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DECENTRALIZED FINANCE AND ITS *MASLAHAH*: SHAPING THE FUTURE OF FINANCIAL SERVICES IN INDONESIA

Muhammad Fakhri Amir[1*]
Syahruddin Kadir[2]
Sumarlin[3]
[1]Institut Agama Islam Negeri Bone, Indonesia
[2]Universitas Sipatokkong Mambo, Indonesia
[3]Universitas Islam Negeri Alauddin Makassar, Indonesia
[*]*Corresponding E-mail: fakhriamir@iain-bone.ac.id*

ABSTRACT - Technological innovations are revolutionizing the financial sector through decentralized systems. The emergence of digital currencies necessitates a shift in the financial system toward services that accommodate the development of digital money in the era of Society 5.0. This study aims to explore the potential of Decentralized Finance (DeFi) and its *maslahah* (benefit) for future financial services in Indonesia. A qualitative approach was employed using library research by collecting primary and secondary data from journals, books, and other literature. Data were analyzed using descriptive analysis through data grouping, data display, and conclusion drawing. The findings indicate that DeFi has the potential to become one of the future financial services as it aligns with technological advancements and the development dimensions of the Society 5.0 era. DeFi offers five maslahah benefits: (1) Protecting religion *(hifzu al-din)* by serving as an alternative investment instrument; (2) Protecting life *(hifzu an-nafs)* by becoming a financial market instrument; (3) Protecting progeny *(hifzu al-nasl)* by encouraging income growth; (4) Protecting intellect *(hifzu al-'aql)* by developing human resource potential; and (5) Protecting wealth *(hifzu al-maal)* by accommodating sources of income and financing for the benefit of society. Therefore, DeFi holds significant potential to contribute positively to Indonesia's financial future by providing services aligned with the values of maslahah and the technological advancements of Society 5.0.
Keywords: Decentralized Finance (DeFi), Maslahah, Technology, Society 5.0.

***ABSTRAK** - **Desentralisasi Keuangan dan Maslahahnya: Membentuk Layanan Keuangan Masa Depan di Indonesia.** Inovasi teknologi mengarah pada revolusi sektor keuangan melalui sistem terdesentralisasi. Kemunculan mata uang digital memaksa sistem keuangan untuk beralih ke layanan yang mengakomodasi perkembangan uang digital di era 5.0. Penelitian ini bertujuan untuk menggali potensi Decentralized Finance (DeFi) berikut maslahahnya sebagai layanan keuangan masa depan di Indonesia. Penelitian ini menggunakan pendekatan kualitatif dengan metode kepustakaan, dimana data-data dikumpulkan dari artikel jurnal, buku, dan literatur lainnya. Analisis data dilakukan dengan metode deskriptif melalui pengelompokan data, penyajian, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa DeFi memiliki potensi untuk menjadi salah satu layanan keuangan di masa depan karena selaras dengan kemajuan teknologi dan dimensi pengembangan untuk era 5.0. DeFi menawarkan lima manfaat maslahah: (1) Melindungi agama (hifzu al-din) dengan menjadi instrumen investasi alternatif; (2) Melindungi jiwa (hifzu an-nafs) dengan menjadi instrumen pasar keuangan; (3) Melindungi keturunan (hifzu al-nasl) dengan mendorong pertumbuhan pendapatan; (4) Melindungi akal (hifzu al-'aql) dengan mengembangkan potensi sumber daya manusia; dan (5) Melindungi harta (hifzu al-maal) dengan mengakomodasi sumber pendapatan dan pembiayaan untuk kepentingan masyarakat. DeFi memiliki potensi yang signifikan untuk berkontribusi secara positif terhadap masa depan sistem keuangan Indonesia dengan menyediakan layanan yang sejalan dengan nilai-nilai maslahah dan kemajuan teknologi era 5.0.*
***Kata Kunci:** Desentralisasi Keuangan (DeFi), Maslahah, Teknologi, Society 5.0.*

INTRODUCTION

Humanity is embarking on a new chapter in the financial revolution, driven by technological advancements that interconnect the physical world, digital domains, and biological systems. This transformation is particularly evident in emerging nations like Indonesia, compelling governments and state institutions to reconsider how technology is applied to meet societal goals that are inevitable in the future (Nurullia, 2021; Umuri & Ibrahim, 2020). Innovation and technological development are catalyzing revolutions across various sectors, and the financial industry is no exception.

Transaction processes in the financial sector—including payments, transfers, lending, and trading shares—have been significantly influenced by the emergence of financial technology (fintech) (Harahap et al., 2017; Emanuella, 2021). As technology becomes more widespread, it simplifies access to financial services for the public, offering substantial benefits for transactional activities (Saleh et al., 2020). Keeping pace with scientific and technological developments is essential to create effective and efficient models of human activity. The proliferation of sophisticated information-sharing technologies has transformed thought processes and behaviors, permeating every aspect of human life, from socio-political issues to economic matters (Ramadhan et al., 2021).

In the economic sphere, the world has entered the era of the 4th Industrial Revolution (Industry 4.0), where business activities are increasingly conducted using internet technologies and mobile devices (Ramadhan et al., 2021). Building upon this, the concept of Society 5.0 was introduced by Japanese Prime Minister Shinzo Abe at the World Economic Forum in Davos, Switzerland, on January 23, 2019. Society 5.0 envisions a data-driven society that leverages technological integration to foster future growth (Hendarsyah, 2019). Concurrently, the advent of the metaverse presents a connected virtual world where individuals can work, meet, and engage in leisure activities using virtual reality headsets, augmented reality glasses, smartphone applications, or other devices (Sari, 2022). These developments reflect a continuum of technological advancements—from agricultural and industrial technologies to communication and information technologies—that have influenced scientific progress and introduced new phenomena globally (Danuri, 2019; Putra, 2018).

Digital technology plays a pivotal role in the transition to Society 5.0, prompting fundamental changes in global systems and aspects of human life, including a financial revolution moving toward a decentralized system. Historically, finance evolved from barter systems to the use of gold, silver, and other intrinsically valuable coins. As societal needs expanded, currency systems transitioned from coins to paper money. The technological era sought to address the limitations of paper currency, introducing electronic money stored digitally and transferable electronically.

Continuing this trajectory, the digital era has given rise to cryptocurrencies—digital currencies based on blockchain technology operating within decentralized systems independent of traditional financial authorities (Nurdin et al., 2020). This evolution suggests the potential obsolescence of paper money, fully supplanted by decentralized digital financial systems in the future. Therefore, it is imperative for the younger generation to prepare for the ongoing changes and revolution in the global financial system.

