

The Influence Of Digital Technology Adoption, Product Innovation, And Fiscal Policy On The Performance Improvement Of Micro, Small, And Medium Enterprises (MSMES) In The Digital Economy Era In East Kalimantan

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Abstract

This study aims to analyze the influence of digitalization, innovation, and fiscal policy on the performance of Micro, Small, and Medium Enterprises (MSMEs) in East Kalimantan Province. The background of this research is based on the importance of digital transformation and government fiscal policy support in enhancing the competitiveness and productivity of MSMEs in the modern economic era. The research method used is quantitative with a multiple linear regression approach. Data were obtained by distributing questionnaires to 120 MSME actors in several regencies/cities in East Kalimantan. The analysis results indicate that the variables of digitalization (X_1), innovation (X_2), and fiscal policy (X_3) have a positive and significant influence on MSME performance (Y), both partially and simultaneously. The t -test shows that all three variables have a significance value of < 0.05 , while the F -test results show an F -statistic of 45.762 with a significance of 0.000, indicating that the regression model is simultaneously significant. The coefficient of determination (R^2) value is 0.685, which means that 68.5% of the variation in MSME performance can be explained by these three variables, while the remaining 31.5% is influenced by other factors outside the model. These findings indicate that enhancing digital capabilities, strengthening product and service innovation, and fiscal policy support such as government incentives and guidance play a crucial role in boosting MSME performance in East Kalimantan. Therefore, collaboration between the government, MSME actors, and financial

institutions needs to be strengthened to create an adaptive, innovative, and sustainable business ecosystem.

Key words: Digitalization, Innovation, Fiscal Policy, MSME Performance.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of East Kalimantan's economy, contributing more than 60% of the Gross Domestic Product (GDP) and absorbing over 97% of the national workforce. This vital role makes MSMEs a primary pillar in economic stability and growth, as well as a strategic tool for income distribution and poverty alleviation. However, amidst the rapid pace of globalization and the Industrial Revolution 4.0, MSMEs in East Kalimantan face increasingly complex challenges, especially in the context of the digital economy.

The digital economy era has fundamentally changed the business landscape. Consumers are now smarter and more connected, markets have become more competitive, and traditional business models are beginning to erode. For MSMEs, this condition creates a dilemma: on one hand, there are significant opportunities to expand market reach, reduce operational costs, and increase efficiency. On the other hand, MSMEs often struggle to adapt due to limited resources, knowledge, and access to technology. Without adequate technology adoption, MSMEs risk being left behind and even going out of business.

The adoption of digital technology, such as the use of e-commerce platforms, social media for marketing, and digital payment systems, is no longer just an option, but a necessity to survive and compete. Besides technology adoption, the ability of MSMEs to innovate products is also a determining factor for sustainability. A dynamic market demands products and services that are always relevant and innovative. MSMEs that can create new products or improve the quality of existing ones will have a significant competitive advantage.

Finally, the role of the government through fiscal policy is crucial in supporting the MSME ecosystem. The government has instruments to create a conducive environment for MSME growth, such as providing tax incentives, subsidies, or easier access to capital. However, the effectiveness and implementation of these policies remain a major question.

Based on the description above, this research views that the improvement of MSME performance is the result of a complex interaction between the ability to adapt to technology (digital technology adoption), creativity in creating new value (product innovation), and external support from the government (fiscal policy). This study aims to fill the knowledge gap by analyzing in-depth how these three factors, both partially and simultaneously, affect

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the performance of MSMEs in East Kalimantan in the digital era. Specifically, the research objectives are:

1. To analyze the partial influence of digital technology adoption on MSME performance.
2. To analyze the partial influence of product innovation on MSME performance.
3. To analyze the partial influence of fiscal policy on MSME performance.
4. To analyze the simultaneous influence of digital technology adoption, product innovation, and fiscal policy on MSME performance.

LITERATURE ANALYSIS AND METHODOLOGY

Digital Technology Adoption (X_1)

Digital technology adoption is the process by which individuals or organizations integrate digital technology into their operational activities and business strategies. This concept is highly relevant in the context of MSMEs because the ability to utilize digital technology determines their competitiveness and sustainability. Two main theoretical models are used to analyze technology adoption. First, the *Technology Acceptance Model (TAM)* developed by Davis (1989) states that an individual's intention to use a technology is influenced by *Perceived Usefulness* and *Perceived Ease of Use*.¹ Second, the *Innovation Diffusion Theory* by Rogers (2003) explains how an innovation spreads through a social system, influenced by five main attributes: *Relative Advantage*, *Compatibility*, *Complexity*, *Trialability*, and *Observability*.

