

Fiqh Economic in Virtual Currency Implementation

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ABSTRACT

Digital transactions are becoming very popular in the Islamic economic and financial industry. Therefore, it is very important to understand the provisions of economic fiqh so that Sharia principles are always actual and relevant to business changes and the demands of the times. This study aims to investigate fiqh in economic transactions using blockchain and metaverse technology. More in-depth research uses a case study design using qualitative methods that focus on implementing smart contracts and virtual currency in terms of economic fiqh studies. The findings reveal that the use of smart contracts and virtual currency is found to be able to replace the role of intermediaries in economic transactions. Thus eliminating the risk of fraud and cheating. Smart contracts can help ensure compliance with sharia and the use of virtual currency has an impact on economic fiqh, especially related to the legitimacy and halal use of the virtual currency itself. The expected implication is that to minimize risks and maximize benefits for the benefit of the people, the use of blockchain and metaverse technology in economic transactions requires further research and development efforts, as well as increasing public understanding of this technology from the perspective of economic fiqh.

Keywords: *Economic Fiqh; Blockchain; Metaverse; Smart Contract; Virtual Currency.*

A. INTRODUCTION

Innovation in information technology has greatly changed people's lives (McLuhan, 1962), This includes blockchain and metaverse. These two technological phenomena are increasing and affecting many aspects of life, including the economic sector. Blockchain and metaverse are two technological

Received : June 24, 2023 – Revised: June 25, 2023 – Accepted: June 26, 2023

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phenomena growing and influencing many aspects of life, including the economic field. In this digital era, economic transactions are no longer limited to physical transactions in the real world but have also developed into virtual or virtual worlds, such as blockchain for metaverse applications (Nguyen et al., 2022). Digital transaction platforms offer a variety of essential implications for coordinating global economic activity (Hokkanen et al., 2021). The literature reveals that low and middle-income countries have significantly increased their use of digital transactions during the pandemic (Mansour, 2022). It is understood that blockchain and metaverse technology is a new framework for global economic transactions. Therefore, further research on blockchain and metaverse technology is very important in the future. The aim is to face various challenges and obstacles as well as negative impacts that may occur in its implementation.

According to data from the Ministry of Communications and Information (Kominfo), the increase in internet users in 2021 by 11 percent from the previous year, namely from 175.4 million to 202.6 million users (Kominfo.go.id, 2021), it proves that the internet is playing a major role in community activities. Increased use of the internet has prompted the emergence of various developing blockchain technology platforms such as smart contracts, virtual currency, and others (Maharani et al., 2022). In its development, the implementation of smart contracts and virtual currencies on the blockchain and metaverse is increasingly popular as an alternative for carrying out computerized transactions independently and at extraordinary speeds (Giancaspro, 2017). Unfortunately, this in Indonesia is inversely proportional to the level of understanding of the Muslim community regarding the importance of economic fiqh studies for digital economic transactions. Based on these previous studies, the researcher knows that there is still a lack of literacy regarding economic fiqh and sharia principles in economic transactions using blockchain technology and the metaverse.

The emergence of several legal and ethical issues in economic transactions on the blockchain and metaverse in Indonesia, such as fraud using blockchain technology, data security and privacy, and others. Previous findings reveal that economic transactions using blockchain and metaverse technology have not been fully standardized. And it still raises several legal and ethical issues, including in the context of economic fiqh. Sustainability studies need to be carried out on how economic transactions on the blockchain and metaverse can be analyzed from the

point of view of economic fiqh. Several previous studies used literature studies on the dynamics of using blockchain from the perspective of ushul fiqh. For example, the study of fiqh in the digital economy is permissible by removing the element of vanity (Fuadi et al., 2022). However, not a few studies have revealed that according to some fiqh scholars, the use of cryptocurrency financial transactions is not permissible due to an element of speculation (Nisa & Rofiq, 2021). In addition, the rapid development of blockchain and metaverse technology makes it difficult to keep abreast of the latest developments and anticipate changes that may affect economic transactions (Gaur, 2020). Data security and privacy issues in economic transactions on the blockchain and metaverse, can lead to risks of losing funds and personal information (Islam et al., 2021). Challenges in adopting Sharia principles in blockchain and metaverse technology, especially in integrating concepts such as usury, *gharar*, and *maysir* into the implementation of smart contracts and virtual currency. The lack of public understanding of economic fiqh and Sharia principles makes it difficult to develop solutions that are widely accepted by society (Zubaidi & Abdullah, 2017)(Alaeddin et al., 2021).

