

# The Role of Financial Inclusion and Digital Green Finance in Improving the Financial Performance of MSMEs in Bogor

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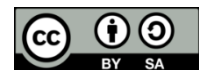
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## ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in supporting economic growth and employment in Indonesia. However, many MSMEs still face challenges related to limited access to financial services and the adoption of sustainable financial practices. This study aims to analyze the role of financial inclusion and digital green finance in improving the financial performance of MSMEs in Bogor. The research adopts a quantitative approach using survey data collected from 135 MSME owners. Data were obtained through structured questionnaires measured using a five-point Likert scale and analyzed using SPSS version 25. The results of the multiple linear regression analysis indicate that financial inclusion has a positive and significant effect on MSME financial performance. Furthermore, digital green finance also shows a positive and significant influence on MSME financial performance. Simultaneous testing confirms that both financial inclusion and digital green finance jointly contribute to improving MSME financial performance, with a coefficient of determination ( $R^2$ ) of 0.419, indicating that 41.9% of the variation in financial performance can be explained by these variables. These findings highlight the importance of strengthening financial accessibility and promoting sustainable digital financial systems to enhance MSME competitiveness and long-term business sustainability. The study provides important insights for policymakers, financial institutions, and MSME actors in developing strategies to support sustainable economic growth through inclusive and environmentally oriented financial systems.

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## 1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in supporting economic growth, employment generation, and poverty reduction in many developing countries, including Indonesia.

MSMEs contribute significantly to national economic resilience because they are capable of absorbing a large workforce, fostering innovation, and stimulating local economic activity [1], [2]. In Indonesia, MSMEs account for more than 90% of total business units and

contribute substantially to the national Gross Domestic Product (GDP). Moreover, MSMEs function as an important instrument for inclusive economic development because they are widely distributed across regions and empower local communities [3], [4]. Despite their strategic role, however, many MSMEs continue to face structural challenges that hinder their growth and long-term sustainability.

One of the most significant challenges encountered by MSMEs is limited access to formal financial services. Many small business actors still rely on informal financing sources due to difficulties in accessing banking institutions and financial technology platforms [3], [5]. These difficulties are often associated with low levels of financial literacy, limited collateral ownership, inadequate financial recordkeeping, and complex administrative procedures imposed by financial institutions. As a result, MSMEs frequently experience capital constraints that restrict their ability to expand business operations, adopt new technologies, and improve productivity [6], [7]. Consequently, enhancing financial inclusion has become an important policy priority for strengthening MSME competitiveness and sustainability.

Financial inclusion refers to the availability and accessibility of affordable financial products and services for all segments of society, including individuals and small businesses that were previously excluded from the formal financial system [8], [9]. Through improved financial inclusion, MSMEs can gain access to a variety of financial services such as credit facilities, savings accounts, insurance products, and digital payment systems. Access to these services enables MSMEs to manage financial resources more effectively, increase investment capacity, and support business expansion [10], [11]. In recent years, governments and financial institutions have increasingly promoted financial inclusion programs through digital financial services, microfinance initiatives, and financial literacy campaigns aimed at improving MSME financial participation.

Alongside financial inclusion, the concept of green finance has gained increasing attention within the broader agenda of sustainable economic development. Green finance refers to financial activities that support environmentally sustainable projects and encourage responsible production and consumption practices [12], [13]. The development of digital green finance, which integrates financial technology with environmentally oriented financial instruments, offers new opportunities for MSMEs to implement sustainable business strategies. Digital green finance enables MSMEs to obtain financing for environmentally friendly innovations, energy-efficient technologies, and sustainable production systems through digital platforms that are more accessible and efficient.

The integration of digital financial technology with sustainability-oriented financing mechanisms has the potential to significantly enhance MSME financial performance. Digital financial platforms allow faster financial transactions, lower operational costs, and improved financial transparency [14], [15]. At the same time, green finance encourages businesses to adopt environmentally responsible practices that can strengthen their competitiveness, reputation, and long-term viability. Therefore, digital green finance not only provides financial support but also facilitates the transformation of MSMEs toward more sustainable and resilient business models in the evolving digital economy.

Although previous studies have extensively examined financial inclusion and green finance independently, limited research has explored the combined influence of financial inclusion and digital green finance on MSME financial performance, particularly in specific regional contexts. This research gap becomes increasingly important as financial technology continues to reshape the financial ecosystem and expand opportunities for MSMEs to access innovative financial services. Bogor, one of Indonesia's regions with a rapidly growing MSME sector, still faces challenges related to financial access and

sustainable financing mechanisms. Therefore, this study aims to analyze the role of financial inclusion and digital green finance in improving the financial performance of MSMEs in Bogor. The findings of this research are expected to contribute to academic literature while also providing policy insights for strengthening sustainable MSME development in emerging economies.

