

# **The Role of the Financial Decentralization Ecosystem in Exchange Transformation in the Digital Era**

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**Abstract** – *The advancement of blockchain technology has made a significant contribution to the development of the digital financial ecosystem. One of the most prominent aspects is the emergence of Decentralized Finance (DeFi) and its pivotal role in transforming exchange platforms within the digital financial ecosystem. This journal describes the primary role of DeFi in reshaping our perception of exchanges, encompassing implications for security, safety, and technological innovation*

**Keywords :** Financial Decentralization, Exchange Transformation, Digital Era

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## INTRODUCTION

Financial Technology or FinTech is another advancement in improving applications, processes, products or modes of business in the financial services industry. In the 2019 FinTech Report submitted by DS Research, in November 2019 there were 22 new financing companies with a turnover of \$100 million, dominated by Koinworks and Kredivo. This value is almost 50% of the total turnover in 2018 of \$ 180 million. This information shows that society in general views advances in technology/fintech in the financing/lending category as a customizable solution to financial problems. (DSResearch, 2019).

Fintech as an innovation that expands effectiveness and produces solutions for financial business modes using Artificial Intelligence (AI), Blockchain, Cloud, and Data Analysis (Lee Kuo Chuen, 2018). Blockchain innovation was discovered by Stuart Haber & W. Scott Stornetta in 1991, then realized by Satoshi Nakamoto (pseudonym) making blockchain innovation the basis for producing cryptographic money/the popular digital currency Bitcoin. Cryptocurrency/cryptocurrency provides a concept to be used for transactions of goods and services in the form of digital assets, where these digital assets cannot be created or limited by one party (for example a central bank) but are controlled by a distributed system that is in accordance with blockchain innovation.(Yeni, Manovri., Kumala, 2020).

Blockchain technology has a decentralized nature and is safe against data manipulation or hacking activities, making it interesting to develop in the Internet of Things (IoT) era. One of the financial technologies based on blockchain innovation is Decentralized Finance/DeFi or decentralized finance, which is the transfer of financial activities that previously used traditional systems to utilize blockchain innovation. DeFi is an investment application based on blockchain technology and crypto assets. Decentralized Finance/ DeFi is a big dream for the financial industry, there are several conveniences presented by Decentralized Finance/ DeFi including ease of borrowing, banking financial services and decentralized markets.

The efficiency of the Decentralized Finance/DeFi market has recently attracted

academic interest, this is due to the development of information in digital online media, one of the classifications of Decentralized Finance/DeFi, namely Lending, has received more attention than others due to the increase in funds stored in Decentralized Finance/DeFi reaching figure IDR 13.8 trillion, skyrocketing since March 2020 (blockchainmedia.id : 2020).

The value of the DeFi (Decentralized Finance) sector has now reached US\$900 million (Rp. 13.8 trillion) since mid-March 2020. This rapid growth data is based on the Total Value Locked (TVL) of 27 DeFi monitored by DeFi Pulse. TVL is represented in US dollars based on the exchange rate of crypto assets that are collateralized in DeFi, such as Ether (ETH), Bitcoin (BTC) and DAI.

The DeFi ecosystem is a concept that allows individuals to participate in finance without going through traditional financial institutions. It includes various protocols and applications that run on blockchain technology, allowing users to carry out various financial activities such as lending, borrowing, staking, yield farming, and digital asset trading.

DeFi's Role in Exchange Transformation: Elimination of Third Parties: DeFi eliminates intermediaries and third parties in asset exchanges, so users have complete control over their assets without needing to trust a centralized entity. Product Innovation: DeFi drives product innovation within exchange platforms by allowing various types of assets to be traded, including tokens representing physical assets, shares, and even digital works of art. Security and Transparency: Smart contracts in DeFi run on a decentralized blockchain, which offers a high level of security and transparency, as all transactions are publicly accessible. Open Access: DeFi provides open access to anyone with an internet connection, increasing financial inclusion globally.

Recent research related to the market efficiency of the weak form of the cryptocurrency Bitcoin as the subject of research. Research conducted by Khuntia dan Pattanayak (2018) as well as Kaiser (2018) shows that the Bitcoin digital currency is efficient in weak form, which means that information about previous cryptocurrency prices cannot be used to predict future price movements.

Other research conducted by Kristoufek (2018) produces the result that the Bitcoin market is inefficient. Research conducted by Gudgeon dkk (2020) in research on decentralized finance/ DeFi Compound with DAI coin collateral, there are several conditions that indicate an illiquid market and the loan interest rates offered in decentralized finance/ DeFi Compound do not attract coinvestors in the period 21 February – 21 April 2020 due to the concentration of funds stored in Decentralized Apps/Dapps too few. Research conducted by Harvey and Santoro (2020), Wang (2020) and Popescu (2020) Decentralized Finance/ DeFi is a liquid instrument because of the ease of disbursement without low transaction costs and without government authority. Based on the background explanation above, research will be conducted regarding the Role of the Financial Decentralization Ecosystem in Exchange Transformation in the Digital Era.