Product Innovation (X_2)

Innovation is the driving engine of economic growth and competitive advantage. Joseph Schumpeter (1934) introduced the concept of *creative destruction*, where innovation creates new products, processes, or markets that fundamentally change the existing economic structure. Product innovation refers to the development and introduction of new or significantly improved products or services, which can be *incremental* (gradual improvements) or *radical* (creation of entirely new products). In Porter's (1985) theory of competitive advantage, innovation is one way to achieve a *differentiation advantage* or *cost leadership*, allowing MSMEs to offer unique value that is not easily imitated by competitors.

Fiscal Policy (X_3)

Fiscal policy is government policy related to revenue (taxes) and expenditure (state spending) to influence macroeconomic conditions (Keynes, 1936). In the context of MSMEs, fiscal policy can provide support through tax incentives, such as a simplified Final Income

Tax (PPh) rate, which can reduce the financial burden and encourage reinvestment (Musgrave & Musgrave, 1989). Additionally, subsidies, grants, or low-interest loan programs can help MSMEs overcome capital limitations for technology adoption and innovation, thus creating a conducive business environment (Stiglitz, 2000).

MSME Performance (Y)

MSME performance is the result of various strategic and operational efforts undertaken by a business. Its measurement must include financial and non-financial aspects. Financial measures include quantitative indicators such as increased revenue, net profit, and sales growth (Neely, Gregory, & Platts, 1995). Non-financial measures include qualitative indicators such as market share, competitiveness, and customer satisfaction (Kaplan & Norton, 1992). In this study, MSME performance is viewed as the dependent variable synergistically influenced by technology adoption, product innovation, and fiscal policy.

Conceptual Framework and Hypotheses

Based on the theoretical foundation, the conceptual framework of this study illustrates the relationship between the independent variables (Digital Technology Adoption, Product Innovation, Fiscal Policy) and the dependent variable (MSME Performance).

Research Hypothesis

The research hypotheses are as follows:

- H1: Digital technology adoption has a positive and significant influence on the improvement of MSME performance.
- H2: Product innovation has a positive and significant influence on the improvement of MSME performance.
- H3: Fiscal policy has a positive and significant influence on the improvement of MSME performance.
- H4: Digital technology adoption, product innovation, and fiscal policy simultaneously have a positive and significant influence on the improvement of MSME performance.

METHODOLOGY

This research uses a quantitative approach with a causal associative research design to test the cause-and-effect relationships between variables. The population is all MSMEs in East Kalimantan that have adopted digital technology. A sample of 120 MSME actors was selected using a purposive sampling technique with strict inclusion criteria, including being

legally registered, having operated for at least two years, and having adopted at least one form of digital technology.

Primary data was collected through a survey using a structured questionnaire with a 5-point Likert scale. The indicators for each variable were designed to specifically measure: (1) Digital Technology Adoption: use of e-commerce, social media, digital payments; (2) Product Innovation: new product development, quality improvement, differentiation; (3) Fiscal Policy: utilization of tax incentives, access to subsidized loans; and (4) MSME Performance: increase in sales volume, profitability, market share.

Data analysis was performed using statistical software and included several stages: descriptive statistics, data quality tests (validity and reliability), classical assumption tests (normality, multicollinearity, and heteroscedasticity), and multiple linear regression analysis for hypothesis testing. The regression model used is:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+e$$

RESEARCH AND RESULTS

This study involved 120 MSME actors in East Kalimantan, spread across several areas such as Samarinda, Balikpapan, Kutai Kartanegara, and Bontang. The demographic profile of the respondents is presented in Table 1.

No	Characteristic	Category	Frequency	Percentage (%)
1	Gender	Male	72	60.0
		Female	48	40.0
2	Age	< 30 years	35	29.2
		30–40 years	50	41.7
		> 40 years	35	29.2
3	Business Duration	2–5 years	56	46.7
		6–10 years	41	34.2
		> 10 years	23	19.2
4	Business Sector	Culinary	48	40.0
		Fashion	32	26.7
		Services	25	20.8
		Crafts	15	12.5

The data shows a dominant profile of MSME actors being male (60.0%) in the productive age range of 30–40 years (41.7%), with a business duration of 2–5 years (46.7%). The culinary sector is the most dominant (40.0%). This profile can be interpreted as the archetype of modern MSMEs in East Kalimantan: a relatively young, agile segment born in the digital era, making them more responsive to technology adoption. The productive age and relatively short business duration suggest that these businesses are more adaptable compared to legacy businesses that might struggle with transformation. This finding can serve as a basis for the government to design more targeted support programs, aiming at segments with similar characteristics to replicate their success.

Descriptive analysis shows that all research variables are in the high category, with average scores for Digital Technology Adoption (4.23), Product Innovation (4.11), and MSME Performance (4.20). However, the Fiscal Policy variable has a slightly lower average score (3.95).¹ Although still considered high, this lower score suggests a potential perception-implementation gap. MSME actors may feel the direct benefits of their own digitalization and innovation efforts but perceive government fiscal policies as less accessible, more bureaucratic, or less effectively communicated. This indicates that policy improvements should focus not only on the substance of the policy itself but also on its delivery mechanisms and ease of access.