## 2. LITERATURE REVIEW

### 2.1 *Financial Inclusion*

Financial inclusion refers to the availability, accessibility, and use of formal financial services by all segments of society, including individuals and small businesses that were previously excluded from the formal financial system [16], [17]. According to the World Bank, financial inclusion ensures that individuals and businesses have access to affordable financial services such as payments, savings, credit, and insurance delivered responsibly and sustainably. In the context of Micro, Small, and Medium Enterprises (MSMEs), financial inclusion is essential because access to financial resources significantly influences business growth and sustainability. Many MSMEs still face financial constraints due to limited collateral, inadequate financial records, and high perceived credit risk, which often forces them to rely on informal financing sources [18], [19]. Financial inclusion initiatives aim to address these barriers by expanding MSME access to banking services, microfinance institutions, and digital financial platforms. Access to formal financial services enables MSMEs to obtain working capital, expand their businesses,

manage financial risks more effectively, and improve financial management practices, thereby enhancing operational efficiency and overall financial performance.

### 2.2 *Digital Green Finance*

Green finance has emerged as an important concept in the global effort to achieve sustainable economic development. It refers to financial investments that support environmentally sustainable projects and initiatives such as renewable energy, energy efficiency, sustainable agriculture, and environmentally friendly technologies, with the goal of promoting economic growth while minimizing environmental degradation [20], [21]. With the rapid development of financial technology, the concept of digital green finance has evolved as an integration of digital financial services and environmentally oriented financing mechanisms. Digital green finance utilizes digital platforms, financial technology, and data-driven systems to facilitate financing for sustainable projects and environmentally responsible business practices, enabling businesses—including MSMEs—to access green financing more efficiently and at lower transaction costs [22], [23]. For MSMEs, digital green finance provides several advantages, including broader access to financial services, faster transactions, transparent financial management, and more efficient credit evaluation processes. Moreover, digital green finance encourages environmentally friendly

business innovations such as energy-efficient production, waste reduction, and sustainable resource management [24], [25]. Previous studies indicate that digital finance can significantly improve financial accessibility for small businesses, and when combined with green financing initiatives, it can also promote the adoption of sustainable business practices. This integration therefore supports both financial sustainability and environmental responsibility in the modern business environment.

### **2.3 Financial Performance of MSMEs**

Financial performance refers to a firm's ability to generate profits, manage financial resources efficiently, and maintain financial stability over time, and it is commonly used as an indicator to evaluate the success and sustainability of business operations. In the context of Micro, Small, and Medium Enterprises (MSMEs), financial performance can be assessed through indicators such as revenue growth, profitability, cash flow stability, and the capacity for business expansion [8], [26], [27]. Strong financial performance enables MSMEs to sustain operations, expand business activities, and enhance competitiveness in the market. However, many MSMEs face challenges related to limited capital, weak financial management, and inefficient operational practices, which can hinder sustainable financial growth. Access to financial services and technological innovation therefore plays an important role in improving

MSME financial performance [28]. When MSMEs are able to access credit, digital payment systems, and investment financing, they can increase production capacity, adopt new technologies, and expand market reach, while digital financial systems also enable better financial monitoring and transparency. Furthermore, sustainable financial practices supported by green finance mechanisms can strengthen the long-term resilience of MSMEs, as environmentally responsible business practices often improve operational efficiency, enhance brand reputation, and ensure compliance with environmental regulations, making financial inclusion and digital green finance important drivers of MSME financial performance.

### **2.4 Relationship between Financial Inclusion and MSME Financial Performance**

Financial inclusion plays a significant role in supporting MSME growth and improving financial performance. When MSMEs gain access to financial services such as credit, savings, and digital payment systems, they are better able to manage financial activities and expand business operations. Access to credit enables MSMEs to invest in equipment, technology, and product development, which can enhance productivity and profitability [8], [29]. Furthermore, financial inclusion improves financial management practices by encouraging greater financial literacy and more structured financial transactions. Digital financial services also allow MSMEs to record transactions more

systematically, improving financial transparency and supporting better business planning [8], [30]. Empirical studies indicate that MSMEs with greater access to formal financial services tend to achieve higher financial performance than those relying primarily on informal financing sources.