A contemporary phenomenon is that virtual (digital) currencies have become integral within the metaverse era, not merely as business instruments but as foundational elements of virtual economies (Sektiyaningsih, 2022). The advancement of information technology has facilitated the creation of entirely new financial instruments. Cryptocurrencies were developed to serve as tools for electronic transactions, and they have also become assets for investment and trading. Transactions can now occur online without intermediaries such as banks, making cross-border exchanges faster, cheaper, simpler, and more secure (Afrizal et al., 2021). This contrasts with traditional banking systems, where banks act as intermediaries for credit supply and demand, and transactions require bank authorization (Iska, 2012). Consequently, cryptocurrencies were created as decentralized financial technologies challenging centralized authority—forming the basis of Decentralized Finance (DeFi) that operates outside government or bank control (Oget, 2022).

DeFi represents a digital financial system built on blockchain technology, offering more accessible financial services and utilizing cryptocurrencies for investment transactions. As alternatives to fiat currencies, cryptocurrencies are digital and virtual currencies encrypted with blockchain technology. On October 9, 2021, the cryptocurrency market surpassed a valuation of 1 trillion US dollars, featuring over 7,178 different coins such as Ethereum (Ether) and Tether—a number that continues to grow, underscoring the sector's economic

significance (Oget, 2022). Global interest in DeFi is substantial, with an average interest score of 80 over the past 12 months, indicating its relevance for scientific exploration, particularly in the economic aspect.

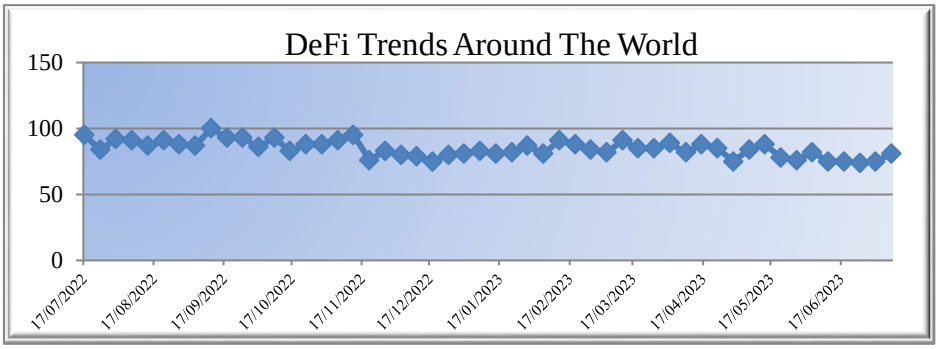

Figure 1. DeFi Trends in the Last 12 Months

The proliferation of digital currencies necessitates a shift in financial systems to accommodate and facilitate their development, especially in the context of Society 5.0. Integrating Islamic perspectives, such as the concept of maslahah (public interest), into digital financial services is crucial. Governments need to provide regulatory frameworks that monitor and maintain national financial stability while leveraging technological advancements. Without innovation in the banking industry or proactive governmental policies, technologies like DeFi could indirectly destabilize the financial industry and disrupt the financial system's stability. Historical precedents—such as the financial crises that shook the American economy in 1999 and 2000, which subsequently affected Indonesia—underscore the potential risks of systemic failure. Such crises can lead to widespread business bankruptcies, economic turmoil, and public distrust in financial systems, highlighting the importance of addressing the complexities of modern banking and the challenges posed by digital decentralized finance.

In the era of Society 5.0, a decentralized financial system like DeFi can facilitate peer-to-peer online payments without intermediaries, potentially contributing to the realization of Society 5.0 behaviors. However, it also poses significant challenges to traditional financial institutions and regulatory frameworks. As people become accustomed to using social media, web development, and online investment platforms to interact without regional boundaries (Suherman et al., 2020), the shift toward blockchain-based digital

currencies and decentralized transactions reflects a broader transformation in societal behavior and expectations.

Despite the rapid growth of DeFi, there is a notable gap in comprehensive studies examining its role within Society 5.0 and its evaluation from the perspective of *maslahah* in Islamic thought. This research addresses this gap by exploring DeFi technology, analyzing its integration in Society 5.0, and evaluating its benefits and implications based on *maslahah*. The novelty of this study lies in its focus on the technological aspects of decentralized finance and its potential as the future of financial services, particularly within an Islamic framework.

Based on the above considerations, this research takes a distinctive approach by focusing on the technological aspects of decentralized finance and its potential as the future of financial services. Additionally, it examines DeFi from the perspective of maslahah to assess its benefits and impacts in the new era. The objectives of this study are to discuss DeFi technology, analyze its integration in Society 5.0, and evaluate it through the lens of maslahah in Islamic thought. This research adopts a qualitative approach, utilizing library research and descriptive analysis through data grouping, display, and conclusion. The findings are expected to serve as a reference for potential users and inform government policy-making to advance Indonesia's financial industry in the future.

LITERATURE REVIEW

Decentralized Finance (DeFi) and Blockchain

Decentralized Finance, or DeFi, refers to a digital financial ecosystem built on blockchain technology, utilizing smart contract protocols and distributed ledger technology (DLT). It provides more accessible, transparent, and efficient financial services for individuals and companies alike. Smart contracts are self-executing agreements where the terms between buyers and sellers are written directly into lines of code, allowing transactions to automatically execute over the internet without intermediaries. Meanwhile, distributed ledgers are decentralized peer-to-peer (P2P) systems designed to record transactions simultaneously across multiple locations, transcending national and regional borders.

In simple terms, DeFi has the potential to revolutionize both traditional and digital financial sectors due to its faster, more accessible, open, cost-effective, and secure services. Although DeFi is a relatively new concept in the financial industry, it has already gained traction through platforms such as Decentralized Exchanges (DEX), which allow users to trade digital assets like cryptocurrencies without relying on centralized institutions to oversee transactions (Kadir, 2023). DeFi operates in contrast to centralized finance (CeFi), where customers incur transaction fees for using banking services. In DeFi, transaction costs are minimized because the system runs on decentralized networks without the need for banks or other intermediaries (Kadir, Rah, et al., 2023).

Traditional financial services, such as banking, can now be replicated in decentralized systems, enabling automated asset exchanges between users in a secure and trustless environment. DeFi platforms allow users to engage in financial activities freely, with protocols connecting seamlessly and without requiring permission within the broader financial ecosystem (Dabaja, Dahlberg, & Uddin, 2021).

Islamic Finance and *Maslahah*

Islamic finance is a system designed to ensure the optimal management of economic resources and capital, while promoting their efficient use to achieve sustainable economic growth and fairness for all stakeholders. The foundational values of Islamic finance emphasize the simultaneous achievement of spiritual, material, and social welfare for both individuals and communities. This illustrates that the mission of Islamic economics and finance aligns with *maqashid al-sharia* (the objectives of Islamic law), which aims to preserve the goals of Islam and achieve benefits (*maslahah*) for humanity in the economic and financial sectors (Soemitra, 2021).

A notable contemporary phenomenon in the financial system is the rise of peer-to-peer platforms, predicted to be the "financial service of the future," offering advantages such as speed and improved accessibility compared to traditional banks. However, this development highlights the declining contribution of the banking system to economic progress. Islamic finance holds vast potential in providing access to financial services while inspiring confidence in technology-based systems, such as peer-to-peer platforms (Sari et al., 2024). By integrating

technology with Islamic finance, financial inclusion can be effectively achieved (Alshater et al., 2022).