The researcher finds that previous studies have not explained in depth the perspective of economic fiqh by showing empirical evidence of the usefulness of sharia from the use of this technology. Under these conditions, it is necessary to have a deeper analysis of economic transactions on the blockchain and metaverse from the point of view of economic fiqh to find the right solution to the problems that arise. The novelty of this study is regarding economic transactions on the blockchain and metaverse, especially in the context of economic jurisprudence and Sharia principles. In more depth, it examines differences in the interpretation of Sharia principles in economic transactions on the blockchain and metaverse, especially among scholars and practitioners of Islamic economics.

The main contribution of this research is:

1. The author presents the results of a more comprehensive analysis of economic transactions on the blockchain and metaverse, because it involves perspectives and understanding from several disciplines.
2. The authors minimize bias in research, because it involves many researchers with different backgrounds and experiences.
3. The author discusses expanding collaboration networks and collaborations between researchers from various institutions and disciplines.

4. The authors produce policy recommendations that are more holistic and based on a more comprehensive understanding of economic transactions on the blockchain and metaverse from the point of view of economic fiqh.

B. THEORITICAL

Blockchain and Metaverse

Blockchain is called a data bank that stores data digitally, is distributed, and has sequential blocks that are connected through cryptographic values. Processing of digital transactions in the blockchain is commonly found in economic sectors such as asset management and smart contracts that help companies claim the completion of certain contracts, As seen in Figure I

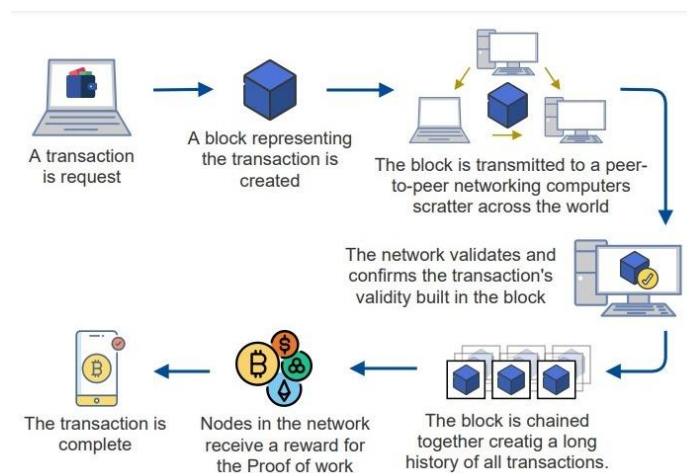


Figure I. Blockchain Data Storage Transaction Flow
Source: Gadekallu et al. (2023) (Huynh-The et al., 2023)

Metaverse is an invocation of a data storage virtual relational set consisting of experiences, places, and things that can be accessed using the internet (Duan et al., 2021). Metaverse requires large data storage as illustrated in Figure 2. Use blockchain technology to create a metaverse where anything in the real world can be mapped into the virtual world. With the combination of the two, technologies such as Smart Contracts and Virtual Currency emerged. When the metaverse enters figure 2, the social system is digitalized. Metaverse can present a three-dimensional (3D) experience by utilizing immersive and personalized

technology for users. To secure the content and digital data of metaverse users, in this case, blockchain can present a solution due to its unique decentralization, immutability, and transparency features. Blockchain has technical benefits such as data acquisition, data interoperability, preserving customer data privacy, and storing and sharing data anywhere in the metaverse. So if you look at its potential in economic activity, blockchain bridges the metaverse to trade virtual items and allows virtual goods to become physical objects. And also the practicality and potential of its services in storing customer data that carry out economic transactions through digital media (Huynh-The et al., 2023). See Figure 2.