### 2.5 *Relationship between Digital Green Finance and MSME Financial Performance*

Digital green finance has the potential to enhance MSME financial performance by expanding access to sustainable financing and encouraging environmentally responsible business innovations. Through digital financial platforms, MSMEs can obtain green financing that may be difficult to access through traditional financial systems, enabling investments in energy-efficient technologies, sustainable production processes, and environmentally friendly business strategies [31], [32]. In addition, digital green finance improves operational efficiency by integrating digital financial management tools such as digital payments, financial data analytics, and online financing platforms, which help MSMEs manage financial transactions more effectively, reduce operational costs, and optimize resource use [33], [34]. Businesses that adopt sustainable practices also tend to gain greater trust from consumers, investors, and financial institutions, which can increase market opportunities and improve financial outcomes. Therefore, digital green finance plays an important strategic role

in strengthening both the sustainability and financial performance of MSMEs.

### 2.6 *Conceptual Framework*

Based on the literature discussed above, financial inclusion and digital green finance are considered important factors influencing the financial performance of MSMEs. Financial inclusion enables MSMEs to access the financial resources necessary for business growth, while digital green finance supports sustainable business practices and more efficient financial management. Together, these factors can contribute to improving MSME financial performance. Therefore, this study proposes a conceptual framework in which financial inclusion and digital green finance function as independent variables that influence MSME financial performance as the dependent variable. By examining the relationships among these variables, this research aims to provide empirical evidence on how financial access and sustainable financial innovation can enhance MSME performance in Bogor. Based on the theoretical discussion and previous studies, several research hypotheses are proposed.

H1: Financial inclusion has a positive and significant effect on the financial performance of MSMEs.

H2: Digital green finance has a positive and significant effect on the financial performance of MSMEs.

H3: Financial inclusion and digital green finance simultaneously have a positive

and significant effect on the financial performance of MSMEs.

### 3. METHODS

#### 3.1 Research Design

This study employs a quantitative research approach to examine the influence of financial inclusion and digital green finance on the financial performance of Micro, Small, and Medium Enterprises (MSMEs) in Bogor. A quantitative approach is used because it allows the measurement of relationships among variables through statistical analysis based on numerical data. The study adopts a survey-based design, in which data are collected directly from MSME actors using structured questionnaires to obtain empirical evidence regarding the relationships between the research variables and to statistically test the proposed hypotheses. The research specifically analyzes the causal relationships between the independent variables—financial inclusion and digital green finance—and the dependent variable, namely MSME financial performance. Data processing and statistical analysis in this study are conducted using the Statistical Package for the Social Sciences (SPSS) version 25 to determine the significance and magnitude of the relationships among the variables.

#### 3.2 Population and Sample

The population of this study consists of Micro, Small, and Medium Enterprises (MSMEs) operating in Bogor, which represent a significant portion of the local economy and are engaged in sectors such as trade, services, food and beverage, and creative industries. These enterprises were chosen as the research population because they actively contribute to regional economic activities while often facing challenges related to financial access. Due to practical limitations in reaching the entire population, this study employs a sampling technique to obtain representative data. The sampling method used is purposive sampling, in which respondents are selected based on specific criteria relevant to the research objectives, namely: (1) MSME

owners or managers who actively manage the business, (2) MSMEs that have been operating for at least one year, and (3) MSMEs that have experience using financial services such as banking or digital financial platforms. Based on these criteria, a total of 135 MSME respondents were selected as the research sample, which is considered sufficient to represent the population and to support statistical analysis using regression techniques.

#### 3.3 Data Collection Technique

The data used in this study are primary data collected directly from respondents through a structured questionnaire designed to measure perceptions of financial inclusion, digital green finance, and the financial performance of their businesses. Each variable was operationalized into several measurement indicators derived from relevant literature. The questionnaire was distributed to MSME owners or managers in Bogor through both offline and online methods. Respondents were asked to evaluate each statement based on their level of agreement using a five-point Likert scale ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, to 5 = Strongly Agree. The Likert scale was chosen because it enables respondents to express their perceptions and attitudes toward the provided statements, making it suitable for measuring behavioral and perceptual variables in social science research.