Maqashid al-sharia (objectives of Islamic law) is a crucial concept in strengthening the framework of Islamic finance today. Anchored by *maslahah* (benefit), Islamic finance aims to promote the public good, prioritizing not only individual interests but also those of the wider community. By orienting towards *maslahah*, Islamic finance strives to create a just and prosperous society, with far-reaching implications not only in the material world but also in the spiritual and afterlife (*ukhrawi*).

The term *maqashid* is the plural form of *qasada* (intent), meaning the goals to be achieved through human activity, while *sharia* (Islamic law) refers to the path that leads to the source of life (Putra, 2017). Ibn Zugaibah 'Izzuddin defines *maqashid* as *al-hikmah* (wisdom), *ma'na* (meaning), reasonableness, and *maslahah* (benefit or public interest) (Kamri et al., 2014). Al-Ghazali (450-505 AH) described *maslahah* as the foundation of preserving the five essential objectives of *sharia*: religion *(al-din)* life *(an-nafs)*, offspring *(al-nasl)*, intellect *(al-'aql)*, and wealth *(al-maal)*. Al-Syatibi (720-790 AH) further elaborated on *maqashid al-sharia*, asserting that its purpose is to safeguard these objectives, ensuring they align with three levels of interest: *dharuriyat* (essential needs), *hajiyat* (supplementary needs), and *tahsiniyat* (complementary needs).

Allah SWT has mandated the protection of five essential aspects, collectively known as *aldharuriyat al-khamsah* (the five fundamental necessities): the preservation of religion, life, intellect, lineage, and wealth. Additionally, Abu Zahrah identified three key principles in *maqashid al-sharia*: *tahdzib al-fard* (educating individuals), *iqamah al-adl* (establishing justice), and *al-maslahah* (public interest) (Kadir, 2019).

The second category, *hajiyat* (secondary needs), represents necessities that alleviate life's burdens. While the absence of these needs does not threaten survival, it can result in hardship. The final category, *tahsiniyat* (complementary needs), refers to elements that enhance or perfect life. Although their absence neither endangers life nor causes significant difficulties, meeting these needs contributes to overall well-being (Said et al., 2019).

The five basic principles of *maslahah* are believed to offer comprehensive solutions to public financial issues. However, few studies have examined the relevance of Islamic finance in the context of modern, contemporary economics

from an Islamic perspective (Ibrahim et al., 2022). Therefore, this research is essential to explore how Islamic finance, particularly Decentralized Finance (DeFi) as a new phenomenon, fulfills the five basic principles of *maslahah* within society.

METHODOLOGY

This research employs a qualitative library research approach, which focuses on the collection and analysis of data from existing literature. The literature review is grounded in theoretical frameworks and draws upon scientific literature, including academic books, peer-reviewed articles, journals, and research reports, to investigate the intersection of Decentralized Finance (DeFi), blockchain technology, cryptocurrencies, and *maqashid sharia* (objectives of Islamic law). The primary objective is to explore how *maslahah* (benefit) can be achieved through the adoption of DeFi within the framework of Islamic finance.

Research Design

The library research method is chosen because it allows for an in-depth exploration of relevant concepts and theories within a controlled research environment, using published data and prior research. This approach is ideal for synthesizing and evaluating the existing knowledge base on blockchain technology, decentralized financial systems, and their implications within Islamic finance, specifically with regard to *maqashid sharia*.

Data Sources

The main data sources are secondary data derived from literature published within the last 10 years, focusing on blockchain technology, cryptocurrency, Decentralized Finance (DeFi), and their alignment with *maqashid sharia*. The literature reviewed includes:

- Academic articles and peer-reviewed journals
- Books and monographs relevant to Islamic finance and financial technology
- Research papers on DeFi and blockchain from international conferences
- Government or institutional reports on financial inclusion and Islamic finance

The selection of sources ensures that the study covers the latest developments in both financial technology and Islamic jurisprudence, particularly in relation to *maslahah* and financial systems.

Data Collection Techniques

Data were collected using systematic literature review techniques. Specifically:

1. Identification of Key Topics. Relevant topics such as blockchain, cryptocurrency, DeFi, *maslahah*, and *maqashid sharia* were identified, ensuring the scope is appropriately focused on the research questions.
2. Search and Retrieval. Literature was retrieved through academic databases, including Google Scholar, JSTOR, Scopus, and university repositories. Keywords such as "Decentralized Finance," "blockchain," "Islamic finance," "*maqashid sharia*," and "*maslahah*" were used to locate relevant studies.
3. Inclusion Criteria. Articles and studies from the last 10 years were prioritized to ensure up-to-date relevance. Peer-reviewed journals and highly cited academic works were selected to ensure the quality and credibility of the data sources.
4. Data Extraction. Key information, theories, and findings were extracted and categorized based on their relevance to DeFi, blockchain, and Islamic financial principles. Particular attention was given to how DeFi platforms align with *maqashid sharia* and how they contribute to *maslahah* in financial transactions.

Data Analysis

The data analysis technique employed is descriptive qualitative analysis. This method is used to describe, interpret, and critically analyze the current state of knowledge regarding DeFi and its relevance to Islamic finance. The data were:

- Grouped based on thematic areas, such as blockchain, cryptocurrency, *maqashid sharia*, and *maslahah*.
- Examined in terms of how they address the research questions, focusing on the potential benefits (*maslahah*) of DeFi within the framework of Islamic financial ethics.
- Analyzed through comparison of various sources to identify patterns, similarities, and differences in how DeFi could meet the *maqashid*

sharia principles of safeguarding religion, life, intellect, lineage, and wealth.

