

ENTREPRENEURIAL ORIENTATION AND FIRM PERFORMANCE OF GENERATION Z–LED MSMEs IN THE DIGITAL ERA

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Article Info

Article Hisytory:

Received: Oct 04, 2025
Revised: Oct 21, 2025
Accepted Oct 22, 2025

Key Words :

Entrepreneurial Orientation,
Digital Competence, MSME
Performance, Generation Z, Digital
Transformation.

DOI:



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Abstract

Digital transformation has become a primary driver of structural changes in the MSME sector in Indonesia, particularly among Generation Z who increasingly manage technology-based businesses. This study aims to examine the effect of entrepreneurial orientation on MSME performance managed by Generation Z, with digital competence as a mediating variable. The research employed Structural Equation Modeling (SEM) using 190 MSMEs in Jambi City as the sample. The results indicate that the entrepreneurial orientation of Generation Z has a positive and significant effect on digital competence. Digital competence also plays a crucial role in strengthening MSME performance, while entrepreneurial orientation has an indirect effect on performance through digital competence. These findings highlight that the combination of strong entrepreneurial orientation and digital proficiency is a key factor in enhancing the performance and sustainability of MSMEs in the digital era.

1. INTRODUCTION

Digital transformation has accelerated rapidly and has become a major driver of structural change in business practices within micro, small, and medium enterprises (MSMEs) across developing countries (Merín-Rodríguez et al., 2024). The adoption of digital technologies such as artificial intelligence, big data analytics, cloud computing, and the Internet of Things (IoT) has reshaped how MSMEs operate, compete, and create value in increasingly dynamic business environments (Moreira et al., 2025). The integration of digital technologies into business strategies is widely regarded as a strategic necessity for achieving sustainable business performance (Petropoulou et al., 2024).

Indonesia hosts the largest number of MSMEs in Southeast Asia and contributes significantly to employment absorption and national gross domestic product (GDP) formation (ERIA/OECD, 2024). The dominance of MSMEs has not been evenly accompanied by improvements in business performance, particularly in terms of productivity and competitiveness in the digital era (Meier et al., 2025). This condition reflects structural challenges in leveraging knowledge-based and technology-driven strategic resources (Sula et al., 2025).

Generation Z has emerged as a key actor in MSME management, particularly in sectors closely connected to digital ecosystems (Soni et al., 2024). The strong familiarity of Generation Z with digital technologies offers substantial potential for accelerating MSME digital transformation (Sudaryanto & Sylvana, 2024). Variations in business success among Generation Z–managed MSMEs indicate that technology utilization alone is insufficient and requires supporting strategic factors to generate optimal business performance (Nabilla et al., 2025).

Entrepreneurial orientation is widely recognized as a strategic factor influencing MSMEs' ability to respond to the dynamics of digital business environments (Kraus et al., 2023). Digital competence serves as an enabling capability that allows effective utilization of digital technologies in business activities (Kim & Jin, 2024). MSME performance reflects the outcomes of resource management and strategic implementation within digitally competitive markets (Nuryakin, 2024).

The influence of entrepreneurial orientation on MSME performance does not always occur directly. This relationship tends to be mediated by the ability of business owners to translate entrepreneurial strategic orientations into technology-based business practices, positioning digital competence as a critical determinant of the relationship's effectiveness (Jang & Lee, 2025). Entrepreneurial orientation that is not supported by adequate digital competence may result in limited performance improvement, particularly in digital business environments characterized by rapid and complex change (Escocz Barragan & Becker, 2025). MSMEs managed by Generation Z in developing countries demonstrate specific dynamics, where the integration of entrepreneurial orientation and digital competence plays a decisive role in shaping optimal business performance (Ngo, 2023). This study aims to examine the effect of entrepreneurial orientation on the performance of Generation Z–managed MSMEs, with digital competence serving as a mediating variable.

