

# Improving MSME performance through competences and entrepreneurial characteristics

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## Article History

Received on 06 August 2025

1<sup>st</sup> Revision on 09 August 2025

2<sup>nd</sup> Revision on 07 October 2025

3<sup>rd</sup> Revision on 27 October 2025

Accepted on 19 November 2025

## Abstract

**Purpose:** This study aims to analyze the influence of human resource competence, management competence, and entrepreneurial competence on the performance of Micro, Small and Medium Enterprises (MSMEs), moderated by entrepreneurial characteristics.

**Methodology:** The research was conducted on 95 MSME actors from the "Cethik Geni" group in Semarang. Data were collected through questionnaires and analyzed using Partial Least Squares (PLS).

**Results:** This study examines the influence of human resource, management, and entrepreneurial competencies on MSME performance, as well as the moderating role of entrepreneurial characteristics, within the Gerai Kopini (Cethik Geni) MSME Group in Semarang City. The findings indicate that all three competencies positively and significantly enhance MSME performance. Entrepreneurial characteristics strengthen the effect of management competency on performance but do not moderate the influence of human resource and entrepreneurial competencies.

**Conclusions:** This study concludes that strengthening human resource, management, and entrepreneurial competencies is essential for improving MSME performance. Entrepreneurial characteristics play a supportive role by enhancing the effectiveness of management competency, although they do not function as a moderating factor for all competency performance relationships.

**Limitations:** This study is limited to the Cethik Geni MSME Group in Semarang, restricting generalizability. The moderating role of entrepreneurial characteristics was inconsistent, and unexamined contextual and qualitative factors such as leadership, motivation, and teamwork may affect the results.

**Contribution:** Future research is recommended to expand the scope of respondents to various MSME sectors and regions to increase the generalizability of the findings. Furthermore, the research model must include contextual variables such as organizational culture, business environment, and leadership style as moderators or mediators.

**Keywords:** *Entrepreneurial Characteristics, Entrepreneurial Competence, Human Resource Competence, Management Competence, MSME Performance*

**How to Cite:** Surjanti, R. L. P. N. S., Mulyantomo, E., Triyani, D., & Kurniawati, E. (2025). Improving MSME performance through competences and entrepreneurial characteristics. *Annals of Human Resource Management Research*, 5(4), 171-185.

## 1. Introduction

Adequate physical infrastructure and a favorable organizational climate not only facilitate more efficient work processes but also mitigate the adverse effects of high job demand. Business competition is at the core of an institution's success or failure (Nugroho, Said, & Said, 2025). Micro, Small, and Medium Enterprises (MSMEs) are businesses with significant potential for job creation and contribute

to the overall economic growth of the community. Furthermore, MSMEs support equitable income distribution, drive economic development, and ensure national financial stability. MSMEs are of significant importance nationally and globally as a pillar of the economy. MSMEs are considered a resilient pillar in facing various economic challenges. This was evident when Indonesia faced a multidimensional crisis in 1998, when many large companies were forced to cease operations because they could not survive the crisis. Simultaneously, the national banking sector experienced disruption, exacerbating the situation, while MSMEs remained resilient as the economy's driving force.

In contrast, MSMEs successfully weathered the crisis and became saviors of the national economy, particularly by providing jobs for those affected by layoffs. MSMEs also make a significant contribution in terms of the number of business owners and labor absorption. For example, data from the Ministry of Cooperatives and MSMEs records an annual increase in the number of MSMEs play a key role in Indonesia. In addition to absorbing labor, MSMEs have the potential to be a major driver of distributing development benefits throughout Indonesia. The significant role of MSMEs makes them a priority sector for supporting national economic growth. The resilience of MSMEs in facing global crises is also supported by their relatively conventional business access patterns, making them more resilient to financial turmoil.

Although the MSME sector in Indonesia has significant potential to support the economy, it faces significant challenges. One major obstacle is the limited access to formal financing. Data show that approximately 60-70% of MSMEs do not yet have access to banking services due to their non-bankable status. This condition indicates limited financial capital, which is a significant obstacle to MSMEs growth. In addition to financing issues, MSMEs often face challenges regarding management knowledge and skill. Many have a limited understanding of financial management, including accounting records, budget planning, and business development strategies. This lack of knowledge can hinder MSMEs' ability to improve operational efficiency, manage risk, and attract investment.

These obstacles are further complicated by limited access to entrepreneurship training and education and a lack of technological support that can help improve the competitiveness of MSMEs in the digital age. Therefore, a concerted effort is needed from various parties, including the government, financial institutions, and the business community, to provide mentoring, education, and innovative solutions to strengthen the foundations of MSMEs and create opportunities for sustainable growth. Entrepreneurship plays a significant role in driving economic growth, particularly in developing countries. The presence and contribution of entrepreneurs are determining factors in the progress or decline of a nation's economy (Holisoh & Putra, 2022).

Entrepreneurship is a key element of a country's economic development. The presence of more entrepreneurs can accelerate economic growth by creating jobs, encouraging innovation, and increasing competition. Thus, entrepreneurs are key actors in driving the dynamics of the modern economy, acting as catalysts for economic transformation and societal progress. The government has taken various steps to improve the performance of the Micro, Small, and Medium Enterprises (MSMEs) sector through regulations and incentive programs. These efforts include providing tax breaks, capital assistance, and training programs for MSMEs. However, the success of these initiatives depends heavily on the commitment of MSME owners to continuously improve their skills, broaden their horizons and innovate sustainably. Entrepreneurship reflects a spirit, attitude, and behavior characterized by the courage to take calculated risks based on individual capacity and determination.