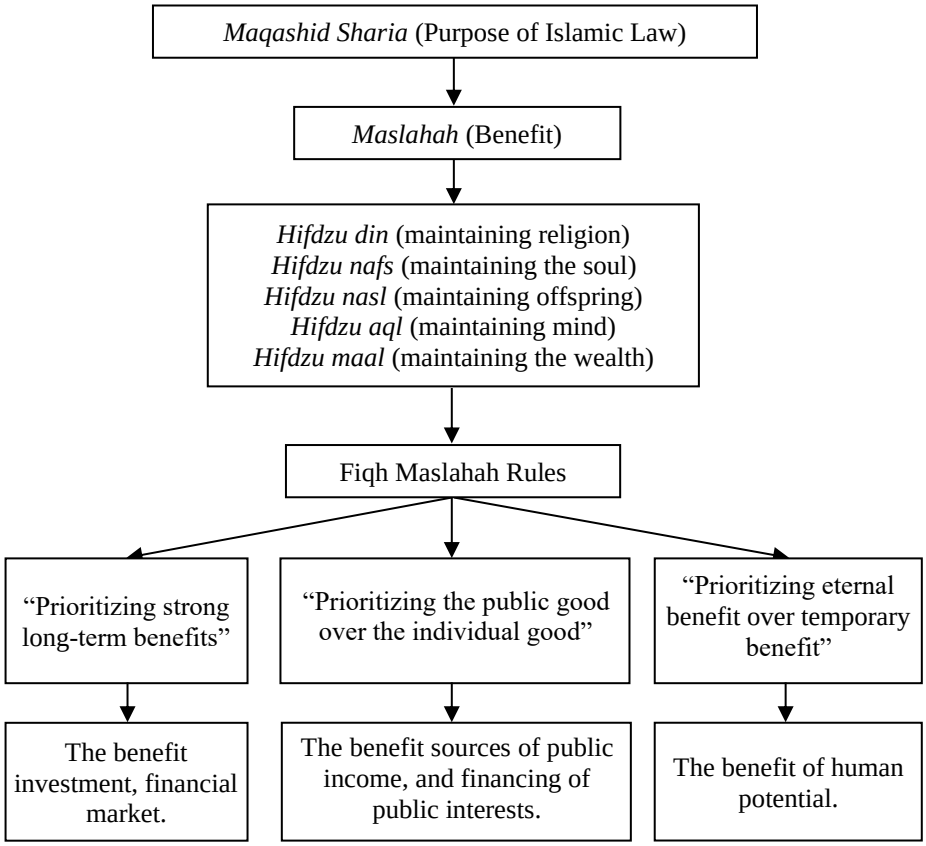

Figure 2. DeFi Maslahah Scheme

Maslahah **Indicator**

The concept of *maslahah* was operationalized using established Islamic legal principles (*fiqh*) that measure the prioritization of public good over individual interests. The five essential objectives of *maqashid sharia* (preservation of religion, life, intellect, lineage, and wealth) served as the foundation for evaluating DeFi's alignment with Islamic finance. Specifically, the following indicators were used to assess *maslahah*:

- *Hifz al-din* (protection of religion). The degree to which DeFi serves as an ethical financial alternative in accordance with Islamic principles.
- *Hifz an-nafs* (protection of life). How DeFi promotes financial inclusion and reduces economic disparities.

- *Hifz al-aql* (protection of intellect). The capacity of DeFi to foster innovation and enhance human capital in financial literacy.
- *Hifz al-nasl* (protection of lineage). The potential of DeFi to ensure financial stability and intergenerational wealth transfer.
- *Hifz al-maal* (protection of wealth). How DeFi contributes to wealth preservation and growth while minimizing risks in financial transactions.

These indicators provided a framework for analyzing the extent to which DeFi aligns with *maslahah* in achieving both material and spiritual benefits for individuals and society.

RESULT AND DISCUSSION

Decentralized Finance (DeFi) Technology

Decentralized Finance (DeFi) represents a transformative approach to the financial industry, leveraging blockchain technology to create an open, transparent, and accessible financial ecosystem. DeFi operates primarily on the Ethereum blockchain, one of the many active blockchain networks today. Blockchain itself is a permanent ledger that is interconnected and shared across a network to record transactional data involving various forms of assets. These assets can be physical or intangible, including intellectual property rights, patents, copyrights, and trademarks. Within a blockchain network, it is possible to track and exchange any valuable entity (Gupta, 2018).

In the context of blockchain technology, DeFi refers to a variety of financial service platforms and applications that operate on decentralized networks like Ethereum. These services offer alternatives to traditional financial systems by eliminating the need for centralized intermediaries such as banks, financial organizations, or regulatory authorities. By utilizing blockchain technology, DeFi creates a decentralized, open, and accessible system capable of reducing costs associated with intermediaries (Nath, 2023). Smart contracts—self-executing algorithms that automatically enforce the terms of an agreement—are fundamental to DeFi, as they obviate the necessity for intermediaries like banks and brokers (Nath, 2023). This system contrasts with the centralized financial systems currently in place, challenging traditional banking structures (Sektiyaningsih, 2022).

DeFi aims to provide financial services that are open, transparent, and inclusive, not relying on traditional intermediaries. As technological advancements continue, DeFi holds the potential to become the financial ecosystem of the future. According to Zetzsche et al. (2020), the foundations of DeFi are inseparable from four advanced technologies: blockchain (including smart contracts and distributed ledger technology), artificial intelligence (AI), big data, and cloud computing.

Blockchain Technology

Blockchain is a digital technology designed to securely store data through cryptography. It consists of blocks connected in a chain, forming a ledger of transactions that cannot be falsified or altered by any party. Within the blockchain, a distributed ledger functions as a synchronized database accessible by all server networks globally. Distributed ledgers provide a fertile ground for innovations addressing trust issues in human interactions, particularly concerning contract compliance and enforcement, while increasing efficiency through smart contract automation (Zetzsche et al., 2020).

Smart contracts are self-executing software protocols that outline the terms of an agreement between two parties, encoded directly into lines of code. These programs operate under specific conditions on the blockchain, automating the execution of transaction agreements. This automation ensures that all participants are directly assured of outcomes and benefits without involving intermediaries (Kadir et al., 2023). Without the need for external enforcement mechanisms—such as courts or central clearing facilities—smart contracts enable transactions between separate and anonymous participants, making transactions visible, immutable, and traceable.

The integration of smart contracts and distributed ledgers serves as the foundation for most DeFi applications (Zetzsche et al., 2020). A key feature of blockchain technology is the ability to track transactions retrospectively at any point in the past (Vujičić et al., 2018). Essentially, blockchain functions as an advanced database system that facilitates the open exchange of information within a network of business activities. Its structure ensures that data cannot be changed or deleted, allowing users to create a fixed ledger to track payments, orders, accounts, and transaction histories.

Artificial Intelligence (AI)

Artificial intelligence (AI) is regarded as one of the most significant technological advancements of the 21st century due to its rapid development and institutionalization (Liu et al., 2018). AI automates a wide range of tasks, including administrative, managerial, and professional functions (Sadman et al., 2022). The primary goal of AI is to develop computer programs that replicate human cognitive processes such as learning and problem-solving. AI utilizes data to draw conclusions about the likelihood of events based on contextual knowledge; the more data available, the more accurate and detailed the inferences (Zetzsche et al., 2020).

In DeFi, AI acts as a reinforcement agent within the network, facilitating communication between nodes to manage transactions and monitor peer-to-peer (P2P) activities. P2P refers to a system of information exchange and communication involving two or more parties transacting through a network. AI enhances transaction efficiency and security by optimizing processes and detecting potential anomalies within the DeFi ecosystem.

Big Data

The utilization of big data analytics is increasingly becoming essential for organizations to remain competitive in the current era (Al-Lozi et al., 2022). The concept of "digitization of everything," underpinning theories such as Web 3.0 and the expanding Industrial Revolution 4.0, supports traditional data analysis and big data approaches. Data is at the core of technological innovations resulting from the ongoing digitization of various processes. Big data refers to the collection and processing of data volumes that are too massive and complex for conventional data processing programs (Zetzsche et al., 2020). In simple terms, big data encompasses vast amounts of information collected through symbols, words, numbers, and other forms.Within DeFi, big data analytics enable the handling of extensive transactional data, allowing for improved decision-making, risk assessment, and personalized financial services. The ability to analyze large datasets contributes to the efficiency and reliability of DeFi platforms.