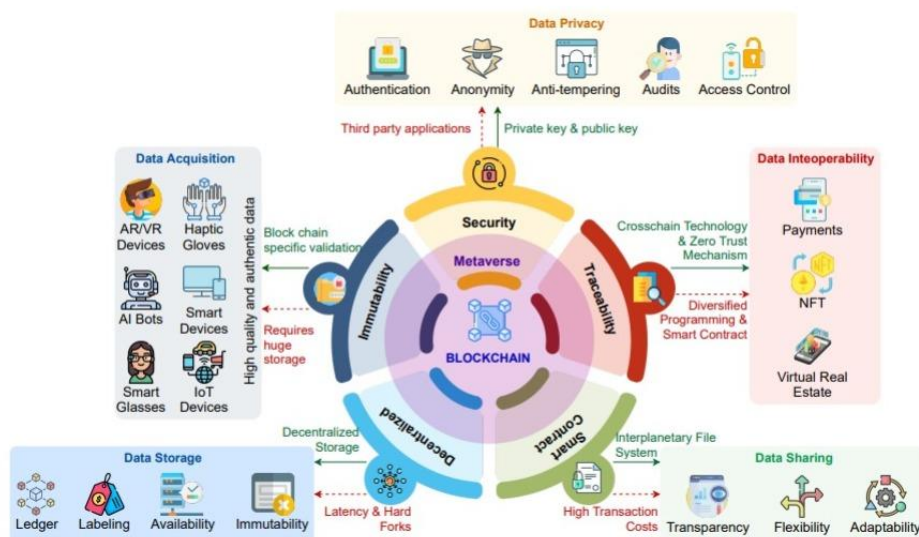


Figure 2. Technical Aspect Flow on Blockchain and Metaverse
Source: Gadekallu et al. (2023) (Huynh-The et al., 2023)

Based on Figure 2, it can be explained that Metaverse is capable of becoming a digital marketplace that brings together sellers and buyers digitally, increasing the reliability and transparency of data (Yang et al., 2022). All data in the metaverse is subject to blockchain verification. The integrity of the data therein is an important part of building the Metaverse recommender system application through the blockchain-enabled acquisition system within the Metaverse (Guo et al., 2022).

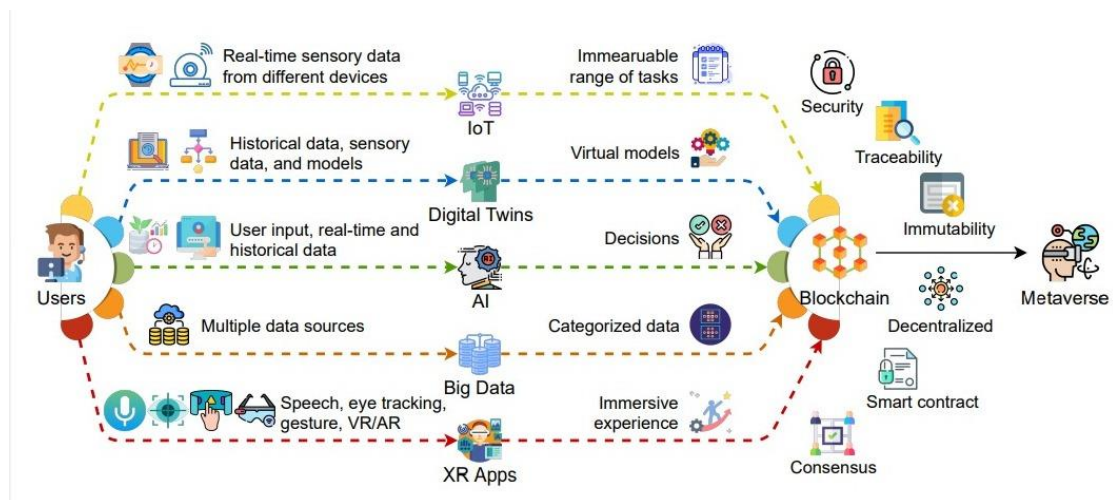


Figure 3. Blockchain Technology Capabilities Flow for Metaverse
 Source: Gadekallu et al. (2023) (Huynh-The et al., 2023)

Figure 3 describes the capabilities of the blockchain that can store and share data safely digitally for Developing Applications and Services in the Metaverse. But unfortunately, The basic concepts of blockchain and metaverse have some challenges There are security and privacy issues such as the risk of data leakage, interoperability between applications, and data loss (Nguyen et al., 2022). In addition, it is difficult to track all customer data in the metaverse due to the anonymity that blockchain provides. So it is very vulnerable to cases of breaking the law and it becomes a difficult challenge to determine who is responsible for unlawful behavior in cyberspace (Uddin et al., 2021).