Individuals with these characteristics are known as entrepreneurs or self-employed. An entrepreneur is a courageous and dignified figure worthy of being a role model in the business world. Micro, Small, and Medium Enterprises (MSMEs) are the backbone of the Indonesian economy, contributing significantly to employment, equitable income distribution, and overall economic stability. Their flexibility, local orientation, and labor-intensive nature make them vital for absorbing the workforce and driving inclusive economic growth. During economic downturns and national crises, MSMEs have demonstrated resilience, often continuing operations when larger businesses struggle to survive. The importance of MSMEs is also reflected in government policies and initiatives to foster entrepreneurship

and support small business development (Holisoh & Putra, 2022; Widjadja, Alamsyah, Rohaeni, & Sukanjie, 2018).

Despite their crucial role, MSMEs in Indonesia continue to face various internal and external challenges. Key obstacles include limited access to formal financing, inadequate human resource capabilities, poor management practices, and a lack of entrepreneurial skills necessary to scale their businesses (Agussalim, Motherland, & Yanti, 2023). Many MSME owners lack formal training in strategic planning, financial literacy, and market development, making it difficult for them to compete in a rapidly evolving and digitalized business environment. As a result, improving internal competencies (Widjadja et al. (2018) and fostering strong entrepreneurial characteristics are essential strategies to enhance MSME sustainability and performance (Albalushi & Naqshbandi, 2022).

This study explores the influence of three critical internal competencies—human resource, management, and entrepreneurial competencies—on MSME performance. Furthermore, it examines whether entrepreneurial characteristics such as leadership, risk-taking, future orientation, and a learning mindset strengthen these relationships. By focusing on MSMEs within the "Cethik Geni" group in Semarang, this study offers empirical insights into how personal and managerial capabilities, combined with entrepreneurial traits, can drive business growth and resilience in the MSME sector. Entrepreneurs demonstrate entrepreneurial characteristics such as risk-taking, creativity, passion, and exemplary leadership in managing a business or company based on their abilities and desires to do so.

Business development depends not only on the availability of capital but also on the entrepreneurial skills of entrepreneurs, which play a crucial role in its success. This phenomenon has positively impacted the Indonesian economy, particularly with the increasing public interest in entrepreneurship. However, if this interest is not accompanied by increased entrepreneurial competence, it can negatively affect future business development. Adequate competence is key to ensuring a business's continuity and continued success, and management skills are crucial for improving the performance of small businesses. Widjadja et al. (2018) revealed that management skills significantly and strongly influence the productivity and performance of small industrial companies in the manufacturing sector. This is understandable, considering that an entrepreneur's management skills can increase operational productivity and the effectiveness of marketing strategies. Therefore, good management skills directly and positively impact overall business performance.

Individual and environmental factors influence the success of small businesses. Individually, entrepreneurs must possess strong entrepreneurial characteristics and specific competencies. Entrepreneurial characteristics include self-confidence, task-result orientation, risk-taking, leadership skills, originality and future orientation. However, only individuals with entrepreneurial spirits can effectively apply these characteristics in their work. Previous research has also shown that entrepreneurial traits contribute significantly to improving the performance and success of small businesses in Indonesia. This confirms that developing these characteristics is a key element in driving the sustainability and growth of small-businesses.

Based on the above introduction, the research problem can be formulated as follows: how do human resource, management, and entrepreneurial competences influence the performance of MSMEs, and to what extent do entrepreneurial characteristics moderate these relationships? This study is expected to provide a deeper understanding of how internal competencies and individual entrepreneurial traits contribute to MSME competitiveness and sustainability. The findings aim to offer practical insights for MSME practitioners to improve their personal and business capacities and serve as a valuable reference for policymakers and academics in designing more effective and needs-based MSME empowerment programs in the future.

## 2. Literature review

### 2.1. Human Resource Competence

Human resource competence, or human capital, encompasses the knowledge, technical skills, attitudes, and motivation individuals bring into an organization or business (Sumakul, Susilawaty, & Habibi,

2020). The integration of digital systems in human resource management within the education sector continues to face significant challenges, especially because of the prevalence of conventional organizational structures (Djoundourian & Shahin, 2022) in (Akbar, Abdurahman, Nursanto, & Hartati, 2025). The workplace and education frequently affect employees' requirements and expectations. larger educated workers frequently have larger expectations for compensation and recognition (Novialumi & Winata, 2025). MSMEs refer to the owner's or team member's ability to apply learned skills, adapt to new challenges, and make sound decisions that directly impact business performance. Human capital is often viewed as the most valuable asset, influencing innovation, operational efficiency, and responsiveness to changes. Well-developed human resource competence enables MSME actors to manage their business more strategically, especially in customer service, financial management, and problem-solving, thus enhancing overall business sustainability.

