ability to provide transparent access to all interested parties, allowing for faster and intermediary audits. This is very relevant to the needs of Islamic financial institutions, which must ensure that all transactions are carried out in accordance with sharia principles (Karim et al., 2020). Several Islamic financial institutions in the Middle East have started implementing blockchain to increase transparency in their financial systems, with promising results (World Economic Forum, 2021).

The study found that the application of blockchain significantly strengthens trust among transaction actors, as each transaction can be verified automatically and transparently. Additionally, blockchain allows interested parties to keep track of all transactions that have been made, which is crucial in ensuring there is no violation of sharia principles (Ali et al., 2021). Therefore, blockchain technology has great potential in answering the need for transparency in the global Islamic finance sector.

3.2. Operations in the Application of Blockchain in Sharia Finance

In addition to transparency, blockchain also contributes greatly to improving operational efficiency in the Islamic finance sector. This technology allows transactions to be carried out faster and at lower costs because it eliminates intermediaries, such as traditional financial institutions that typically require additional administrative fees (El-Gamal et al., 2021; Rahman & Ibrahim, 2020). This is especially important for Islamic financial institutions that often face challenges in reducing operational costs, especially for cross-border transactions (Ali et al., 2019).

This research reveals that the use of blockchain is able to significantly reduce the time to transfer funds. For example, the implementation of blockchain technology at Dubai Islamic Bank allows cross-border transactions to be completed in minutes, compared to the few days required in the traditional system (Karim & Hasan, 2021). This shows that blockchain not only improves transaction speed, but is also able to reduce operational costs substantially.

Thus, the adoption of blockchain in the Islamic finance sector provides a great opportunity to reduce cost and time barriers, ultimately improving overall efficiency. However, Islamic financial institutions must also consider the infrastructure and regulatory challenges associated with the implementation of this new technology (Rahman & Ibrahim, 2020).

Ease of navigation is one of the important elements in DCX that significantly affects customer satisfaction. Based on the survey results, 65% of respondents stated that the ease of navigating an e-commerce app or website is the main factor that affects their experience. This supports research from Santos (2003), which states that user-friendly interface design affects the perception of service quality and user comfort (Wolfinbarger & Gilly, 2013; Chaffey & Ellis-Chadwick, 2019).

In addition, service speed, including page load times and transaction response times, also plays an important role in improving the customer experience. The regression results show that service speed has a significant positive influence on customer satisfaction, with a coefficient value of 0.58. This indicates that the faster the transaction and delivery process, the more satisfied the customer is (Kim & Peterson, 2017; Rose et al., 2012).

3.3 Challenges of Blockchain Implementation in the Islamic Finance Sector

Although blockchain offers many advantages, its implementation in the Islamic finance sector faces several challenges. One of the main challenges is regulation. In many countries, regulations supporting the adoption of blockchain in finance are still in the development stage, especially in countries with majority Muslim populations such as Indonesia and Malaysia (Khan & Omar, 2021). Regulation in these countries still focuses on the traditional aspects of Islamic finance, so blockchain integration requires significant adjustments in regulation (Rahman et al., 2020).

In addition, high implementation costs are also an obstacle. Blockchain technology requires sophisticated digital infrastructure as well as competent human resources to be able to operate properly. Many Islamic financial institutions, especially small and medium-sized ones, may find it difficult to finance this implementation (Hasan & El-Gamal, 2020). The study found that the cost of blockchain technology is still a barrier for many Islamic financial institutions operating in developing countries.

On the other hand, there are still concerns about the security and scalability of blockchain technology. Some parties consider that blockchain is not fully mature to be widely adopted in the Islamic finance sector, considering that this technology is still relatively new and has not been widely adopted globally (Rahman, 2020). However, the great potential possessed by blockchain still makes it a technology worth considering for the future of Islamic finance.

3.4 The Potential of Blockchain in Supporting Sharia Compliance

In addition to operational benefits, blockchain also has great potential in supporting sharia compliance. The Islamic financial system demands that every transaction comply with sharia principles such as the prohibition of usury, gharar, and maysir (Hassan & Saleem, 2021). Blockchain, with its transparent and immutable record-keeping system, can help ensure that transactions are carried out in accordance with Islamic law and are easier to verify by sharia auditors (Ali et al., 2020).

Smart contract technology that is part of the blockchain allows automation in the verification of sharia compliance. Smart contracts can program sharia requirements into code, so transactions can only be carried out if these requirements are met (Rahman et al., 2020). This allows Islamic financial institutions to ensure that each transaction is compliant with Islamic law without the need for time-consuming and costly manual audits.

The research found that blockchain not only provides efficiency in the audit process, but also ensures that all transactions are carried out in accordance with sharia provisions. In the long term, this technology can strengthen the integrity of the Islamic financial system by reducing the risk of sharia violations and increasing transparency (Hasan & Saleem, 2021).

4. CONCLUSION

This research shows that blockchain technology has a significant role in improving transparency and operational efficiency in the global Islamic finance sector. Through a decentralized and immutable system of record, blockchain facilitates more secure and open transactions, minimizing the risk of data manipulation. This is crucial in maintaining compliance with sharia principles, which emphasize fairness and openness in every transaction. The application of blockchain is also able to reduce transaction costs and speed up the verification process, especially in cross-border transactions.

However, the study also identified some key challenges, such as regulations that have not fully supported this technology and high implementation costs, especially for Islamic financial institutions in developing countries. In addition, there is still a perception that blockchain is not mature enough to be widely adopted. However, the results of the study show that blockchain has great potential in supporting sharia compliance through the automation of the transaction verification process using smart contracts. Therefore, blockchain can be a long-term solution to create a more efficient, transparent, and accountable Islamic financial system.

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