Cloud Computing

Cloud computing refers to the decentralization of server capacity, offering on-demand data storage and processing power accessible via the internet without

direct management of the underlying servers. In DeFi, cloud computing serves as a data collection service distributed across multiple server centers, accessible globally either simultaneously or asynchronously. This decentralization allows DeFi platforms to accommodate resource availability without being constrained by individual server limitations (Zetzsche et al., 2020).Cloud computing plays a crucial role in enhancing operational resilience and enabling digital transformation within financial services (Finance, 2022). It addresses concerns related to cybersecurity, single points of failure, administrative burdens, costs, and data limitations. The cross-border nature of cloud computing aligns well with DeFi protocols that operate on a global scale. Data stored in the cloud benefits from increased security against cyber threats and reduced management burdens and costs.

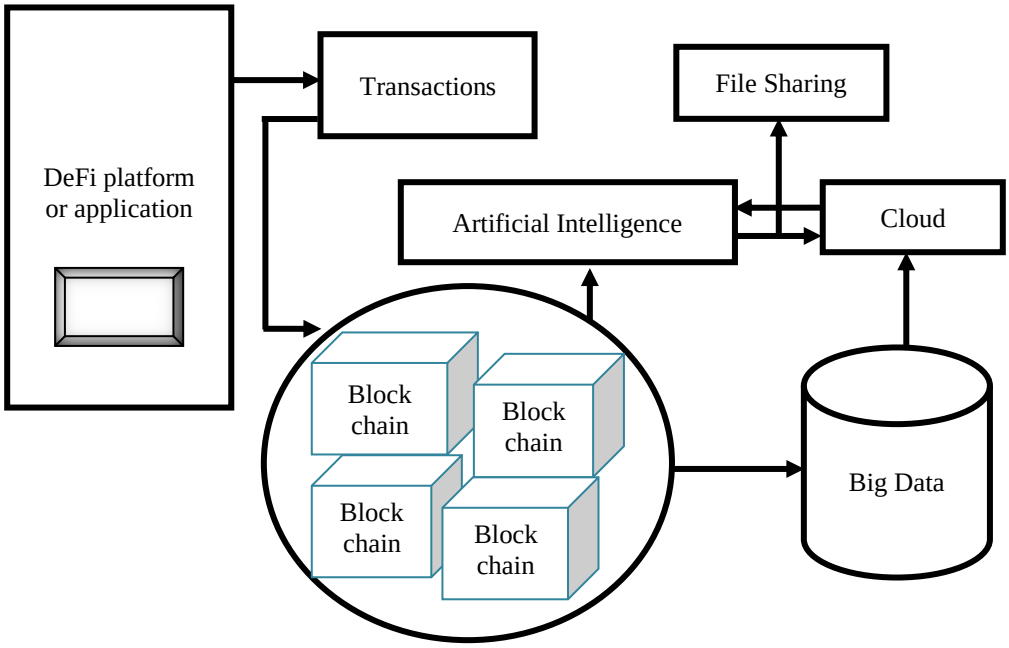

Figure 3. Illustration of DeFi Ecosystem Components

DeFi as the Future Financial Ecosystem

The integration of the aforementioned technologies positions DeFi as an advanced and automated system with the potential to become the future of financial services. DeFi's services are open, efficient, and effective, accessible to anyone with internet connectivity without requiring permission from any authority. The peer-to-peer (P2P) financial networks utilizing modern software,

hardware connections, and security protocols enable DeFi to operate automatically without a central authority (Garg, 2023).

By eliminating intermediaries such as banks, DeFi reduces costs associated with administrative fees, tax deductions, and other expenses. DeFi challenges the traditional power of banks and institutions over money, financial products, and services by minimizing fee burdens and eliminating centralized regulatory agencies. In DeFi, smart contracts act as substitutes for the transactional authority of financial institutions, capable of transferring, receiving, and returning funds within predefined parameters.

Once users are registered on a DeFi platform, their data cannot be changed or modified, as the system is designed for automation and security. This structure simplifies compliance with predefined conditions for sellers, buyers, lenders, and borrowers. Every transaction within DeFi is recorded on a distributed ledger, detailing all aspects such as participants, transaction types, and timestamps. These records are managed by AI and stored securely in the cloud.The transparent, efficient, and rapid transaction process facilitated by DeFi aligns with contemporary user expectations, eliminating the delays and potential rejections associated with traditional banking procedures. DeFi has established a system where financial transactions are conducted "on-chain" with smart contracts programmed for immediate execution.

The innovations introduced by DeFi are anticipated to continue attracting attention and may be adopted by centralized institutions for specific purposes. As developers create solutions to address various needs, increased decentralization within the financial sector is likely. DeFi technologies are expected to be utilized where advantageous, potentially addressing weaknesses inherent in traditional banking systems. The possibility of DeFi operating without human intervention presents a viable alternative for mitigating the shortcomings of current financial frameworks.

DeFi in the Indonesian Context

In Indonesia, transactions using DeFi services—such as trading, exchange, and investment—are currently conducted on digital assets like Non-Fungible Tokens (NFTs) and cryptocurrencies on DeFi platforms. While crypto assets are still prohibited as a means of payment, they are permitted as investment tools and are recognized as commodities tradable on futures exchanges (BAPPEBTI, 2020). This approach considers the significant economic

potential of cryptocurrency investments and seeks to prevent capital outflow resulting from prohibitions.The government's decision to legalize physical cryptocurrency as an investment tool and commodity marks the beginning of DeFi's emergence in Indonesia. This development necessitates careful consideration by the government to analyze the use of DeFi services as a prospective component of future financial services. Indonesia is inevitably influenced by DeFi technology due to the populace's growing demand for fast, easy, cost-effective, transparent, and efficient financial transactions.

The adoption of DeFi services in Indonesia could enhance financial inclusion, stimulate innovation, and improve the efficiency of financial markets. However, it also presents regulatory challenges that require strategic planning to ensure consumer protection and financial stability. The government's role in establishing a supportive regulatory framework is crucial for harnessing the benefits of DeFi while mitigating potential risks.

DeFi in Society 5.0

The Society 5.0 era aims to address societal problems and inequalities by integrating technology in a way that is human-centered, balancing economic progress with social welfare. According to Suherman et al. (2020), the realization of Society 5.0 depends on the advancement and use of technology. In Society 5.0, a new value system emerges where technological innovations can help reduce inequalities and economic challenges. One persistent issue is the difficulty for people at poverty levels to access financial services.