## ***2.2. Management Competence***

Management competence refers to the skills and knowledge required to effectively plan, organize, lead, and control the business activities. This competence is especially crucial for MSMEs due to the limited size and resources available, requiring owners to take on multiple managerial roles (Diana, Hakim, & Fahmi, 2022). Effective management allows MSMEs to allocate resources efficiently, implement business strategies, improve productivity and adapt to dynamic market conditions. It also involves time management, conflict resolution, communication skills, and decision-making skills. Even well-resourced MSMEs may struggle with coordination, operational inefficiencies, and poor financial outcomes without adequate managerial skills.

## ***2.3. Entrepreneurial Competence***

Entrepreneurial competence refers to an individual's ability to identify business opportunities, innovate solutions, take calculated risks, and transform ideas into profitable ventures. It integrates business knowledge, creativity, strategic thinking, and interpersonal skills that are essential for sustaining a business in competitive environments. For MSMEs, entrepreneurial competence determines how effectively a company can adapt, grow and respond to market demands. It influences product development, marketing strategies and financial decision-making. High levels of entrepreneurial competence enable business owners to be proactive, seize emerging opportunities, and maintain a competitive edge in uncertain or volatile markets.

## ***2.4. Entrepreneurial Characteristics***

Entrepreneurial characteristics are personal traits and behavioral tendencies that influence an individual's approach to managing and growing a business. These include self-confidence, resilience, risk-taking, leadership ability, creativity, and strong future orientation. Such traits shape the mindset of an entrepreneur and determine how they apply their competencies in real-world business contexts. For MSME owners, having strong entrepreneurial characteristics often translates into a greater willingness to innovate, persevere through challenges and make bold yet strategic decisions. These traits also play a moderating role in enhancing the effectiveness of competencies in driving business performance.

## ***2.5. MSME Performance***

MSME performance refers to the outcomes achieved by a business in terms of financial, operational, and market-based indicators. It is typically measured by profit growth, sales volume, customer acquisition, and production capacity. However, in broader terms, performance includes adaptability, business sustainability, innovation output, and market presence. High-performing MSMEs are generally characterized by their ability to maintain consistent growth, meet customer expectations and manage resources effectively (Albalushi & Naqshbandi, 2022; Runtuk et al., 2023). Understanding the factors influencing MSME performance is critical for developing strategies that foster business development and ensure long-term success.

## ***2.6. Hypothesis***

- H1: Human resource competence positively and significantly affects MSME performance
- H2: Management competence has a positive and significant effect on MSME performance
- H3: Entrepreneurial competence has a positive and significant effect on MSME performance

H4: Entrepreneurial characteristics strengthen the positive effect of human resource competence on MSME performance

H5: Entrepreneurial characteristics strengthen the positive effect of management competence on MSME performance

H6: Entrepreneurial characteristics strengthen the positive effect of entrepreneurial competence on MSME performance

### 3. Methodology

This study employed a quantitative survey design to examine the relationship between internal competencies and MSME performance. This study focused on the Cethik Geni MSME group in Semarang, Indonesia. A total of 95 MSME actors participated as respondents, selected using a census method to ensure comprehensive representation. Data were collected using a structured questionnaire that was distributed via Google Forms. Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software. The study involved five main variables: human resource competence (X1), management competence (X2), and entrepreneurial competence (X3) as independent variables; entrepreneurial characteristics (M) as a moderating variable; and MSME performance (Y) as the dependent variable. Validity and reliability tests were performed to ensure the quality of the measurement instruments. All indicator loading factors exceeded the recommended threshold of 0.70, indicating strong convergent validity. The Average Variance Extracted (AVE) values were above 0.50, confirming sufficient construct validity. Additionally, Cronbach's alpha values for each construct were greater than 0.70, demonstrating the instrument's acceptable internal consistency and reliability.

### 4. Results and discussion

#### 4.1. Profile of Respondents

Table 1. Profile of Respondents

No	Description	Quantity	%
<b>Posisi di UMKM:</b>			
1.	Owner	89	95,15
	Team Member	14	4,86
<b>Sex:</b>			
2.	Male	32	31,00
	Female	71	69,00
<b>Marital</b>			
3.	Married	91	88,35
	Unmarried	12	11,65
<b>Education</b>			
4.	Junior High School	10	9,71
	Senior High School	50	48,54
	Diploma	14	13,59
	Bachelor	29	28,16
<b>Length of Running Business</b>			
5.	<= 5 years	28	27,18
	6 – 15 years	36	34,95
	16 – 25 years	24	23,30
	More than 25 years	15	14,57
<b>Type of Business</b>			
6.	Food and Beverage	70	67,96
	Laundry	8	7,77
	Grocery store	15	14,56
	Handycraft	10	12,71

The respondents in this study comprised 95 individuals actively involved in MSME activities within the Cethik Geni group in Semarang. The majority of respondents (approximately 95.15 %) identified themselves as business owners, while the remaining 4.85% were employees involved in operational or managerial roles. This indicates that most of the data were obtained directly from decision-makers within the businesses, enhancing the relevance and accuracy of the insights gathered.

Regarding gender distribution, 69% of the respondents were female and 31% were male. This reflects women's significant role in managing and sustaining MSMEs within the community, particularly in the home-based or small-scale business sectors. Regarding educational background, the most crucial % of respondents, 48.5%, had completed a high school education. This was followed by 28.2% with a bachelor's degree, 13.6% with a diploma, and 9.7% with junior high school education levels. These figures suggest that most MSME actors in this group possess moderate formal education, which may influence their ability to manage business operations effectively.