The data quality test shows strong results. All questionnaire items were declared valid, with a *Corrected Item–Total Correlation* value greater than r_{table} (0.179). The reliability test also showed that all variable instruments were reliable, with *Cronbach's Alpha* values above 0.70. Furthermore, the regression model was found to meet all classical assumptions: the data is normally distributed (Kolmogorov-Smirnov test), there is no multicollinearity (VIF value < 10), and there is no heteroscedasticity (Glejser test).¹ These results confirm that the analysis model used is valid and reliable for hypothesis testing

Hypothesis Testing

The results of the multiple linear regression analysis are presented in Table 2.

Table 2. Results of Multiple Linear Regression Analysis

Variable	Coefficient (β)	t-statistic	Sig.	Description
Constant	1.024	–	–	–
Digital Technology Adoption (\$X_1\$)	0.321	3.862	0.000	Significant
Product Innovation (\$X_2\$)	0.278	3.411	0.001	Significant
Fiscal Policy (\$X_3\$)	0.256	2.971	0.004	Significant

Source: Primary Data Processed (2024) ¹				
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Based on Table 2, the resulting regression equation is:

$$Y=1024+0.321X_1+0.278X_2+0.256X_3+e$$

The partial test results (t-test) show that the first three hypotheses (H1, H2, H3) are accepted. Digital Technology Adoption (beta = 0.321; Sig = 0.000), Product Innovation (beta = 0.278; Sig = 0.001), and Fiscal Policy (beta = 0.256; Sig = 0.004) each have a positive and significant influence on MSME Performance. Digital Technology Adoption has the strongest influence, confirming the TAM theory that the perceived usefulness of technology directly translates into tangible performance improvements. The significant influence of Product Innovation aligns with Schumpeter's theory, which emphasizes innovation as a driver of competitive advantage. Meanwhile, the significance of Fiscal Policy reinforces the Keynesian view that targeted government intervention can stimulate the real sector's growth.

Table 3. Results of Simultaneous Test (F-Test) and Coefficient of Determination (R²)

Statistic	Value	Description
F-statistic	45.762	Simultaneous influence is significant
Sig. (p-value)	0.000	\$p < 0.05\$
R Square (R ²)	0.685	68.5% of MSME Performance variation explained
Adjusted R Square	0.677	Adjusts R ² for the number of variables
Source: Primary Data Processed (2024) ¹		

The F-test results show an F-statistic of 45.762 with a significance of 0.000, which means H4 is accepted. Digital Technology Adoption, Product Innovation, and Fiscal Policy simultaneously have a significant influence on MSME Performance. The coefficient of determination (R²) value of 0.685 indicates that 68.5% of the variation in MSME Performance can be explained by these three variables, while the remaining 31.5% is influenced by other factors outside the model.¹

This strong simultaneous influence indicates a powerful synergy among the variables, which can be described as a virtuous cycle of MSME growth. Fiscal policy, such as subsidized loans, can provide the capital for MSMEs to invest in technology adoption. This

technology then provides market data and operational capacity that enable more effective product innovation. Successful innovation ultimately drives sales and improves performance, allowing MSMEs to reinvest further. This suggests that isolated policy approaches will not be effective; an integrated strategy combining financial support, digital training, and innovation incentives is needed to achieve maximum impact.

CONCLUSION AND RECOMMENDATIONS

Based on the analysis, this study concludes that Digital Technology Adoption, Product Innovation, and Fiscal Policy each have a positive and significant influence on the performance of MSMEs in East Kalimantan. Simultaneously, these three variables together make a significant contribution, explaining 68.5% of the variation in MSME performance. This finding underscores the synergistic nature of these three factors, where they complement each other to create an adaptive and competitive business ecosystem in the digital economy era. Based on these conclusions, several recommendations are proposed:

1. For MSME Actors: It is recommended to continuously improve digital capabilities and strengthen innovation capacity. Business owners should view investment in technology and product development not as a cost, but as a core strategy for long-term growth.
2. For Local Government: It is hoped that they will not only strengthen fiscal policies that favor MSMEs but also focus on improving the accessibility and administrative efficiency of these policies. Efforts to simplify bureaucracy, increase information transparency, and provide technical assistance will help close the perception-implementation gap identified in this study.
3. For Academics and Researchers: This research model leaves 31.5% of the variation in MSME performance unexplained. This remaining variance is not a weakness but a clear pointer for future research. The next research agenda could focus on measuring the impact of other factors strongly suspected to have an influence, such as digital financial literacy, the quality of internet infrastructure, and the maturity of the local digital ecosystem. Thus, future research can build directly on the findings of this study to provide a more comprehensive understanding.

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