#### 3.4 Operational Definition of Variables

This study consists of three main variables: financial inclusion, digital green finance, and MSME financial performance, each defined conceptually and operationally to ensure clarity in measurement. Financial inclusion (X1) refers to the accessibility and use of formal financial services by MSMEs, reflecting the extent to which MSME actors can access financial institutions, credit facilities, digital payments, and other financial services that support business operations. Digital green finance (X2) refers to the

availability and utilization of digital financial services that support environmentally sustainable financial activities, including digital platforms that provide access to green financing, promote environmentally friendly investments, and facilitate efficient financial transactions through digital technology. Meanwhile, financial performance (Y) refers to the ability of MSMEs to achieve financial success in terms of revenue growth, profitability, financial stability, and overall business sustainability. These variables are measured using several indicators representing different aspects of each construct, which are assessed based on respondents' perceptions using a Likert scale.

### 3.5 Data Analysis Technique

The collected data were analyzed using statistical methods with the assistance of SPSS version 25 through several analytical stages to ensure the validity and reliability of the research findings. First, descriptive statistical analysis was conducted to describe the characteristics of respondents and summarize responses to each research variable, providing an overview of perceptions related to financial inclusion, digital green finance, and MSME financial performance. Second, validity and reliability tests were performed to ensure that the questionnaire items accurately measured the intended variables and produced consistent results, where validity was tested using correlation analysis and reliability was evaluated using Cronbach's Alpha. Third, classical assumption tests—including

normality, multicollinearity, and heteroscedasticity tests—were conducted to ensure that the regression model met the statistical assumptions required for accurate interpretation. Fourth, multiple linear regression analysis was applied to examine the influence of financial inclusion and digital green finance on MSME financial performance using the regression model  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ , where Y represents MSME financial performance,  $\alpha$  is the constant,  $\beta_1$  and  $\beta_2$  are regression coefficients,  $X_1$  represents financial inclusion,  $X_2$  represents digital green finance, and  $\varepsilon$  is the error term. Finally, hypothesis testing was conducted using the t-test to examine the partial influence of each independent variable and the F-test to evaluate their simultaneous influence, with a significance level of 5% (0.05), where a significance value below 0.05 indicates that the hypothesis is supported. Through these analytical procedures, this study aims to provide empirical evidence regarding the role of financial inclusion and digital green finance in improving the financial performance of MSMEs in Bogor.

## 4. RESULTS AND DISCUSSION

### 4.1 Respondent Characteristics

The respondents in this study consisted of 135 MSME owners in Bogor from various business sectors. The characteristics of respondents were analyzed based on gender, age, education level, and business sector to provide an overview of the research sample.

Table 1. Respondent Characteristics

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	78	57.8
	Female	57	42.2
Age	< 25 years	18	13.3
	25–35 years	52	38.5
	36–45 years	41	30.4
	> 45 years	24	17.8
Education	High School	46	34.1
	Diploma	31	23.0
	Bachelor	50	37.0
	Postgraduate	8	5.9
Business Sector	Trade	54	40.0

	Food & Beverage	38	28.1
	Services	27	20.0
	Creative Industry	16	11.9

Table 1 presents the characteristics of the respondents involved in this study. Based on gender, the majority of respondents are male, accounting for 78 individuals (57.8%), while female respondents represent 57 individuals (42.2%), indicating that male entrepreneurs slightly dominate MSME ownership in Bogor. In terms of age, most respondents fall within the productive age group of 25–35 years (38.5%), followed by 36–45 years (30.4%), suggesting that the MSME sector is largely driven by relatively young and productive entrepreneurs. Regarding educational background, the largest proportion of respondents holds a bachelor's degree (37.0%), followed by high school graduates (34.1%), which indicates that many

MSME actors possess a moderate to relatively high level of education that may support business management and decision-making. In terms of business sectors, the trade sector dominates with 54 respondents (40.0%), followed by food and beverage businesses (28.1%), services (20.0%), and the creative industry (11.9%), reflecting the diversity of MSME activities in Bogor while highlighting the strong presence of trade-oriented businesses in the local economy.

#### 4.2 Descriptive Statistics

Descriptive statistics were used to analyze the average responses of respondents regarding financial inclusion, digital green finance, and MSME financial performance.

Table 2. Descriptive Statistics

Variable	N	Min	Max	Mean	Std. Deviation
Financial Inclusion	135	2.10	4.85	3.72	0.64
Digital Green Finance	135	2.05	4.90	3.68	0.71
Financial Performance	135	2.20	4.92	3.80	0.66

Table 2 presents the descriptive statistics of the research variables, including financial inclusion, digital green finance, and MSME financial performance based on 135 respondents. The results show that financial inclusion has a mean value of 3.72 with a standard deviation of 0.64, indicating that respondents generally perceive a relatively good level of access to financial services such as banking, credit, and digital payments. Digital green finance has a mean value of 3.68 with a standard deviation of 0.71, suggesting that the adoption of environmentally oriented digital financial services among MSMEs is

moderately high but still varies across respondents. Meanwhile, MSME financial performance records the highest mean value of 3.80 with a standard deviation of 0.66, indicating that most respondents perceive their businesses to have relatively good financial performance in terms of revenue growth, profitability, and financial stability.