In terms of business experience, more than 65% of the respondents had been running their businesses for over six years, with a notable portion operating for over 15 years. This indicates a relatively mature and experienced group of entrepreneurs who are likely to be familiar with the dynamics of their respective markets. Regarding business types, most respondents (approximately 68%) operated in the food and beverage sector. Other types of businesses included grocery stores, laundry services, and handcrafts. This distribution reflects the dominance of consumable goods and services in the MSME landscape, especially those catering to local community needs.

#### **4.2. Descriptive Results**

A descriptive analysis was conducted to gain an overview of respondents' perceptions of each construct measured in this study, using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The results show that the mean scores for all key constructs, namely Human Resource Competence (X1), Management Competence (X2), Entrepreneurial Competence (X3), Entrepreneurial Characteristics (M), and MSME Performance (Y), fall within a relatively high range, specifically between 3.99 and 4.46. This consistently high score indicates that the respondents generally perceive themselves to possess a strong level of competence across all dimensions. For Human Resource Competence (X1), the average score of 3.99 suggests that the respondents believe they have adequate education, experience, and ability to manage and separate business and personal finances. For Management Competence (X2), the score of 4.46, the highest among all constructs, reflects strong perceived abilities in communication, time management, decision-making, problem-solving, and conflict resolution.

Entrepreneurial Competence (X3) received a mean score of 4.21, showing that respondents are confident in recognizing opportunities, engaging in marketing, managing business finances, and building personal relationships, which are core elements of practical entrepreneurship. The Entrepreneurial Characteristics (M) construct was rated at 4.22, indicating that respondents have strong personal traits such as risk-taking, leadership, willingness to learn, and a future-oriented mindset. Finally, MSME Performance (Y) achieved an average score of 4.19, implying that most respondents considered their businesses to perform well. This includes perceptions of increased profits, customer growth, sales volume, and production capacity over time. Overall, the descriptive statistics suggest a positive self-assessment by MSME actors in the Cethik Geni group regarding their competencies, entrepreneurial traits, and business outcomes. These high scores also provide a strong foundation for further analysis of the relationships between the constructs in the structural model.

##### **4.2.1. Heterotrait Monotrait (HTMT) Ratio**

The heterotrait-monotrait (HTMT) ratio is an evaluation metric used in Partial Least Squares (PLS) analysis to evaluate the relationship between measured constructs (variables). This metric can be used to assess whether a particular construct (variable) has a greater relationship with another construct that should not be related (heterotrait) than with a construct that should be similar (monotrait).

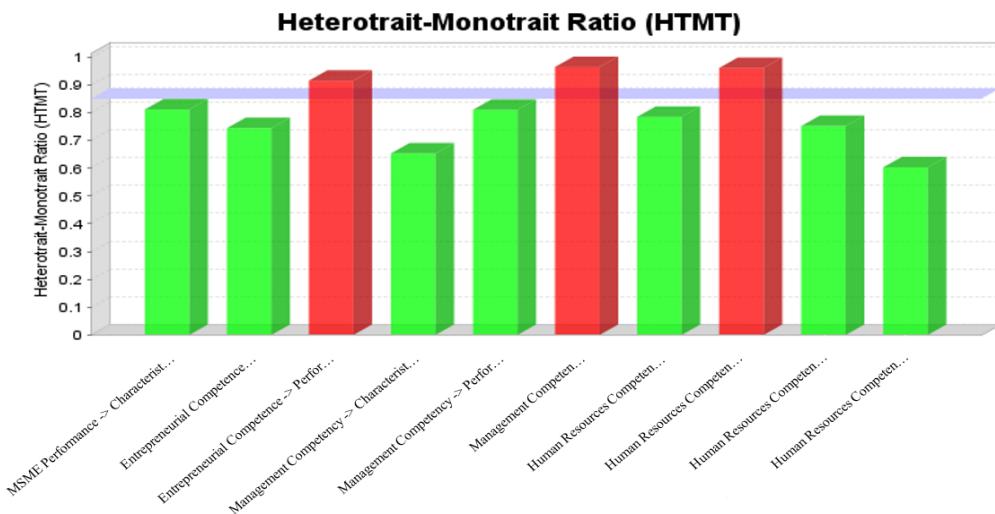


Figure 1. HTMT Result Test

In the PLS analysis, the HTMT ratio is calculated as the geometric mean of all combinations of correlations between different constructs divided by the correlations between similar constructs. The HTMT ratio ranges from 0 to 1, with 0 indicating no correlation between the measured constructs and 1 indicating a robust correlation between the measured constructs, potentially leading to multicollinearity issues. The HTMT analysis showed no scores exceeding 0.9, indicating that the model did not exhibit a strong correlation, or in other words, that multicollinearity did not occur.

Using the HTMT ratio in PLS analysis is crucial to ensure that the measured constructs are interrelated as expected and are not mixed with other constructs that should not be related. In this regard, the HTMT ratio can be used to evaluate the convergent and discriminant validity of the measured constructs in the PLS analysis. Thus, the HTMT ratio can help ensure that the PLS analysis results are valid and reliable. The HTMT results indicate that most constructs have discriminant validity, but there are several problematic construct pairs, particularly those involving the MSME Performance variable. Therefore, further attention is needed for constructs with  $HTMT \geq 0.90$  to maintain the accuracy and integrity of the research model.