2. RESEARCH METHOD

This study employs a Structural Equation Modeling (SEM) approach using AMOS software to analyze the causal relationships among Generation Z entrepreneurial orientation, digital competence, and MSME performance in the digital era. The analysis is conducted through Measurement Model Analysis using Confirmatory Factor Analysis (CFA) and Structural Model Analysis to test hypotheses, path significance, and the mediating effect of digital competence using the bootstrapping method. This approach examines the role of digital competence as a mediator in the relationship between Generation Z entrepreneurial orientation and MSME performance in Jambi City.

The research population comprises all MSMEs managed by Generation Z entrepreneurs in Jambi City. A total of 190 MSMEs were selected as the research sample. Data were collected using a questionnaire with a five-point Likert scale. A mixed-mode data collection method was applied to maximize participation among MSMEs that are geographically dispersed and exhibit high mobility. Face-to-face surveys were conducted directly at business locations, while online questionnaires were used to reach respondents who could not be contacted in person.

3. RESULTS

Respondent Characteristics

This study presents the characteristics of 190 MSMEs managed by Generation Z entrepreneurs in Jambi City. The data include gender, formal education level, business scale, business sector, and business age to provide a comprehensive profile of the respondents.

Table 1. Respondent Characteristics

Demographics	Characteristics	Frequency	Percentage
Gender	Female	110	57.9
	Male	80	42.1
Formal Education	Higher Education	70	36.8
	Senior High School	90	47.4
	Junior High School	30	15.8
	Micro/Small Business Scale	184	96.8
Business Sector	Medium and Beverage	6	3.2
	Food	85	44.7

Business Age	Fashion Accessories	&	40	21.1
	Creative Digital	&	25	13.2
	Beauty Personal Care	&	40	21
	< 1 Year		50	26.3
	1–3 Years		90	47.4
	4–6 Years		30	15.8
	> 6 Years		20	10.5

Source: Primary Research Data (Processed)

Based on Table 1, the food and beverage sector represents the largest proportion of respondents (44.7%), while medium-sized enterprises account for the smallest share (3.2%). Most MSMEs have been operating for 1–3 years (47.4%), whereas enterprises operating for more than six years constitute the smallest group (10.5%).

Measurement Model, Validity, and Reliability Testing

Confirmatory Factor Analysis (CFA) was conducted to ensure that the indicators adequately represent the constructs under investigation (Hooper et al., 2008). Validity and reliability were assessed using Average Variance Extracted (AVE) and Construct Reliability (CR), while factor loadings were obtained through CFA. Entrepreneurial Orientation (EO) was measured through innovation, proactiveness, and risk-taking using six indicators. Digital Competence (DC) was measured through technology utilization, digital marketing strategy, and data analysis using six indicators. MSME Performance (MP) was measured through growth and productivity, efficiency and competitiveness, and product quality and adaptability using six indicators.

Table 2. Confirmatory Factor Analysis Results

Variable	Dimension		Indicator	Factor Loading	CR	AVE
Entrepreneurial Orientation (EO)	Innovation		EO1;	0.782;	0.903	0.581
		EO2	0.815			
	Proactiveness		EO3;	0.769;		
EO4		0.798				
Digital Competence (DC)	Risk-Taking		EO5;	0.756;	0.912	0.602
		EO6	0.773			
	Technology Utilization		DC1;	0.801;		
		DC2	0.823			
	Digital Marketing Strategy		DC3;	0.788;		
		DC4	0.810			
MSME Performance (MP)	Data Analysis		DC5;	0.772;	0.918	0.615
		DC6	0.784			
	Growth & Productivity		MP1;	0.794;		
		MP2	0.806			
	Efficiency & Competitiveness		MP3;	0.778;		
		MP4	0.787			
Product Quality & Adaptability		MP5;	0.795;			
	MP6	0.803				

CFA Fit Indices:

Chi-Square = 215.634; df = 132; P-value = 0.001; RMSEA = 0.058; AGFI = 0.845; CFI = 0.964; TLI = 0.952

Source: Data Analysis (AMOS 22)

The CFA results indicate that all indicators have factor loadings above 0.50, CR values above 0.70, and AVE values above 0.50, confirming that the measurement instruments are valid and reliable. These

findings demonstrate that the constructs adequately represent Generation Z entrepreneurial orientation, digital competence, and MSME performance, and that the measurement model is suitable for further structural analysis.