Society 5.0 establishes a new societal pattern—an intelligent, tech-driven ecosystem. The influence of technology and cyberspace has shifted societal mindsets. It promotes an integration of the virtual and physical worlds to improve human life and foster harmony. This comprehensive ecosystem extends beyond production and industry, making organizational, industrial, and company activities more efficient. Society 5.0 emphasizes economic development that impacts people's social lives, providing internet infrastructure that facilitates internal data access, employee management, and financial reporting. It fosters a highly connected world where daily activities are conducted via the internet. Both Society 5.0 and the coming Industrial Revolution 6.0 will introduce greater reliance on online tools like bloggers, web developers, social media, and online investment platforms, allowing humans to interact globally without regional restrictions (Suherman et al., 2020).

In this context, Decentralized Finance (DeFi) aligns with the goals and technological dimensions of Society 5.0. DeFi is a manifestation of technological progress that supports the new societal order in both Society 5.0 and Industrial Revolution 6.0. It offers financial services that are accessible to anyone with an internet connection and a smartphone or computer. DeFi allows individuals to engage in activities like investing, saving, borrowing, exchanging assets, and trading tokens through decentralized platforms. As Society 5.0 becomes more integrated with technology, financial transactions are increasingly conducted digitally, moving away from traditional methods. Consequently, DeFi is likely to play an essential role in global financial transactions, with promising prospects for adoption in Indonesia. It could even revolutionize the financial industry, fostering new applications and platforms to meet the financial needs of people across Indonesia and reduce economic disparities.

The DeFi system aligns with Society 5.0's goal of inclusivity. DeFi allows users to access financial services without being restricted by social status, age, education, or income. Unlike traditional banking systems, which require extensive analysis of factors like income and age when issuing loans, DeFi provides equal access to financial services for all. This can help reduce societal inequalities by ensuring everyone has the same opportunities to meet their financial needs. In general, DeFi could create new economic activities, thereby driving economic growth.

DeFi also fits within Society 5.0's framework, as it incorporates humans (society) as users. The technology behind DeFi, including peer-to-peer networks, facilitates global access to financial services, which supports Society 5.0's aim of solving social inequalities through technology. The widespread adoption of technology, supported by AI, cloud computing, IoT, Big Data, and blockchain, will make it easier for people to access the internet and, consequently, DeFi services. This global connectivity aligns with Society 5.0's vision of integrating technology to improve societal well-being. Furthermore, the decentralized nature of DeFi fosters creativity and innovation by facilitating open and easy information exchange.

Society 5.0 aims to merge technological advances, such as blockchain, with human equality by providing equal access to information and financial services. DeFi, which leverages blockchain technology, directly contributes to these goals by:

1. Ensuring fair and inclusive access to financial services for everyone. For instance, DeFi enables individuals in remote areas to access loans or investments without needing a traditional bank account.
2. Encouraging innovation in financial services through technologies like smart contracts, which can support decentralized insurance, unsecured lending platforms, and automated investment systems. These innovations help reduce economic disparities and increase access to financial services.

While DeFi offers numerous advantages, such as cost reduction, increased transparency, and greater accessibility, it also faces challenges. Regulatory uncertainties, cybersecurity risks, and the volatility of cryptocurrencies are significant hurdles that must be addressed to ensure the long-term viability of DeFi systems. Additionally, the lack of centralized oversight could lead to issues of fraud, market manipulation, or system vulnerabilities that may harm users.

Despite these challenges, DeFi has the potential to revolutionize the financial sector by offering a more open and inclusive system that aligns with the evolving needs of a digital, global economy. As technological advancements continue, DeFi is likely to become an integral part of the financial ecosystem, complementing traditional finance while addressing its shortcomings.

Industry 6.0 and DeFi

Industry 6.0, which involves operating systems managed by human intelligence and executed by robots through AI, cloud computing, and big data, is still in development and may take another 10–15 years to be fully realized. In this era, robots, powered by satellites and industrial AI, will perform tasks traditionally done by humans. Industry 6.0 aims to combine sustainability with antifragile digitalization, benefiting sectors like healthcare, manufacturing, and households (Chourasia et al., 2022). This revolution will likely change lifestyles, with robots completing household tasks and providing seamless communication and information access.

The introduction of advanced technologies in Industry 6.0 could also make financial services like DeFi more accessible, providing new investment opportunities in decentralized markets, payments, and long-term ventures. As technology advances, DeFi may also create avenues for investment in AI, automation, and other emerging fields, potentially transforming the job market.

While some traditional roles may become obsolete, new opportunities for skilled workers in data science, AI development, robotics, and cybersecurity will arise. Preparing the workforce through upskilling and retraining will be critical for Indonesia to meet the demands of the changing job market.

DeFi's decentralized blockchain technology also has applications in Industry 6.0. For instance, blockchain can be used for supply chain management, enabling secure tracking of goods' origins, quality, and history, which increases transparency and trust among stakeholders. DeFi's blockchain infrastructure enhances data security in production, manufacturing, and logistics. However, the widespread adoption of DeFi in industry requires specialized training and education to ensure optimal use of blockchain technology.

In conclusion, DeFi's principles and goals align with those of Society 5.0 and Industrial Revolution 6.0. By reducing social inequalities, improving cross-border interaction, and adapting to evolving technologies, DeFi can play a key role in shaping the future of finance. Stakeholders must take proactive measures to embrace the technological advancements of this new digital era to facilitate social and economic progress.

Maslahah **(Benefits) in DeFi**

The term "*Maslahah*" etymologically encompasses meanings such as goodness, profit, usage, and benefit. It refers to what is beneficial, good, and useful (Kadir, 2019). Maslahah's core mission is to promote and uphold goodness (benefits), make life easier, and prevent harm, thereby balancing the objectives of this world and the hereafter (Kadir et al., 2019). Upholding the ability to meet basic human needs is central to safeguarding health, well-being, and survival within society (Kadir, 2023). This includes protecting essential elements like faith, life, offspring, intellect, and assets (Kadir, 2022).

Moreover, maslahah is fundamentally based on the principle of *"maslahah 'ammah"* (public benefit), extending beyond mere financial gains (Kadir, 2023). Islamic economics aims not only to maximize profits but also to provide broad societal value (Kadir et al., 2023), particularly through improving financial literacy. Increased financial literacy brings progress not only to individuals, families, organizations, and companies but also contributes to national economic growth (Abdullah et al., 2020). Therefore, research in this area is vital for promoting understanding within the broader community.

The rise of Decentralized Finance (DeFi) as a new financial technology signals a digital transformation with significant economic implications. DeFi's objective is not to eliminate traditional economic activities but to enhance access to financial services by making them faster, cheaper, more transparent, and more effective. This goal aligns with the objectives of Islamic law, which seeks to promote goodness, ease life, and prevent harm, thereby achieving balance in worldly and spiritual matters.

Currently, there is no specific fatwa from the Majelis Ulama Indonesia (MUI) addressing the permissibility of using DeFi. However, several fatwas related to financial services, such as MUI Fatwa Number 117/DSN-MUI/II/2018 regarding Information Technology-Based Financing Services under Sharia Principles, provide relevant insights. While DeFi cannot yet be classified as a sharia-compliant service, this discussion highlights how maslahah in DeFi can serve as a basis for future fatwa rulings and regulations.