#### 4.2.2. Structural Model (Inner Model)

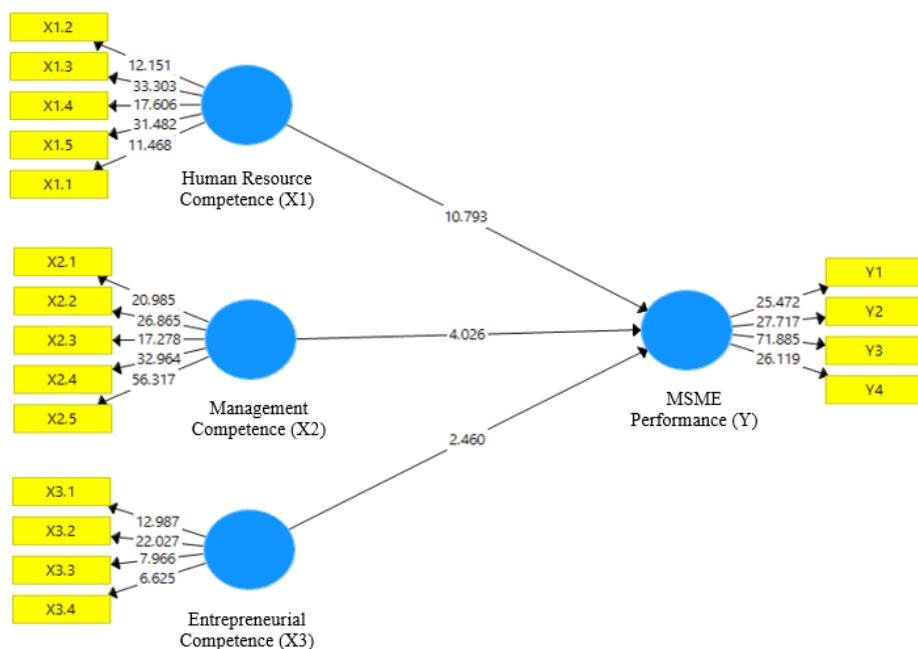


Figure 2. Structural Model of Direct Effect Analysis

Structural model analysis used the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach to evaluate the hypothesized relationships between constructs. The results revealed that all three independent variables, namely, Human Resource Competence (X1), Management Competence (X2), and Entrepreneurial Competence (X3), have a statistically significant and positive effect on MSME Performance (Y). Specifically, Human Resource Competence (X1) contributed significantly to improving MSME performance, with a path coefficient of 0.595, a t-statistic of 10.793, and a p-value of 0.000 (H1 accepted). This result highlights that human resource capabilities, such as business experience, educational background, and basic managerial skills, such as financial and marketing management, are the most dominant factors influencing MSME success.

Management Competence (X2) also significantly affected MSME performance, with a path coefficient of 0.272, T-statistic of 4.026, and P-value of 0.000 (H2 accepted). These findings indicate that managerial abilities, such as decision-making, time management, conflict resolution, and communication, support daily business operations and enhance overall business performance. Meanwhile, Entrepreneurial Competence (X3) had the smallest yet statistically significant effect, with a path coefficient of 0.181, a t-statistic of 2.460, and a p-value of 0.014 (H3 accepted). This suggests that entrepreneurial practice, marketing, and relationship-building skills contribute to business performance, although their influence is weaker than that of human resource and management competencies.