Economic Fiqh and Sharia Principles in Economic Transactions

Economic Fiqh (jurisprudence) examines several rules related to material things or is called private law which discusses human rights and human relations with other humans or is called fiqh *muamalah*. The field of *muamalah* makes the Al Quran and as-Sunnah a source of law that is used as a guideline for mankind to carry out activities to fulfill their needs in the world (Al Hadi, 2022) There are five universal values, namely faith, justice, prophethood, government, and results. Economic Fiqh, both theoretically and empirically in the financial sector, does not depart from Sharia principles. The Sharia principle in question is about Islamic financial management related to maintaining assets so that assets are used by

sharia provisions (Sudiarti, 2018). Like the words of Allah Subhanhuwata'ala in Q.S An-Nisa (4) verse 29, it states:

يَا أَيُّهَا الَّذِينَ ءَامَنُوا لَا تَأْكُلُوا أَمْوَالَكُمْ بَيْنَكُمْ بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِّنْكُمْ وَلَا تَقْتُلُوا أَنْفُسَكُمْ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا ۚ ٢٩

29. *Those who believe will not consume each other's wealth in vain. And don't kill yourself. indeed Allah is merciful to you*

In Islamic financial transactions, there must be a contract to reduce the occurrence of risk or it is called *moral hazard*. In addition, Sharia principles in investment transactions and buying and selling are carried out voluntarily (*antaraddim minkum*), no party is unjust or wronged (*la tazhlimuna wa la tuzhlamun*), results of operations appear with costs (*al-kharaj bi al dhaman*), and profits come with transaction risks (*al ghummu bi al ghumu*). In general, Sharia principles include not making things difficult (*Adam al-Harj*), reduction in load (*Taqlil al-Taklif*), stipulating laws periodically in line with the benefit of the ummah, equality, and justice (*al-Musawah wa al-Adalah*) (Azharsyah, 2021). In digital financial transactions, Islamic electronic money as a transaction object is not allowed to be considered as a commodity to gain profit but only as a productive medium of exchange to obtain goods or services. Likewise, the prohibition of transactions that have a level of uncertainty such as making gambling transactions (Hasan et al., 2022).

There is empirical evidence that explains the relevance of Sharia principles in economic transactions on the blockchain and metaverse. Sharia principles in economic transactions in the form of *Murabahah* (buy and sell), *ijarah* (leasing sharia), and sukuk funding as well as other sharia contracts in the metaverse aim to ensure that crypto contracts and payments comply with Islamic law (Katterbauer et al., 2022)(Ishak & Billah, 2022). Sharia principles open up great opportunities that link digital services and Islamic financial instruments with assets that are free from speculation (KATTERBAUER et al., 2022).

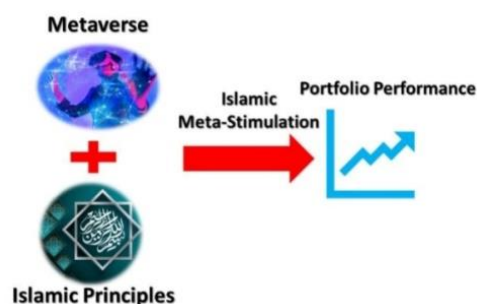


Figure 4. Relevance of Sharia Principles Compliance to Metaverse Companies
Source: Katterbauer et al. (2023) (Katterbauer et al., 2023)

Figure 4 explains the performance portfolio of Sharia business models in metaverse companies. Compliance with Sharia principles provides stimulation for better performance in terms of investing funds into metaverse companies. Blockchain and metaverse in Islamic economic transactions can promote profit opportunities for business actors. And also able to attract investment funds and fund allocation by Sharia principles to gain exposure to other companies that invest in it. In addition, it can support transparency features for Islamic financial institutions through the blockchain monitoring process (Katterbauer et al., 2023)(Richard-Marc et al., 2017)(Lacasse et al., 2018). Blockchain technology can be used in the Supply Chain Finance (SCF) work system in the form of an Islamic crowdfunding platform. The aim is to diversify MSME funding sources with limited capital and increase financial efficiency in the supply chain within the framework of Islamic finance (Ayu Sanjaya & Akhyar, 2022).