Protection of Religion (Hifdzu al-Din)

The principle of *maslahah* (benefit) in this context relates to how Decentralized Finance (DeFi) could protect and promote the practice of Islam by offering financial alternatives that align with Islamic values. DeFi offers the Muslim community in Indonesia an option to invest in digital, technology-driven financial services without going through traditional banking systems, aligning with Islamic values that avoid usurious practices (*riba*), thereby making it a religiously safe option for Muslims seeking to grow their wealth. DeFi could help in promoting Islamic teachings, especially in financial ethics, by integrating Islamic financial principles into modern technology, offering new ways for Muslims to engage in Islamic finance.

Table 1. Aspects of Maintaining Religion *(Hifdzu al-Din)*

Aspect	***Maslahah* (Benefit)**	**Sub-Benefit**
Maintaining Religion *(Hifdzu al-Din)*	- DeFi as an alternative investment instrument in Indonesia. - Based on fiqh maslahah principle: "Preferring strong long-term benefit"	1. Means of Islamic propagation 2. Digital business investment 3. Access to decentralized financial services 4. Source of capital and income

DeFi platforms also offer new opportunities for digital businesses to emerge within an Islamic framework, facilitating the growth of sharia-compliant business ecosystems. One of DeFi's key promises is democratizing access to

financial services, providing Muslims with services that meet religious criteria while also offering the benefits of a decentralized system, such as transparency, security, and efficiency. DeFi can provide Muslims with capital for their businesses and investments that comply with Islamic rules, ensuring their participation in economic growth without compromising their faith. The use of DeFi aligns with the fiqh rule of prioritizing long-term benefits, offering sustainable, sharia-compliant financial services that are accessible and efficient, making it a strong candidate for future adoption by the Muslim community. This focus on long-term benefits over short-term gains is crucial in Islamic finance, where ethical considerations must align with financial success.

Protection of Life (Hifdzu an-Nafs)

The concept of *maslahah* (benefit) in protecting the soul *(hifdzu an-nafs)* through Decentralized Finance (DeFi) relates to enhancing the safety, security, and economic well-being of society. The integration of DeFi into the financial market can be seen as a way to safeguard individuals from harmful financial practices and economic instability, promoting overall societal welfare. DeFi's transparency, automation, and technological innovation can make it an essential part of Indonesia's financial ecosystem. By supporting economic development, offering transparent financial practices, and providing efficient tools, DeFi helps protect individuals from financial harm and fosters economic stability, indirectly safeguarding human life and dignity.

Table 2. Aspects of Maintaining Soul *(Hifdzu an-Nafs)*

Aspect	***Maslahah* (Benefit)**	**Sub-Benefit**
Maintaining Soul *(Hifdzu an-Nafs)*	- DeFi as an instrument in the Indonesian financial market - Based on the rules of fiqh maslahah: "Preferring strong long-term benefit"	1. Development tools for Islamic finance industry 2. Automation system 3. Minimizing financial crime

DeFi can serve as a foundation for growing the Islamic finance sector by introducing technology that supports sharia-compliant financial transactions. These tools, such as blockchain and smart contracts, can streamline processes, reduce costs, and enhance security. The Islamic finance industry can develop safer, more efficient systems that protect individuals from financial harm while complying with religious principles. The automation within DeFi—enabled by smart contracts and blockchain—ensures transparency, efficiency, and consistency in financial transactions. This reduces human error, fraud, and

manipulation, which are often causes of financial disputes and harm. Automated systems ensure that agreements and transactions are executed fairly and correctly, reducing risks to people's economic well-being.

DeFi's transparency and immutability make it difficult for individuals to engage in financial crime. With every transaction being recorded on a tamper-proof blockchain, the potential for fraud, data manipulation, and other forms of financial crime is minimized. By reducing the likelihood of these crimes, DeFi plays a role in protecting individuals from financial exploitation and damage, thereby contributing to the maslahah of protecting the soul. The emphasis on long-term benefit in Islamic law aligns with the security and reliability offered by DeFi. While DeFi's initial development may require significant investment in technology and infrastructure, the long-term benefits—such as reduced financial crime, transparency, and automation—can contribute to a stable and secure financial environment. This helps ensure the protection of individuals' livelihoods and safety in the financial market over time.

Protection of Offspring (Hifdzu al-Nasl)

The principle of *maslahah* for maintaining offspring (*hifdzu an-nasl*) emphasizes protecting and fostering the well-being and future of the next generation by ensuring a sustainable economic environment. This involves creating opportunities for financial growth and stability that support families and communities, ultimately ensuring the survival and prosperity of future generations. DeFi has the potential to encourage income growth by offering decentralized, easily accessible financial services. Its use could open new avenues for individuals and businesses to access funding, investment opportunities, and capital. This aligns with the broader Islamic objective of supporting community welfare over individual gain, as the widespread use of DeFi could stimulate economic growth across society, benefiting future generations.

Table 3. Aspects of Maintaining Offspring *(Hifdzu al-Nasl)*

Aspect	**Maslahah (Benefit)**	**Sub-Benefit**
Maintaining Offspring*(Hifdzu an-Nasl)*	- Encouraging income growth of Indonesian society - Based on the fiqh rule of maslahah: "Prioritizing the benefit of the community over the benefit of the individual"	1. Potential to reduce poverty 2. Alternative means of investment 3. Alternative sources of funding (capital) 4. Potential for community economic sustainability

DeFi's open financial access could also help reduce poverty by providing underbanked or unbanked populations with access to financial services. This creates opportunities for individuals to secure loans, invest in businesses, and improve their financial standing, which in turn can provide stable incomes to support their families. Reducing poverty ensures the survival and prosperity of future generations by establishing more stable household incomes. Additionally, DeFi platforms enable alternative forms of investment, providing families with opportunities to grow their wealth without relying on traditional banking systems. These investment opportunities allow people to create additional income streams that contribute to the long-term financial security of their families and communities.

Furthermore, DeFi offers decentralized platforms where individuals and businesses can access capital more easily and at lower costs. This can help small and medium-sized enterprises (SMEs) grow by securing the necessary funds to expand their businesses. By providing alternative sources of capital, DeFi can support businesses that generate employment opportunities, helping families secure a livelihood and maintain economic stability. DeFi also contributes to community sustainability by providing the tools and platforms for financial inclusion. As communities gain access to capital and financial services, they are better equipped to sustain their economic activities and improve their quality of life. This ensures the continuity of economic prosperity across generations, which is essential for maintaining the welfare of the community and future offspring.

In Islamic law, the well-being of the community often takes precedence over individual interests. DeFi aligns with this principle by providing financial solutions that benefit entire communities, such as increasing access to capital and investment opportunities for a larger portion of society. This helps ensure that the financial well-being of families and future generations is prioritized, fostering a stable and sustainable economy that supports the overall welfare of society.