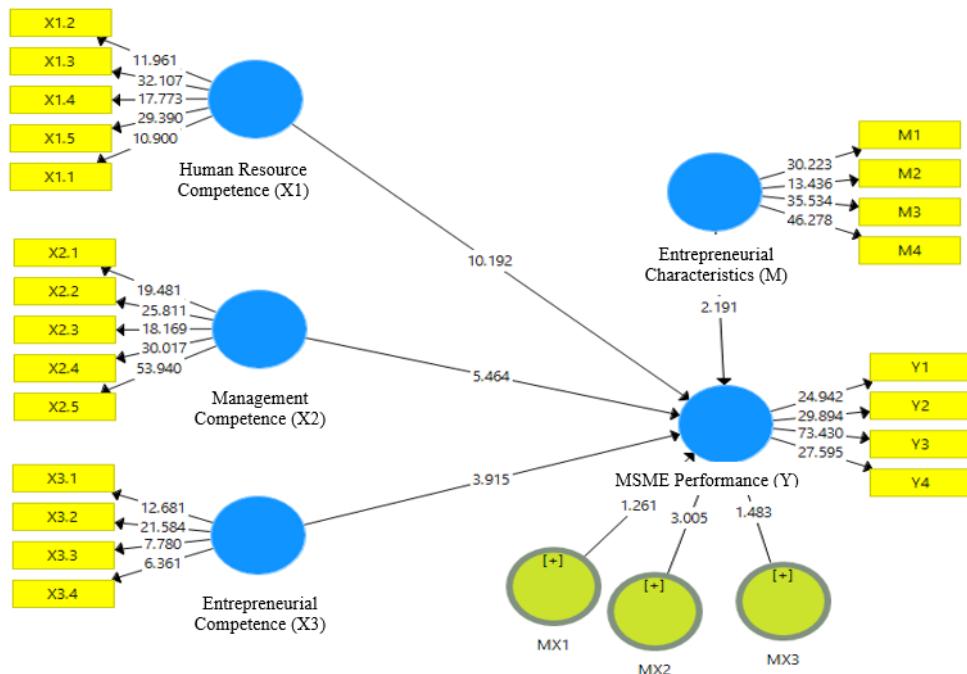


Figure 3. Structural Model of Moderation Effect Analysis

Based on the moderation model analysis, Entrepreneurial Characteristics (M) directly affect MSME Performance (Y), with a coefficient of 0.104, T-statistic = 2.191, and P-value = 0.029. This indicates that traits such as willingness to learn, risk-taking, leadership, and future orientation directly contribute to improved business performance, highlighting the importance of personal characteristics in shaping MSME outcomes. However, not all interaction effects were statistically significant when tested as moderating variables. The interaction between Human Resource Competence and Entrepreneurial Characteristics (X1.M) yielded a coefficient of 0.065, T-statistic of 1.261, and P-value of 0.208, indicating an insignificant moderating effect (H4 rejected). Thus, entrepreneurial characteristics do not significantly strengthen or weaken the impact of human resource competence on MSME performance.

In contrast, the interaction between Management Competence and Entrepreneurial Characteristics (X2.M) was significant, with a coefficient of 0.266, t-statistic = 3.005, and p-value = 0.003 (H5 accepted). This suggests that entrepreneurial traits strengthen the effect of managerial competence on

performance; entrepreneurs with strong traits can better apply their management skills effectively. Meanwhile, the interaction between Entrepreneurial Competence and Entrepreneurial Characteristics (X3.M) was insignificant, showing a negative coefficient of -0.143, a t-statistic of 1.483, and a p-value of 0.139 (H6 rejected). This implies no significant moderating effect or a tendency toward a negative relationship. In summary, while entrepreneurial characteristics directly affect MSME performance, they only act as a significant moderator in the relationship between management competence and performance. No significant moderating effects were found in the interactions with human resources or entrepreneurial competence. These findings emphasize the importance of strengthening entrepreneurial character and management capabilities to support MSME success more effectively.

### **4.3. Discussion**

#### *4.3.1. The Influence of Human Resource Competence on MSME Performance*

Based on the hypothesis test results above, it can be seen empirically that human resource competence has a significant positive influence on MSME performance, particularly in the Cethik Geni MSME group in Semarang. Human resource (HR) competence is a key factor in determining the success and sustainability of micro, small, and medium enterprises (MSMEs). HR competence refers to the abilities, skills, knowledge, and work attitudes of business owners and employees during daily business activities. High competence enables MSMEs to manage their businesses more effectively, increase productivity, and adapt to changing market dynamics.

Entrepreneurship education is increasingly recognized as a strategic component of higher education, particularly in vocational institutions that aim to prepare graduates to enter the workforce and industry directly (Lubis, Rais, Rini, & Friadi, 2025). In the context of MSMEs, this encompasses managerial, technical, and interpersonal skills that support the achievement of business goals. Empirically, various studies have shown that HR competence positively and significantly impacts MSME performance. Mawardi et al. (2024) found a significant positive influence between human resource competencies, including business knowledge, technical skills, and work attitudes, on improving MSME performance, both financially and non-financially.

Furthermore, Alarape (2007) concluded that improving MSMEs' managerial and entrepreneurial competencies significantly increases operational efficiency and business revenue growth. Furthermore, Octavia, Zulfanetti, and Erida (2017) found that MSMEs with business training and experience tended to have better business performance than those without entrepreneurship training or education. Handayani, Darma, and Martini (2025) concluded that competent MSMEs tend to be more innovative and able to adapt to changes in technology and consumer preferences, ultimately improving their competitiveness and business performance.

These findings indicate that human resource competency is not only an individual asset but also a strategic asset for the organization. MSMEs supported by competent human resources will be better able to develop business strategies, manage resources, market products, and build relationships with customers and business partners. Based on the theory and empirical evidence outlined above, human resource competency positively and significantly influences MSME performance. Therefore, efforts to increase human resource capacity through training, education, and business mentoring are strategic steps to encourage MSME growth and sustainability.

#### *4.3.2. The Influence of Management Competence on MSME Performance*

Based on the results of the hypothesis test above, it is clear that management competency has a significant positive influence on MSME performance in the Cethik Geni MSME group in Semarang. Management competency is a key determinant of improving the performance of micro, small, and medium enterprises (MSMEs). This competency encompasses the ability of entrepreneurs or managers to plan, organize, direct, and control all business resources to achieve organizational goals effectively. In the MSME context, managers are often business owners, making management competency crucial for success. MSMEs with strong management competencies can develop business strategies, manage finances and human resources, and build strong relationships with customers and business partners.

Several empirical studies support the assertion that management competencies positively and significantly affect MSME performance. One example is research by Edward, Ihsan, and Siregar (2022), which found that management competencies encompassing strategic planning, decision-making, and operational management significantly impacted MSME performance in the creative industry sector in Yogyakarta. Oduro and Mensah-Williams (2023) concluded that MSMEs with strong financial and marketing management competencies demonstrated significant improvements in business performance, particularly in profitability and competitiveness.