#### 4.3 Validity and Reliability Test

The validity test was conducted by comparing the correlation value (r-count) with the r-table value. For  $n = 135$ , the r-table value is 0.169.

Table 3. Validity Test

Variable	Indicator	r-count	r-table	Result
Financial Inclusion	FI1	0.712	0.169	Valid
	FI2	0.735	0.169	Valid
	FI3	0.688	0.169	Valid
Digital Green Finance	DGF1	0.701	0.169	Valid
	DGF2	0.724	0.169	Valid
	DGF3	0.695	0.169	Valid

Financial Performance	FP1	0.743	0.169	Valid
	FP2	0.721	0.169	Valid
	FP3	0.756	0.169	Valid

Table 3 presents the results of the validity test for all research indicators used to measure financial inclusion, digital green finance, and MSME financial performance. The results show that all indicators have r-count values greater than the r-table value of 0.169, indicating that each measurement item is statistically valid. Specifically, the financial inclusion indicators (FI1–FI3) have r-count values ranging from 0.688 to 0.735, while the digital green finance indicators (DGF1–DGF3)

range from 0.695 to 0.724. Meanwhile, the financial performance indicators (FP1–FP3) show the highest correlation values, ranging from 0.721 to 0.756. Since all r-count values exceed the r-table threshold, it can be concluded that all questionnaire items are valid and capable of accurately measuring the intended research variables. Therefore, the measurement instruments used in this study are appropriate and can be used for further statistical analysis.

Table 4. Reliability Test

Variable	Cronbach Alpha	Standard	Result
Financial Inclusion	0.846	0.70	Reliable
Digital Green Finance	0.821	0.70	Reliable
Financial Performance	0.873	0.70	Reliable

Table 4 presents the results of the reliability test for the research variables using Cronbach's Alpha. The results indicate that all variables have Cronbach's Alpha values higher than the reliability standard of 0.70, which means that the measurement instruments used in this study are reliable. Specifically, the financial inclusion variable has a Cronbach's Alpha value of 0.846, digital green finance has a value of 0.821, and financial performance shows the highest reliability value of 0.873. These results demonstrate that the indicators used to

measure each variable have strong internal consistency and are capable of producing stable and consistent results. Therefore, the questionnaire items used in this study are considered reliable and suitable for further statistical analysis.

#### 4.4 Multiple Linear Regression Analysis

Multiple linear regression analysis was used to examine the influence of financial inclusion and digital green finance on MSME financial performance.

Table 5. Multiple Linear Regression Results

Variable	Coefficient (B)	Std. Error	t-value	Sig.
Constant	1.245	0.312	3.989	0.000
Financial Inclusion	0.421	0.083	5.072	0.000
Digital Green Finance	0.356	0.076	4.684	0.000

Table 5 presents the results of the multiple linear regression analysis examining the influence of financial inclusion and digital green finance on MSME financial performance. The regression results show that financial inclusion has a positive and significant effect on financial performance, with a coefficient value of 0.421, a t-value of 5.072, and a significance level of 0.000,

indicating that improved access to financial services contributes to better MSME financial outcomes. Similarly, digital green finance also demonstrates a positive and significant influence on financial performance, with a coefficient value of 0.356, a t-value of 4.684, and a significance value of 0.000. These findings suggest that the adoption of environmentally oriented digital financial

services supports improved financial performance among MSMEs. In addition, the constant value of 1.245 indicates the baseline level of financial performance when the independent variables are held constant.

The t-test was conducted to examine the partial effect of each independent variable on MSME financial performance. The results show that financial inclusion has a t-value of 5.072, which is higher than the t-table value of 1.978, with a significance value of 0.000 ( $p < 0.05$ ), indicating that financial inclusion has a positive and significant influence on MSME financial performance. Similarly, digital green

finance records a t-value of 4.684, which is also greater than the t-table value of 1.978, with a significance value of 0.000 ( $p < 0.05$ ), demonstrating that digital green finance significantly affects MSME financial performance. These findings indicate that both financial inclusion and digital green finance individually contribute to improving the financial performance of MSMEs. Furthermore, the F-test was conducted to examine the simultaneous influence of financial inclusion and digital green finance on MSME financial performance.