Smart Contracts and Virtual Currency

A smart contract is a digital contract that is stored in blockchain technology and can be closed automatically when conditions are met. . In general, smart contracts can be used to automate the execution of contracts and automate workflows so that stakeholders can track outcomes without wasting time. Transactions that have been made using smart contracts cannot be changed unless permitted to view them. However, in practice, an effective way has not been found to guarantee the security of the smart contract code. Likewise, programming languages, online resources, and virtual tools have limitations and need to be developed further (ZOU et al., 2019). Smart contracts offer the implementation

of contract terms that are more cost-efficient, transparent, and can transact anonymously (Giancaspro, 2017).

A virtual currency is a digital currency issued by a central bank or government agency that can be traded electronically and has no legal status. Virtual currencies have great potential for modern economic development. The development of cryptocurrencies is therefore a new step to support the development of the monetary economy (Dibrova, 2016). Previous research discussed the potential use of blockchain technology and the challenges associated with validating smart contracts in the Islamic financial industry. The findings explain that to increase efficiency, transparency, and customer trust, companies must adopt blockchain technology. And keep in mind that transactions may not be detrimental to the customer as explained in the *maqasid al-Shari'ah* principle (Rabbani et al., 2020)(Chong, 2021). Other research discusses the views of Islamic finance on the use of smart contracts and cryptocurrencies, including their relevance to Sharia principles. This research also discusses the concerns of several Muslim scholars about price volatility and exchange rates when there are fluctuations as well as speculative concerns that should not be ignored. (A.Oseni & Ali, 2019). Results of Zain et al. (2019) discusses the concept of Smart his contract from the perspective of Islamic law, including its feasibility for use in Sharia economic transactions (Zain et al., 2019).

C. METHODOLOGY

Research Design

The research uses a phenomenological research design with qualitative methods that focus on participants' understanding of economic jurisprudence and its relationship to economic transactions using blockchain and metaverse technology. This phenomenological-qualitative research design is research that investigates the meaning of various experiences and events from the point of view of individual perceptions or opinions (Patton, 2005). This research also highlights the importance of public awareness and education regarding the use of smart contracts and virtual currency in economic transactions to avoid using that is not by sharia principles and hurts society.

Participants

The participants used are economic fiqh experts who will be interviewed including scholars, academics, and practitioners who have knowledge and

experience in the field of economic fiqh, especially related to economic transactions in the digital era. Meanwhile, the blockchain technology experts who will be interviewed are experts and practitioners who have experience in developing and implementing blockchain technology, especially related to financial transactions and digital assets. In addition, for case studies on the implementation of smart contracts and virtual currencies, the participants interviewed were users, developers, or business people who had used smart contracts and virtual currencies in economic transactions in Indonesia. They provide information and insights about their experiences in using the technology and how it relates to an economic fiqh perspective.

Data Collection

Data collection is carried out to obtain data or information on raw materials that are by the research problem. To obtain the appropriate data, the researcher looks for data in the field by first validating and qualifying the data collectors. The goal is that the data obtained is of high quality. Data collection focuses on two themes, namely economics and blockchain technology for the metaverse (related to smart contracts and virtual currency). Primary data sources were collected through interviews with economic jurisprudence and blockchain technology experts. And secondary data sources come from documents such as fatwas, related literature, and other documents.

Data Analysis Technique

The collected data will be analyzed descriptively qualitatively using content analysis techniques. This technique is used to identify and categorize the themes and sub-themes that emerge in the data, as well as gain a deeper understanding of the concepts and issues relevant to the research. From the results of the data analysis, relevant case studies will be selected to be used as research objects. These case studies will be analyzed in depth using the concepts and issues that have been identified in the previous stage. The data obtained from the case study analysis will be analyzed descriptively and qualitatively using content analysis techniques. This analysis aims to gain a deeper understanding of how the economic and technological fiqh concepts of blockchain are implemented in the selected case studies. The results of the analysis are interpreted and analyzed holistically for a deeper understanding of the concepts and issues relevant to the research. Based on

the results of the analysis, recommendations for the conclusions and conclusions of this study are generated.

D. RESULT AND DISCUSSION

Interview results and data analysis in "Analysis of Economic Jurisprudence in Economic Transactions on Blockchain and Metaverse: Case Studies of Smart Contract and Virtual Currency Implementation" show several interesting findings.