Furthermore, Mardikaningsih, Azizah, Putri, Alfan, and Rudiansyah (2022) found empirical evidence that management competencies strongly correlate with revenue growth and the survival of MSMEs. Furthermore, Santosa (2025) found that business management training significantly increases the effectiveness of decision-making and operational efficiency of businesses. Management competency is an essential internal factor that can be improved through training, entrepreneurship education, and business mentoring. The government and MSME support institutions need to encourage the improvement of business actors' managerial capabilities as part of a people-based economic development strategy. Based on theory and empirical results, management competency positively and significantly impacts MSME performance in the Cethik Geni MSME group in Semarang, Indonesia. MSMEs managed by individuals with strong managerial skills tend to be more successful in achieving business targets, surviving competition, and developing sustainably.

#### *4.3.3. The Effect of Entrepreneurial Competence on MSME Performance*

Based on the hypothesis test results above, it is empirically evident that entrepreneurial competency has a significant positive effect on MSME performance in the Cethik Geni MSME group in Semarang. Entrepreneurial competency is a combination of knowledge, skills, attitudes, and behaviors that an entrepreneur possesses in identifying business opportunities, managing risks, and running a business innovatively and sustainably. This competency is crucial, especially in micro, small, and medium enterprises (MSMEs), where entrepreneurs are generally the primary actors and decision-makers in day-to-day business operations.

Various empirical studies have demonstrated that entrepreneurial competency positively and significantly affects MSME performance. Among these findings, research by Chusumastuti, Zulfikri, and Rukmana (2023) concluded that entrepreneurial competency, particularly in innovation and risk-taking, significantly improves the marketing and financial performance of MSMEs in the food and beverage sector in West Java. Furthermore, Purnamasari and Wijaya (2020) found that MSMEs with high entrepreneurial competency (the ability to innovate, courage to take risks, and achievement orientation) tend to survive and thrive in dynamic economic conditions.

Furthermore, empirical research by Ludiya (2020) conducted a quantitative study of MSMEs in the fashion sector and found that improving entrepreneurial competency through business training significantly impacted business performance in terms of sales volume, number of customers, and financial management. Devi, Dahmiri, and Ihsan (2025) further emphasized that MSMEs with high entrepreneurial competency are more adaptive to market changes and quicker in making strategic decisions, thus achieving superior business performance compared to other businesses. Based on theoretical studies and empirical findings, entrepreneurial competency positively and significantly impacts MSME performance. MSMEs run by entrepreneurs with strong entrepreneurial competency are more innovative, resilient in the face of risks, responsive to market opportunities, and tend to demonstrate better business performance on a sustainable basis.

#### *4.3.4. The Effect of Human Resource Competency on MSME Performance with Entrepreneurial Characteristics as a Moderator*

The hypothesis test results described above demonstrate that entrepreneurial characteristics do not significantly enhance the influence of human resource competency on MSME performance. Human resource competency encompasses the knowledge, skills, attitudes, and work abilities that individuals possess to achieve business goals. In MSMEs, human resource competency is key to operational management, customer service, financial management and product innovation.

However, entrepreneurial characteristics, including risk-taking, proactivity, innovation, and achievement orientation, do not consistently strengthen the relationship between human resource competencies and MSME performance. Several studies have shown that while entrepreneurial characteristics are important individually, they are not statistically significant in enhancing the influence of human resource competencies on business performance. The results depend highly on the organizational system, structure, and culture, and not solely on individual characteristics. Entrepreneurial characteristics, which are more dispositional or personality-based, do not necessarily strengthen work processes or human resource collaboration if they are not supported by training, work systems, and human resource management a practical approach.

Mawardi et al. (2024) found that entrepreneurial characteristics did not act as a moderating variable between human resource competency and MSME performance in the trade sector. The moderation interaction test showed a significance value  $>0.05$ ; thus, the moderating effect was not statistically proven. Furthermore, Mamun and Fazal (2018) concluded that entrepreneurial characteristics do not strengthen the influence of human resource competency on business performance. They stated that performance was more determined by technical training, teamwork, and business management systems than by entrepreneurs' personal characteristics.

Furthermore, Willian, Hasbullah, Widiastuti, and Dahmiri (2021) emphasized that entrepreneurs with strong entrepreneurial characteristics cannot always transform their personal strengths into better performance without the support of competent human resources and a structured organizational system. Ndungu, Wanjau, Gichira, and Mwangi (2017) found that entrepreneurial characteristics tend to be independent variables that directly influence performance, but are not significant moderators of the relationship between HR competencies and business performance. Based on the empirical research results and theoretical review, entrepreneurial characteristics are proven to be unable to strengthen the influence of human resource competencies on MSME performance. This indicates that the success of HR competencies in improving performance depends more on organizational systems, training, and the collective role of the work team than on the entrepreneurial traits of the business owner.

#### *4.3.5. The Effect of Management Competencies on MSME Performance with Entrepreneurial Characteristics as a Moderator*

The results of the hypothesis tests described above demonstrate that entrepreneurial characteristics can strengthen the influence of management competencies on MSME performance. Management competencies are vital in determining the effectiveness of planning, organizing, decision-making, and resource control in managing micro, small, and medium enterprises (MSMEs). However, the influence of management competencies on MSME performance is not linear but rather influenced by individual factors within the business actor, one of which is entrepreneurial characteristics. Entrepreneurial characteristics include initiative, innovation, risk-taking, results orientation, self-confidence, and a long-term vision. Individuals with these characteristics are more capable of applying managerial competencies effectively because they are driven by a sense of achievement, tenacity, and adaptability to market changes.