Hypothesis Testing

Hypotheses were tested using SEM based on Critical Ratio (CR) and p-values, as presented in Table 3.

Table 3 Hypothesis Testing Results

Hypothesis	Path	Estimate	CR	P-value	Result
H1	EO → DC	0.562	5.912	0	Supported
H2	EO → MP	0.278	4.102	0.042	Supported
H3	DC → MP	0.638	6.215	0	Supported
H4	EO → DC → MP	0.415	–	0	Supported

Source: Data Analysis (AMOS 22)

The results show that entrepreneurial orientation has a positive and significant effect on digital competence, supporting H1. Entrepreneurial orientation also has a direct positive effect on MSME performance, supporting H2. Digital competence significantly influences MSME performance, confirming H3. The indirect effect analysis indicates that digital competence significantly mediates the relationship between entrepreneurial orientation and MSME performance, supporting H4.

Discussion

The findings demonstrate that Generation Z entrepreneurial orientation plays a strategic role in shaping digital competence among MSMEs in Jambi City (Adzka Tarigan et al., 2025). Generation Z is characterized by high technological openness, adaptability, and a strong inclination toward innovation (Rydehell et al., 2019). Proactiveness, risk-taking behavior, and creativity enable young entrepreneurs to optimally utilize digital technologies in MSME management (Singh et al., 2024). Entrepreneurial orientation not only drives product and service innovation but also enhances digital marketing strategies, data analytics, and business process transformation, thereby strengthening digital competence (Komarkova et al., 2015).

Digital competence significantly enhances MSME performance (Pozzo et al., 2023). The ability to integrate information and communication technologies into daily operations improves efficiency, product quality, and responsiveness to rapid market changes (Gutiérrez-Broncano et al., 2024). The integration of digital platforms with entrepreneurial orientation enables MSMEs to respond more effectively to customer needs and optimize internal processes, ultimately improving overall performance (Arora et al., 2021).

The influence of entrepreneurial orientation on MSME performance is largely indirect and operates through digital competence (Nuraeni et al., 2022). Digital competence serves as a crucial mediator that translates entrepreneurial vision into tangible business outcomes. Generation Z entrepreneurs with strong entrepreneurial orientation but limited digital skills face constraints in implementing effective business strategies. Optimal use of digital technologies enables MSMEs to adapt flexibly to market changes, enhance customer responsiveness, and exploit new business opportunities (Pg et al., 2021).

Improved MSME performance under Generation Z leadership is reflected in business growth, operational efficiency, product quality, and competitiveness (Savitri, Fania et al., 2022). Generation Z demonstrates strong enthusiasm for applying creative ideas, new technologies, and digital strategies to optimize business performance. Mastery of digital tools supports strategic decision-making, product development, and broader market access (Nuryakin, 2024).

The dominance of Generation Z characteristics in this study underscores that innovation, adaptability, and digital capability are key success factors for MSMEs in the digital era (Tsakalerou et al., 2025). The findings confirm that strengthening digital competence combined with strong entrepreneurial

orientation constitutes a critical pathway for Generation Z to enhance MSME performance and ensure long-term business sustainability in an increasingly dynamic digital environment (Susanti et al., 2023).

4. CONCLUSION

This study demonstrates that entrepreneurial orientation among Generation Z MSME owners in Jambi City plays a strategic role in shaping digital competence. Generation Z entrepreneurs optimally leverage digital technologies through proactiveness, risk-taking, and creativity in business management. Digital competence significantly enhances MSME performance by improving operational efficiency, product quality, and adaptability to market changes. The influence of entrepreneurial orientation on MSME performance is predominantly indirect and mediated by digital competence. The combination of strong entrepreneurial orientation and digital capability represents a critical pathway for improving MSME performance and sustainability in a dynamic digital era. These findings highlight the importance of strengthening digital capacity among Generation Z MSME entrepreneurs to support effective and innovative entrepreneurial strategy implementation.

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