



# Utilization of Digital Cryptocurrency as a Performance Improvement for Micro, Small and Medium Enterprises (MSMEs)

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**Abstract.** Current technological developments greatly affect economic activity, one of which has an impact on e-commerce activities. One of the phenomena that is currently developing is cryptocurrency as a form and development of technology in e-commerce. Improving the standard of living of the community, especially MSMEs, is expected to be overcome by financial inclusion which can remove all forms of obstacles. Cryptocurrency improves the global performance of MSMEs to expand their network and is free from transaction fees. The aims of this research are (1) to examine the effect of financial inclusion on the performance of MSMEs; (2) to assess the effect of financial inclusion on digital cryptocurrencies; (3) assessing the effect of digital cryptocurrency on MSME performance; (4) Assessing the role of digital cryptocurrency which can mediate the effect of financial inclusion on MSME performance; (5) Assessing the dominant dimensions of digital cryptocurrency in mediating the effect of financial inclusion on MSME performance. In this method, the population in this study is MSME digital cryptocurrency users in Jambi Province. The data used are primary data and secondary data. The data analysis method used is Structural Equation Modeling (SEM) measurement using SmartPLS software. The results of this study are that financial inclusion has a positive effect on MSME performance, financial inclusion has a positive effect on digital cryptocurrency, digital cryptocurrency has a positive effect on MSME performance, and digital cryptocurrency can play a positive role in mediating the effect of financial inclusion on MSME performance.

**Keywords:** Cryptocurrency · Digital · Performance

## 1 Introduction

Indonesia has the largest population after China, India and the United States (Factbook, 2020). The Fiscal Policy Agency, the problem of poverty and unemployment is a problem faced by Indonesia with a dense population. Micro, Small and Medium Enterprises (MSMEs) are very important in reducing poverty and unemployment. Based on data from BPS Jambi Province (2022), the number of MSMEs in Jambi Province in 2021 is 26,058, and from this number MSMEs can absorb a workforce of 48,059 people. The significant role of MSMEs in the economy in Indonesia is expected to attract the attention of various parties, especially the government. The economy in Indonesia can develop well if there are technological developments used.

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Current technological developments greatly affect economic activity, one of which has an impact on e-commerce activities. The need for a secure, fast and confidential payment system is the dominant requirement in e-commerce transactions (Factbook, 2020). To improve services with a broad market network, MSMEs must be active in their business by utilizing e-commerce to improve their business performance. However, from the financial aspect, access to financial and non-financial institutions is considered difficult for MSMEs. MSMEs in running their business experience difficulties with financial services, where revenue is not affordable in certain areas (Sanistasya, 2019). Improving the standard of living of the community, especially MSMEs, is expected to be overcome by financial inclusion which can remove all forms of obstacles. According to Yanti (2019).

Jambi. Based on BPS Jambi Province data (2020), MSMEs experience different problems, where MSMEs are already actively using the internet but are still dominant in the marketing aspect. MSMEs that use the internet are still dominant in the marketing aspect, namely for marketing or advertising or sales purposes, while the financial aspect for financial technology is 156 MSMEs or 6.7% of the total MSMEs using the internet in Jambi Province. Judging from the transactions carried out by MSMEs digitally, namely for product sales as many as 584 MSMEs or 25.11% of the number of MSMEs using the internet in Jambi Province and for purchasing raw materials as many as 443 MSMEs or 19.05% of the number of MSMEs using the internet in the province the. Based on these data.

One of the phenomena that is currently developing is cryptocurrency as a form and development of technology in e-commerce. Previously, cryptocurrencies were not regulated by the government. However, with the issuance of the Exchange Supervisory Agency Regulation (BAPPEBTI) through Futures Trading Regulatory Agency Regulation Number 5 of 2019 concerning Technical Provisions for Organizing the Physical Market for Crypto Assets on the Futures Exchange, cryptocurrency is considered legal in Indonesia. Billah (2019), cryptocurrency is a free, fast and easy currency business that can create opportunities for users around the world. Cryptocurrency is seen as being able to improve the performance of MSMEs to expand their network globally and is free of charge in transactions.

This paper aims to (1) examine the effect of financial inclusion on MSME performance; (2) to examine the effect of financial inclusion on digital cryptocurrencies; (3) examine the effect of digital cryptocurrency on MSME performance; (4) examine the role of digital cryptocurrency which can mediate the effect of financial inclusion on MSME performance; (5) examine the dominant dimension of digital cryptocurrency in mediating the effect of financial inclusion on MSME performance.