First, The use of blockchain technology and smart contracts in economic transactions is seen as an innovation that can simplify and speed up the transaction process, reduce transaction costs, and increase transaction security. Previous studies have revealed that smart contracts work more cost-efficiently, are transparent, and can be transacted anonymously (Giancaspro, 2017). The results of the interview explained that for companies that make transactions using blockchain technology to benefit in terms of transparency and customer trust, companies must adopt blockchain technology. Blockchain technology is a security-based business innovation that requires a strict verification process to create new transaction records. To facilitate transaction data compilation and minimize recording risk (Zhao et al., 2016). For the record, previous studies have stated that in Islamic financial transactions, the use of blockchain technology and smart contracts should not only be beneficial in increasing consumer trust, but should not harm consumers (Rabbani et al., 2020)(Chong, 2021).

Second, virtual currencies such as bitcoin and ether are considered an alternative to conventional currencies that can be used in economic transactions in cyberspace. Previous results suggest that cryptocurrency products undergo a "virtual-based mining" process designed to control the supply of "money", not being produced by printing it, and making it more valuable (Yusof & Al-Harthy, 2020). This research found that the use of virtual currency still requires sufficient understanding in terms of risk and regulation. Therefore, previous studies expressed the opinion that in practice, high risks and regulatory problems require rethinking to create the right strategy (Tu & Meredith, 2015). The lack of regulation on the circulation of cryptocurrencies opens a problematic legal loophole for cryptocurrencies as a means of payment for e-commerce in Indonesia. (Anggraeni & Sulistiyono, 2020). The hope is that these innovative technology products can minimize risks and strengthen rules regarding virtual currency circulation.

Third, the implementation of blockchain technology and smart contracts still faces several obstacles, such as system security and legal issues in terms of contract fulfillment and consumer protection. In practice, the use of virtual currencies has its pros and cons because of a number of these problems. But despite these obstacles, it is undeniable that the value of transactions using virtual currency absorbs a small part of exchange rate risk, encourages the adoption and acceptance of virtual currency traders, and effectively regulates its supply (Bolt & Van Oordt, 2020).

Fourth, The use of blockchain technology and smart contracts, as well as cryptocurrencies, still requires a thorough understanding of the legal and ethical aspects of Islam. Literature has investigated the compliance of distributed virtual currency management systems and demonstrated that blockchain technology can adapt to the prohibition of usury and adopt the *maslahah* principle (Evans, 2015). Therefore, smart contracts and virtual currencies can be used in Islamic financial transactions. Another consideration is related to the use of this technology and whether it has a much more positive impact on life. If this is not the case, then in the study of economic fiqh this is not permissible. The results of the interview added that it is important to look at blockchain and the metaverse from a design perspective and experience regarding whether design, how it works, principles and functions and types are haram or prohibited in Islam. If it is found to be contrary to Islamic law, then the case must be abandoned. However, from a review of the existing literature, blockchain technology has many benefits, for example collecting zakat, retail bonds, halal supply chain, and increasing waqf utilities (Septianda et al., 2022). The Fatwa of the National Sharia Council (DSN) of the Indonesian Ulema Council (MUI) added that electronic money is a means of payment that fulfills the following elements;

1. Issued on the basis of a notional amount prepaid to the issuer.
2. Nominal amounts are stored electronically on consolidated media.
3. The nominal amount of electronic money managed by the issuer is not a deposit under the Banking Law.
4. Used as a means of payment for merchants who are not electronic money issuers.

From the results of interviews and supporting literature, it can be understood that financial transactions by adopting smart contracts and virtual

currency are permissible (mubah, legal, and lawful) as long as the substance and type of transaction fulfill the requirements as a means of payment by sharia principles, *muamalah*, and Islamic law. However, the DSN-MUI has not/did not release a fatwa regarding the economic fiqh law for transactions using Bitcoin, which is a virtual currency product. When referring to Al-Ghazali's opinion about money, three conditions become his reference, namely; (a) money is printed and circulated by the government; (b) the government declares the money to be legal tender; (c) Governments hold gold and silver reserves as a measure of currency circulation because their values are stable (Hasan & Mahrus, 2023). In his letter An-Nisa (4), the letter of Subahanahuwataara, the Word of Allah, his verse 5 reads:

وَلَا تُؤْتُوا السُّفَهَاءَ أَمْوَالَكُمُ الَّتِي جَعَلَ اللَّهُ لَكُمْ قِيَامًا وَارْزُقُوهُمْ فِيهَا وَاكْسُوهُمْ وَقُولُوا لَهُمْ قَوْلًا مَعْرُوفًا ۝