Sarpong, Aniah, Amankwah, and Asare (2025) as being free of mental disorders or diseases. Several empirical studies have shown that entrepreneurial characteristics can significantly strengthen (moderate) the influence of managerial competencies on MSME performance. Ibidunni et al. (2018) found that entrepreneurs with strong entrepreneurial characteristics were able to apply managerial competencies more optimally, leading to improved business performance (significant interaction value in the moderation test,  $p < 0.05$ ). Furthermore, Kraus, Rigtering, Hughes, and Hosman (2012) concluded that entrepreneurial characteristics, particularly the dimensions of risk-taking and innovation, strengthen the relationship between strategic planning and managerial decision-making skills on MSMEs' financial performance and growth.

The empirical study by Rahayu, Lestari, and Rostyaningsih (2021) shows that entrepreneurs with strong entrepreneurial characteristics are better able to apply management principles (planning, organizing, actuating, and controlling) with high discipline and flexibility. This results in increased customer

satisfaction and operational cost efficiency. Furthermore, Taipale-Erävala, Henttonen, and Lampela (2019) concluded that the interaction between management competencies and entrepreneurial characteristics significantly impacts product innovation and marketing strategies, affecting MSME performance. Based on theoretical studies and empirical findings, entrepreneurial characteristics have been proven to strengthen the influence of management competencies on MSME performance. Entrepreneurs who possess not only managerial competencies but also strong entrepreneurial characteristics are better prepared to face challenges, manage risks, and adapt to changes in the business environment, thereby achieving optimal business performance.

#### *4.3.6. The Effect of Entrepreneurial Competencies on MSME Performance with Entrepreneurial Characteristics as a Moderator*

The results of the hypothesis test demonstrate that entrepreneurial characteristics cannot strengthen the influence of entrepreneurial competency on MSME performance. Theoretically, entrepreneurial characteristics such as innovativeness, risk-taking, proactiveness, achievement-orientation, and self-confidence are often assumed to strengthen the relationship between entrepreneurial competency and MSME performance. However, the empirical findings of this study indicate that entrepreneurial characteristics do not always act as moderating variables that strengthen the influence of entrepreneurial competency on MSME performance.

In some contexts, these characteristics are not strong enough to drive improved business performance without adequate technical and managerial competence. Several relevant studies indicate that entrepreneurial traits cannot strengthen (not statistically significant as moderating variables) the relationship between entrepreneurial competency and MSME performance. Dhamayantie and Fauzan (2017) concluded that entrepreneurial characteristics are not significant moderators between entrepreneurial competency and MSME performance. The interaction test results showed a significance value above 0.05, indicating no statistically significant moderating effects.

Furthermore, Ndungu et al. (2017) found that although entrepreneurial characteristics were present, they did not strengthen the relationship between competence and performance. They concluded that MSMEs rely more on practical skills than on personal characteristics. Although factors such as innovation and risk-taking are essential in the context of entrepreneurship, when combined as moderators, they do not provide a significant interaction effect between competence and business performance, especially in the labor-intensive MSME sector.

Furthermore, an empirical study by Sakib et al. (2022) confirmed that the personal characteristics of entrepreneurs do not continually strengthen the relationship between competence and performance because, in practice, decision-making and productivity are determined mainly by technical skills and operational management. Based on the empirical findings above, entrepreneurial characteristics have been statistically proven to be incapable of strengthening the influence of entrepreneurial competencies on MSME performance. This means that possessing characteristics such as risk-taking or self-confidence alone is not enough to increase the positive impact of competencies on the business results. More importantly, how these competencies are implemented in day-to-day business management is crucial.

## **5. Conclusions**

### **5.1. Conclusion**

After going through a series of empirical tests on all the hypotheses proposed in this study, several conclusions can be drawn as follows: individually, human resource competency, management competency, and entrepreneurial competency have a positive and significant influence on the performance of MSMEs in the Cethik Geni MSME group in Semarang City. Entrepreneurial characteristics strengthen the impact of management competency in improving MSME performance in the Cethik Geni MSME Group in Semarang City. Entrepreneurial characteristics cannot moderate the influence of human resource and management competencies on the performance of MSMEs in the Cethin Geni MSME Group in Semarang City.

## 5.2. Suggestions

Future research should broaden the scope of respondents across various MSME sectors and regions to enhance the generalizability of the findings. A mixed-method approach should also be considered to capture qualitative aspects such as motivation, leadership behavior, and teamwork dynamics that cannot be explored through a purely quantitative design. Additionally, future models should incorporate contextual variables, such as organizational culture, financial literacy, business environment, and digital readiness, as moderating or mediating variables to provide a more comprehensive understanding of the determinants of MSME performance.

## 5.3. Implications

The findings of this study imply that strengthening human resource, management, and entrepreneurial competences should be a strategic priority for MSME development. MSME actors need to enhance their managerial skills and entrepreneurial characteristics, particularly innovation, resilience, and future orientation, as these traits significantly amplify the effectiveness of management competence in improving business performance. The results also provide valuable insights for policymakers and support institutions to design targeted training and mentoring programs that emphasize entrepreneurial character development and managerial capability building as essential drivers of MSME sustainability.

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