## 2 Literature Review

### 2.1 Financial Inclusion

Financial inclusion is an activity to remove price or non-price barriers to access for people who use or utilize financial services. According to Yanti (2019), studies to remove barriers to the use of financial services by the public are called financial inclusion. The right of every person or community to gain access and benefits from financial institutions

in a convenient, informative, timely and affordable manner while remaining dignified is the definition of financial inclusion Bank Indonesia's National Financial Inclusion Strategy (SNKI) (2016). The goal of financial inclusion is to encourage inclusive growth by reducing poverty, increasing financial system stability, and increasing financial development or equity (Bank Indonesia, 2014). Improving people's living standards is expected to be overcome by financial inclusion which can remove all forms of obstacles. Owning a savings account, payment services, credit and insurance are measures of financial inclusion (Bayrakdar, 2019).

Davidsson (2020) measures financial inclusion in an area using a financial inclusion index approach which includes indicators of the number of account users in the community and access to financial services that reach these sites so that these indicators can describe people's behavior in managing finances in everyday life. MSMEs in running their business experience difficulties with financial services, where access is not yet affordable in several areas Sanistasya (2019). Dermawan (2019), financial services that are considered very important for MSMEs in running their business include the payment system and deposit of funds; currently MSMEs are being led to be digitally literate, and consumers make purchasing transactions for MSME products using e-commerce or transactions. By online, this also illustrates that the products sold by MSMEs have developed an extensive marketing network. In response to this, an approach from the financial aspect must be able to support MSME business development.

Bank Indonesia (2014), measuring financial inclusion activities includes several dimensions, including (1) the dimension of access, the ability to use financial services in overcoming obstacles so that they can be accessed widely; (2) dimensions of use, measurements made for a financial service, such as time, frequency and regularity; (3) the quality dimension, a measure of meeting customer needs from financial services; (4) the welfare dimension, measuring the level of life of users of financial services.

## 2.2 Digital Crypto Currency

Indonesia. Cryptocurrency is a digital currency that is considered a digital asset, where this digital currency is used to transact with e-commerce or online. The first known cryptocurrency digital currency in the capital market is Bitcoin. Based on the regulations of the Stock Exchange Supervisory Agency (BAPPEBTI) through Futures Trading Regulatory Agency Regulation Number 5 of 2019 concerning Technical Provisions for Organizing the Physical Crypto Asset Market (Crypto Asset) on the Futures Exchange, cryptocurrency has been declared legal in Indonesia as a commodity, where the decision becomes the development of cryptocurrency in Indonesia. Futures Exchange. The regulation explains that cryptocurrencies are intangible commodities in the form of digital assets and peer-to-peer networks, using cryptography, verifying transactions.

Cryptocurrencies are digital money that are used for traditional transfers such as US Dollars digitally Danial (2019). Lee and Low (2018), cryptocurrency allows online payments to be sent from one party to another without intermediaries. Billah (2019: 4), cryptocurrency is a free, fast and easy currency business that can create opportunities for users around the world. According to Danial (2019), the use of cryptocurrency has the advantage of being a safe transaction because it does not include a credit number so it cannot be misused and an efficient global payment method. Cryptocurrency is seen as

being able to improve the performance of MSMEs to expand their network globally and is free of charge in transactions. The application of cryptocurrency which is considered as a new technology media, especially in financial products, then the theory explains the approach that is measured by the idea of The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2018). The variables applied in the UTAUT model are 7 (seven) variables: performance expectations, effort anxiety, social influence, attitudes towards technology use, computer self-efficacy, expectations, and facilitation conditions. These factors were then redeveloped by Mahessara (2018) into 4 (four) variables (1) facilitation conditions, namely a measure of readiness from a technical or infrastructure perspective in using new technology to support performance in a business; (2) performance expectancy, namely the expectation that a product will provide positive benefits in its use, such as reduced costs, finality of late installments and so on; (3) social influence.

### 2.3 Show

Measurement of MSME performance can be analyzed based on, (1) it is difficult to do quantitatively because of limited resources related to financial and labor understanding; (2) unable to fully show actual conditions, making it difficult to measure with financial indicators; (3) measurements commonly used for large-scale companies where company management is well structured (Kaplan et al., 2018). An approach with non-cost performance measures is considered more appropriate, where measurement is carried out through perceptions of performance levels, both financial and non-financial aspects (Dahmen et al., 2017). Measurement of financial performance by looking at return on sales, profit growth, and sales growth while non-financially by looking at customer satisfaction, market growth, and product quality, Bagheri (2017).