Table 6. ANOVA (F-Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.532	2	24.266	32.814	0.000
Residual	97.658	132	0.740		
Total	146.190	134			

Table 6 presents the results of the ANOVA (F-test) used to examine the simultaneous effect of financial inclusion and digital green finance on MSME financial performance. The results show that the regression model has an F-value of 32.814 with a significance level of 0.000, which is lower than the significance threshold of 0.05. This indicates that financial inclusion and digital green finance simultaneously have a significant effect on the financial performance of MSMEs in Bogor. The regression sum of squares of 48.532 compared to the residual sum of squares of 97.658 also suggests that the independent variables contribute meaningfully to explaining variations in MSME financial performance. Therefore, the regression model used in this study is statistically significant and suitable for explaining the relationship between financial inclusion, digital green finance, and MSME financial performance.

The model summary results show that the correlation coefficient (R) is 0.647, indicating a moderately strong relationship between the independent variables—financial inclusion and digital green finance—and MSME financial performance. The R Square value of 0.419 suggests that 41.9% of the variation in MSME financial performance can

be explained by financial inclusion and digital green finance included in the regression model. Meanwhile, the Adjusted R Square value of 0.410 indicates that the model remains relatively stable after adjusting for the number of predictors used in the analysis. The remaining 58.1% of the variation in MSME financial performance is influenced by other factors not included in this study, such as entrepreneurial capabilities, market conditions, managerial skills, and technological adoption. Additionally, the standard error of the estimate of 0.860 reflects the average deviation between the predicted values and the observed values of MSME financial performance.

### Discussion

The results of this study indicate that financial inclusion has a positive and significant effect on MSME financial performance in Bogor. MSME actors who have access to financial services such as bank loans, digital payments, and savings accounts tend to experience improved financial performance. Access to financial resources enables businesses to obtain working capital, expand business operations, and improve production capacity. These findings support the argument that financial inclusion plays an

important role in strengthening MSME growth and competitiveness [3], [5], [35].

Furthermore, the results show that digital green finance also has a significant positive influence on MSME financial performance. The integration of digital financial services with environmentally sustainable financing provides new opportunities for MSMEs to adopt efficient and sustainable business practices. Digital financial platforms facilitate faster financial transactions, reduce operational costs, and improve financial transparency. In addition, green financing mechanisms encourage MSMEs to adopt environmentally responsible production processes, which can enhance long-term business sustainability [36], [37].

The simultaneous analysis further confirms that financial inclusion and digital green finance jointly contribute to improving MSME financial performance. The combination of accessible financial services and sustainable digital financial systems creates a supportive financial ecosystem for MSMEs. This ecosystem enables MSMEs to access capital more easily, manage financial transactions efficiently, and adopt innovative business strategies that support sustainable growth.

These findings highlight the importance of strengthening financial inclusion policies and promoting digital green finance initiatives to support MSME development. Governments, financial institutions, and fintech companies should collaborate to expand digital financial infrastructure and provide sustainable financing opportunities for small businesses. By improving access to financial services and promoting environmentally responsible financial practices, MSMEs can enhance their financial performance and contribute more effectively to regional economic development.

## 5. CONCLUSION

This study aims to analyze the influence of financial inclusion and digital green finance on the financial performance of MSMEs in Bogor. The findings show that financial inclusion plays a significant role in improving MSME financial performance by providing better access to financial services such as credit, savings, and digital payment systems, which enable MSME actors to obtain capital, manage financial transactions more efficiently, and expand their business activities. The results also indicate that digital green finance has a positive and significant effect on MSME financial performance, as the integration of digital financial technologies with environmentally oriented financing mechanisms helps MSMEs enhance operational efficiency while encouraging the adoption of sustainable business practices. Through digital financial platforms, MSMEs can access financial resources more easily and implement environmentally responsible innovations that support long-term business sustainability. Furthermore, the simultaneous analysis confirms that financial inclusion and digital green finance jointly contribute to improving MSME financial performance, creating a supportive financial ecosystem that allows MSMEs to grow more competitively and sustainably. Therefore, strengthening financial inclusion initiatives and promoting digital green finance are important strategies for supporting MSME development and regional economic growth, while future studies are recommended to incorporate additional variables such as financial literacy, technological adoption, and entrepreneurial orientation to provide a more comprehensive understanding of factors influencing MSME financial performance.

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