5. and do not give up to people whose minds are not yet perfect, the treasures (those in your power) that Allah has made as the staple of life. give them groceries and clothes (from the results of the treasure) and say good words to them

It can be explained from this paragraph that assets/money are created to retain, preserve, and extend these assets to meet the needs of human life. The literature explains that Allah Subahanahuwata'ala creates wealth and the Islamic financial system must be maintained and upheld (Faraz Adam, 2018). Based on these findings, we can conclude that the use of blockchain technology and smart contracts, as well as cryptocurrencies for economic transactions, requires a good understanding of the legal and ethical aspects of Islam. Therefore, it is necessary to develop further thoughts and discussions in the context of economic jurisprudence to address various challenges and constraints in the implementation of this technology. Going deeper, Economic Transactions in the Blockchain and Metaverse: A case study on the implementation of smart contracts and cryptocurrencies shows that the implementation of smart contracts and cryptocurrencies in economic transactions raises several questions from the perspective of economic jurisprudence. The interview results show that:

“There are problems in the use of smart contracts in economic transactions that are usury and gharar (uncertainty in transactions resulting from non-fulfillment of sharia provisions). This relates to the concepts of fairness and uncertainty in economic transactions. For example, The use of smart contracts in interest-bearing loan transactions can be categorized as usury because there are benefits that are generated without involving the same risks for both parties pihak (al ghunmu bi la ghurmi/ gaining return without being responsible for any risk),), It is to the detriment of one of the parties, which is inconsistent with Makassid Shariah. There are also problems with the use of virtual currency in economic transactions, Some scholars view that the use of virtual currency can be categorized as usury because its value tends to be unstable and can generate speculative profits. In addition, the use of virtual currency can also result in illicit transactions such as drug and weapon trafficking which are difficult to trace. However, we believe that the implementation of smart contracts and virtual currencies in economic transactions will have significant benefits in improving the efficiency and safety of transactions and facilitating access to finance for underserved communities. There is also .”

In the discussion, this research also identifies several solutions from the perspective of economic jurisprudence to overcome Issues that arise when using smart contracts and cryptocurrencies. Previous studies explained that digital currencies must comply with Sharia provisions and validity issues can be resolved properly. Therefore, the field of smart contracts and virtual currencies requires further research from an economic jurisprudence perspective (Zubaidi & Abdullah, 2017)(Semai et al., n.d.). In addition, it needs to be supported by real assets and applicable legal authorities (Mohammad Abdul Matin Chowdhury & Dzuljastri Bin Abdul Razak, 2019). Ultimately, the results of the research conducted show that the use of blockchain technology and the metaverse in economic transactions has a significant impact on economic indicators, especially with respect to the use of smart contracts and cryptocurrencies. Regulating the use of smart contracts and cryptocurrencies in transactions that meet ethical requirements is critical such as the principles of fairness and uncertainty in economic fiqh, and involve fiqh experts in the development of blockchain technology and virtual currency to ensure compliance with sharia principles.

E. CONCLUSION

Based on our findings, in connection with the use of smart contracts: it is found that smart contracts built on blockchain can replace the role of intermediaries in economic transactions, thereby eliminating the risk of fraud and fraud. Smart contracts can also help ensure compliance with sharia, such as provisions for the payment of zakat or conditions stipulated in economic fiqh. Meanwhile, the use of virtual currency or digital currency in economic transactions also has an impact on economic fiqh, especially related to the legitimacy and halal use of the virtual currency itself. In this study, it was found that the use of virtual currency supported by blockchain technology can be considered lawful and legal for use in economic transactions, as long as it meets certain criteria, such as not violating the principles of justice and avoiding elements of usury. However, there are still some issues regarding the use of blockchain technology and the metaverse in commerce that need further consideration from a business law perspective. One of them is the issue of data privacy and security, especially since transparent and immutable blockchain technology can carry the risk of leakage of personal data and financial information. In addition, there are also issues related to regulation and supervision of the use of blockchain technology and the metaverse in economic transactions, which require collaborative efforts from various parties, including the government, academia, and civil society, to ensure that the use of this technology can be carried out by the principles - sharia principles and values of justice. To minimize risks and maximize the positive potential of using blockchain technology and the metaverse in economic transactions, it is necessary to carry out further research and development efforts, as well as increase public understanding of this technology from the perspective of economic fiqh.

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