Protection of Intellect (Hifdzu al-Aql)

Maintaining the intellect/mind (*Hifdzu al-Aql*) focuses on developing intellectual capacity, resourcefulness, and innovation, which are key to the growth of human potential. DeFi offers a significant opportunity for nurturing the intellectual development of Indonesian human resources by promoting

financial literacy and the adoption of technology-driven financial services. The creation of a Sharia-compliant DeFi platform, utilizing blockchain technology, would serve as an innovative tool for society to enhance its intellectual and financial potential, in line with the divine gifts bestowed upon humankind by Allah.

Table 4. Aspects of Maintaining Intellect *(Hifdzu al-Aql)*

Aspect	***Maslahah* (Benefit)**	**Sub-Benefit**
Maintaining Mind *(Hifdzu al-Aql)*	- Developing the potential of Indonesian human resources - Based on the fiqh rule of maslahah: "Give precedence to eternal benefit over temporary benefit"	1. Optimizing resourcefulness 2. Fostering creative and innovative human resources 3. Encouraging technology-based financial services

One of the main sub-benefits of maintaining the mind through DeFi is optimizing resourcefulness. DeFi allows individuals to leverage decentralized platforms, encouraging a more self-reliant and resourceful financial approach. As DeFi eliminates intermediaries, users need to navigate and engage with these platforms independently, promoting greater personal accountability and resource management.

Secondly, DeFi supports fostering creativity and innovation by enabling a technology-driven financial ecosystem that inspires new forms of entrepreneurship and financial solutions. The ability to build and interact with financial products on decentralized platforms could stimulate innovative thinking among young Indonesian professionals, encouraging them to explore new possibilities in the realm of financial technology, specifically within the context of Islamic finance.

Lastly, the encouragement of technology-based financial services through DeFi would bolster the nation's intellectual landscape, aligning with the Indonesian Constitution's call for fostering the intelligence of the nation. As more individuals gain access to financial literacy and DeFi tools, they become more adept at using modern technologies, strengthening Indonesia's human capital. Financial literacy rooted in Sharia principles, enhanced by the technological advantages of blockchain and DeFi, would serve not only to preserve the minds of the population but also to elevate their intellectual and economic capacities. In summary, by embracing DeFi, Indonesia could create a more intelligent, innovative, and resourceful society, fulfilling the obligation of *hifdzu al-aql* in both spiritual and practical terms.

Protection of Wealth (Hifdzu al-Maal)

Maintaining wealth/property (*Hifdzu al-Maal*) revolves around protecting wealth and ensuring that financial resources are preserved and utilized in a way that benefits the broader community. In the context of decentralized finance (DeFi), the protection of property extends to providing accessible financial services that can accommodate sources of income and financing for the Indonesian people.

Table 5. Aspects of Maintaining Wealth *(Hifdzu al-Maal)*

Aspect	***Maslahah* (Benefit)**	**Sub-Benefit**
Maintaining Wealth *(Hifdzu al-Maal)*	- Accommodating sources of income and financing for the benefit of the Indonesian people - Based on the fiqh rule of maslahah: "Prioritizing the eternal benefit over the temporary benefit"	1. Encourage the creation of Sharia-based financial service models 2. Means of accommodating the needs of the community 3. Maintain public trust due to transparency, automation, reduced costs, easier, more effective, and can prevent crime

One of the key benefits of DeFi is its potential to encourage the creation of Sharia-based financial service models. These models would align with Islamic principles, offering the Muslim community in Indonesia access to finance and investment opportunities that comply with Sharia law. The emergence of Sharia-compliant DeFi platforms would provide a solution for Muslims seeking ethical investment instruments and financial services, thus safeguarding wealth according to Islamic principles.

DeFi also serves as a means of accommodating the needs of the community, especially in the area of financial inclusion. By leveraging blockchain technology, DeFi eliminates intermediaries, reduces transaction costs, and simplifies access to financial services. This helps meet the needs of underserved populations, offering them financial tools to generate income, secure funding, and invest in business ventures. As a decentralized system, DeFi can reach individuals who may not have access to traditional banking services, fulfilling the societal obligation to provide financial means for all.

Furthermore, DeFi's reliance on blockchain technology enables transparency, automation, and security, which helps to maintain public trust. The immutable and transparent nature of blockchain transactions reduces the risks of fraud and financial crimes. Automation through smart contracts ensures that agreements

are executed without the need for human intervention, lowering the chances of errors or tampering. DeFi's efficiency also lowers operational costs, making financial services more affordable and accessible to a broader range of people. All of these factors contribute to protecting wealth by ensuring that the system remains secure, trustworthy, and efficient.

In essence, the use of DeFi can be seen as a way to safeguard the property of both individuals and the state. By integrating Sharia principles into the DeFi protocol, Indonesia could create a financial model that both strengthens the economy and adheres to Islamic ethics. This would not only preserve wealth but also contribute to sustainable economic growth and the financial well-being of society as a whole.

CONCLUSION

This research highlights that decentralized finance (DeFi) is built on four key technologies: Blockchain (with smart contracts and distributed ledger technology), Artificial Intelligence (AI), Big Data, and Cloud Computing. DeFi operates via blockchain platforms, recording transactions on distributed ledgers, and is supported by AI, Cloud, IoT, and Big Data within the Society 5.0 and Industrial Revolution 6.0 frameworks. DeFi aligns with *maqashid sharia* (Islamic legal objectives) by promoting societal benefit (*maslahah*) in key areas: (1) as an alternative for Islamic investments (protection of religion), (2) as a financial market instrument (protection of the soul), (3) encouraging income growth (protection of offspring), (4) fostering creativity and innovation (protection of the mind), and (5) securing income and financing (protection of property). The findings suggest DeFi has significant potential to revolutionize financial services, particularly in Indonesia, by offering transparent, efficient, and inclusive solutions that align with Islamic principles. This also opens opportunities for innovation within the Islamic financial sector, fostering economic growth and ethical practices.

The findings have significant implications for policymakers, financial authorities, and industry stakeholders. Policymakers must take proactive steps in preparing and leveraging the potential of DeFi in their jurisdictions. This includes crafting clear regulations and frameworks to govern DeFi, ensuring that its benefits are harnessed for the broader economic and social good. Financial regulators must introduce oversight mechanisms to prevent financial crimes such as money laundering, gambling, or investment fraud. Additionally,

the government should consider the adoption of digital currencies as legal tender within DeFi systems, ensuring that these innovations serve all segments of society while maintaining legal and financial integrity.

While this study provides a comprehensive analysis of DeFi's potential, it is limited by the rapidly evolving nature of both financial technologies and regulatory frameworks. As DeFi continues to develop, further research is needed to assess its long-term impacts on financial stability, regulatory challenges, and broader societal implications. Future studies should explore the integration of DeFi with existing financial systems, particularly how DeFi can coexist with traditional banking and financial institutions in a compliant and secure manner. Additionally, further exploration is required to understand DeFi's implications for Islamic finance, especially in regions where Sharia compliance is a key consideration for financial innovation. Researchers could also investigate the social and ethical dimensions of DeFi, particularly its role in financial inclusion and the ethical risks posed by emerging technologies.

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