## 3 Method

This type of research uses quantitative methods. The population in this study are SMEs digital cryptocurrency users in Jambi Province. While the samples were taken based on the opinion of Hair (2010). By using SEM analysis, the sample size is between 100 - 200, so for this study the most significant number was taken as many as 200 respondents.

The data used are primary data and secondary data. Primary data is the result of data originating from respondents, collecting data through interviews, field observations, and distributing questionnaires. On the other hand, secondary data is obtained from books, journals and the government.

The variables used are (1) financial inclusion (X), digital cryptocurrency (Z), and MSME performance (Y). The method used is Structural Equation Modeling (SEM) measurement using SmartPLS software. The analysis technique was carried out through analysis of the results of (1) outer model with indicators of Average Variance Extracted (AVE), loading factor, and commonality as well as reliability testing by analyzing the results of Cronbach's alpha and composite reliability; (2) inner model with analysis indicators based on the results of T-statistics and R-Square.

## 4 Results and Discussion

Cronbach's alpha and composite reliability in this study met the requirements for reliable data, namely a score of more than 0.7. They complete the validity requirements with an Average Variance Extracted (AVE) score of more than 0.5, the details of the variables can be seen as follows (Tables 1, 2 and 3):

The results of the R Square score indicate that the influence between variables meets the requirements, which is greater than 0.3. Can be seen as follows:

Based on the results of R Square, the influence between variables is stated to be significant with a P-Value score of less than 0.05; in this study each influence between variables has a significant influence, can be seen in the following table.

Digital cryptocurrency variables affect performance; this produces a P value of 0.000, where the P-Value is below 0.05. Digital cryptocurrency variables consisting of the

**Table 1.** Reliability and Validity Constructs

	Alpha Cronbach	rho_A	Composite Reliability	Average Variance Extracted (AVE)
<i>Digital Crypto Currency</i>	0.859	0.943	0.892	0.562
<i>Financial Inclusion</i>	0.822	0.830	0.822	0.694
<i>Show</i>	0.858	0.828	0.855	0.662

Source: processed data, 2022

**Table 2.** R Square value

	R square	R Square Customized
<i>Digital Crypto Currency</i>	0.426	0.438
<i>Show</i>	0.583	0.573

**Table 3.** Relationship between variables

	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	T Statistics (IO/STDEV)	P value	Results
<i>Digital Cryptocurrencies- &gt; Performance</i>	0.767	0.764	0.056	13,649	0.000	Accept
<i>Financial Inclusion- &gt; Digital Cryptocurrencies</i>	0.355	0.393	0.123	2,892	0.004	Accept
<i>Financial Inclusion- &gt; Performance</i>	0.409	0.423	0.096	4,091	0.002	Accept
<i>Financial Inclusion- &gt; Digital Cryptocurrencies - &gt; Performance</i>	0.572	0.300	0.095	2,875	0.004	Accept

dimensions of facilitating conditions, performance expectancy, social influence, and effort expectancy have a positive effect on MSME performance. This shows that the higher the use of digital cryptocurrency, the better the performance of MSMEs.

The financial inclusion variable has an effect on digital cryptocurrency, following the result of a P value of 0.004, where the P-Value is below 0.05. Financial inclusion variables consist of access dimensions, usage dimensions, quality measures, and welfare dimensions that have a positive effect on digital cryptocurrency; this shows that the better the financial inclusion of MSMEs, the better the use of digital cryptocurrency.

The financial inclusion variable affects the performance of MSMEs, this follows the results of a P value of 0.002 where the P-Value is below 0.05. Financial inclusion variables consisting of access dimensions, utilization dimensions, quality dimensions, and welfare dimensions have a positive effect on MSME performance. This shows that the better the financial inclusion of MSMEs, the better the performance of MSMEs.

Financial inclusion variables consist of access dimensions, utilization dimensions, quality dimensions, and welfare dimensions which have a positive effect on the performance of MSMEs through digital cryptocurrency, which include the dimensions of facilitation conditions, performance expectations, social influence, and effort expectations. The financial inclusion variable affects the performance of MSMEs through digital cryptocurrency, along with the P value of 0.004, where the P-Value is below 0.05. MSMEs will be better off through the use of digital cryptocurrencies.

## 5 Conclusion

The results of the study concluded that financial inclusion has a positive effect on MSME performance, financial inclusion has a positive impact on digital cryptocurrency, digital cryptocurrency has a positive effect on MSME performance, and digital cryptocurrency can play a positive role in mediating this impact. financial inclusion on MSME performance.

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