## **RESEARCH METHODS**

This research is research using the literature study or literature review method. A literature review is a comprehensive overview of research that has been conducted on a specific topic to show readers what is already known about the topic and what is not yet known, to find rationale for research that has been conducted or for ideas for further research. (Denney & Tewksbury, 2013). Literature studies can be obtained from various sources, including journals, books, documentation, the internet and libraries. The literature study method is a series of activities related to methods of collecting library data, reading and taking notes, and managing writing materials (Zed, 2008 in Nursalam, 2016).

## **RESEARCH RESULTS AND DISCUSSION**

In this research, we conducted a detailed analysis regarding the role of the Decentralized Financial (DeFi) ecosystem in changing exchange platforms in the digital era. From our research results, some of the key findings are as follows: Eliminating Middlemen: DeFi has succeeded in eliminating middlemen and centralized entities in the exchange of financial assets. This has given users complete control over their assets and reduced dependence on

traditional financial institutions. Product Innovation: DeFi has driven product innovation on exchange platforms by enabling the trading of various types of assets, including tokens representing stocks, commodities, and other physical assets. This has enriched the digital exchange ecosystem. Security and Transparency: The use of smart contracts in DeFi running on a decentralized blockchain has increased the level of security and transparency. All transactions are publicly accessible and verified on the blockchain. Open Access: DeFi has provided open access to individuals around the world. This has increased financial inclusion globally, allowing people previously unreachable by traditional financial systems to participate.

## **Discussion**

The findings from this research show that the DeFi ecosystem has had a significant impact on the transformation of exchanges in the digital era. By eliminating middlemen and facilitating product innovation, DeFi has opened the door to a variety of opportunities and challenges:

1. Security: Although DeFi offers higher security through smart contracts and blockchain, there are still risks that need to be addressed, such as backdoor attacks in smart contracts or vulnerabilities in DeFi protocols.
2. Regulatory Uncertainty: Regulatory uncertainty remains a major challenge for the DeFi ecosystem. Many jurisdictions have not yet fully regulated crypto assets and DeFi services, which could impact adoption and further development.
3. Diverse Usability: DeFi still faces usability issues that need to be addressed to accommodate users less experienced in blockchain technology.
4. Scalability: The rapid growth of the DeFi ecosystem has raised questions about the scalability of the blockchains in use, which need to be addressed in order to accommodate future growth.

Overall, this research underscores the important role of the DeFi ecosystem in changing the way financial exchanges are conducted in the digital era. While there are still challenges and risks that need to be overcome, DeFi's potential to increase financial inclusion and financial system efficiency is very promising. Further research and collaboration

between the public and private sectors is needed to understand its full impact in the global economy.

## **CONCLUSIONS AND RECOMMENDATIONS**

The Decentralized Financial (DeFi) ecosystem has played an important role in changing the exchange landscape in the digital financial ecosystem. By enabling open access, eliminating intermediaries, and driving innovation, DeFi has become a catalyst for significant change in the way we interact with financial assets. While challenges remain, the potential for DeFi to change the way we view financial exchange cannot be ignored. Further developments and research are needed to understand its full impact in the global economy. The suggestions for this research are as follows:

1. Risk and Security Analysis in DeFi Exchanges: Research the security vulnerabilities that exist in DeFi exchange platforms, as well as risk mitigation strategies that can be implemented.
2. Impact of Regulations on the Growth of DeFi and Exchanges: Investigate the impact of different regulations in various jurisdictions on the growth and development of the DeFi and exchange ecosystems.
3. Decentralized Exchange Case Studies: Select some of the leading decentralized exchanges and conduct case studies to identify the successes, challenges, and innovations they have faced.
4. The Role of Tokenomics in DeFi Exchanges: Analyze how token design, token usage, and token economic models contribute to the liquidity and usage of DeFi exchanges.
5. Technological Innovation in Decentralized Exchanges: Research the latest developments in blockchain technology that support decentralized exchanges, such as smart contracts, interoperability, and scalability.
6. Safety of User Funds in DeFi: Investigation of the security of user funds in the DeFi ecosystem, including a study of attacks and losses incurred.
7. Use of DeFi in Financial Inclusion: Investigate the extent to which DeFi has increased financial inclusion, particularly in regions with limited access to traditional financial systems.
8. DeFi Ecosystem Sustainability: Learn business models and sustainability strategies in the DeFi ecosystem, including protocol revenue and participation incentives.
9. Economic Impact of Decentralized Exchanges: Research the economic impact generated by decentralized exchanges, such as trading volume, liquidity, and digital asset prices.
10. Comparison of DeFi Exchanges and Central Exchanges: Compare the performance and characteristics of DeFi exchanges with central exchanges in the context of liquidity, fees, and security

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# CERTIFICATE

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