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## The strategic link between innovation and MSME performance: Evidence from culinary businesses in solo Raya

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### Abstract

This quantitative study aims to test the proposed hypothesis on the mediating role of business strategy (BS) in the effects of innovation on enhancing MSME performance. Data collection employed the survey method. The multivariate data analysis shows that BS mediates the influence of innovation on the performance of MSMEs. This study involved 232 respondents from MSMEs in the culinary sector in the Greater Solo area. The results reveal that well-designed business strategies—encompassing meticulous planning, effective execution, and continuous evaluation—positively affect the enhancement of MSME performance. A focused approach not only enables MSMEs to better adapt to changes in the business environment but also strengthens their competitiveness in dynamic markets. Optimal MSME performance reflects operational success while directly impacting the sustainability and welfare of the business. These findings support previous theories that emphasize the importance of synergy between innovative business strategies and entrepreneurial behavior in enhancing operational efficiency and business competitiveness.

**Keywords:** Business strategy, Culinary MSME, Innovation, MSME performance, Mediating effect.

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**Transparency:** The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

**Institutional Review Board Statement:** This study was conducted at the Graduate School of Universitas Sebelas Maret (UNS), Indonesia. Ethical approval for research involving human participants was obtained from the Institutional Review Board of the Graduate School, Universitas Sebelas Maret. Informed consent was obtained from all participants, and confidentiality of responses was maintained throughout the study.

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### 1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) are integral to Indonesia's economic development, representing 99% of the country's total business units according to the 2022 Report of the Coordinating Ministry for Economic

Affairs. MSMEs play a pivotal role in employment generation, contributing 96.9% of the workforce. In addition, their share of the Gross Domestic Product (GDP) reaches 60.5%. Their export contributions also grew from 14.37% in 2020 to 15.69% by the end of 2022 [1].

The resilience of Indonesian MSMEs became particularly apparent during the post-COVID-19 pandemic recovery phase. While the global economy experienced a downturn and several major startups collapsed in 2023, MSMEs showcased remarkable adaptability [2]. This was largely due to their ability to adjust to changing consumption patterns, which reverted to pre-pandemic trends as the health crisis subsided [3]. Notwithstanding global challenges such as inflation and disrupted supply chains, Indonesia recorded an economic growth rate of 5.44%, higher than that in the previous quarter (5.01%) [4]. However, various difficulties persisted throughout the year, including rising inflation driven by geopolitical tensions and tighter monetary policies in developed economies. Despite these issues, the National Research and Innovation Agency (*Badan Riset dan Inovasi Nasional/BRIN*) projected positive economic growth for Indonesia in 2023, even amid global recession concerns [5].

In Surakarta, a city celebrated for its culinary tourism, the pandemic posed serious challenges. As a COVID-19 red zone, the city's culinary sector faced drastic revenue losses, financial struggles, and, in some cases, business closures because of declining consumer demand [6, 7]. These financial setbacks were further compounded by rising Non-Performing Loans (NPLs) in the Greater Solo area, which reached 10.43% (IDR 8.59 trillion) by April 2020 [8]. These difficulties disrupted the cash flow and operational capacities of MSMEs operating in the culinary sector, ultimately hindering their ability to maintain inventories and sustain daily operations.

Even with these obstacles, MSMEs remain critical to Indonesia's economy. However, their productivity, as indicated by value-added per worker, remains low due to challenges such as limited entrepreneurial quality, small business scale, and the dominance of less productive sectors [9]. Addressing these issues is essential to maximizing MSMEs' contributions to economic growth, job creation, and equitable development outcomes. In this regard, the performance of MSMEs is influenced by factors including owner/manager values, innovation capabilities, strategic decisions, and internal and external environmental conditions [10, 11]. This study emphasizes the strategic importance of MSMEs while exploring the factors affecting the performance and empowerment of culinary MSMEs in the Greater Solo area. The purpose of this study is to develop an empowerment model to enhance the resilience and competitiveness of these enterprises in the post-pandemic era, as well as to offer actionable insights needed for their sustainable growth.

## **2. Materials and Methods**

This study examines several variables that contribute to enhancing MSME performance.

### *2.1. Innovation and MSME Performance*

Various studies have explored the concept of competencies in Micro, Small, and Medium Enterprises (MSMEs), which play a crucial role in fostering entrepreneurial behavior that drives business performance. Superior competencies, compared to competitors, enable MSMEs to achieve better performance outcomes [12]. The key elements of competencies for MSMEs include customer value and product uniqueness, which encourage entrepreneurial attitudes among owners or managers, ultimately enhancing business performance.

A prior study has highlighted the distinction between entrepreneurial and managerial competencies in starting a business [13]. Entrepreneurial competencies are applied and developed through entrepreneurial training and learning, which can be measured to understand their impact [14]. Nine primary typologies of entrepreneurial competencies have been identified, namely: opportunity identification, opportunity evaluation, opportunity exploitation, strategic competencies, managerial competencies, experience and knowledge, leadership and motivation, human resource management (HRM), and social competencies [14].

As a product of competencies, innovation enables MSMEs to develop novel products, improve processes, and explore new markets. The ability of a business to innovate is closely tied to its internal competencies, which facilitate the integration of knowledge, skills, and resources into strategic initiatives [15]. MSMEs that possess strong managerial and entrepreneurial competencies are better positioned to implement innovations that enhance operational efficiency and market competitiveness [13]. Moreover, the synergy between MSME competencies and innovation contributes to gaining sustainable competitive advantages. Competencies in HRM and leadership, for example, empower MSME managers to foster a culture of innovation by encouraging employee creativity and collaboration [16]. Similarly, motivation and knowledge-sharing practices within MSMEs are critical for stimulating technological innovation, particularly in the adoption of digital tools and e-commerce platforms [17].

The dynamic interplay between competencies and innovation not only improves business performance but also ensures MSMEs remain agile and responsive to market changes. As highlighted, the integration of competencies with innovation strategies generates added value for customers, providing MSMEs with a competitive edge in increasingly saturated markets [18]. In the context of MSMEs, competencies serve as a foundation for innovation, which in turn promotes business growth and sustainability. Future studies should explore the mechanisms through which specific competencies, such as leadership and HRM, contribute to innovation performance, particularly in the context of emerging markets where MSMEs play a pivotal role in economic development. Based on the explanation above, the first hypothesis is:

*H<sub>1</sub>: Innovation influences MSME Performance*

## **2.2. Innovation and Business Strategy**

Effective innovation is crucial in supporting management to achieve excellent performance, which in turn ensures the sustainability and continuity of business operations in alignment with the company's objectives. This is facilitated by innovative capabilities related to ideas, new products, and other related aspects [19]. Innovation can be classified into three categories: product innovation, process innovation, and market innovation [20]. Product innovation focuses on generating revenue, process innovation emphasizes maintaining and enhancing quality while reducing costs, and market innovation aims to expand target market segments and identify the best market opportunities for the company to serve.

Process innovation is further classified into two categories: technological innovation and organizational innovation [21]. Technological process innovation involves introducing changes in how products are produced by implementing technological advancements, such as modifications to physical equipment, techniques, and systems. Meanwhile, organizational innovation refers to changes in the company's organizational structure and strategy [21].

There are three fundamental business strategies that organizations can leverage to achieve a competitive advantage, namely: cost leadership, differentiation, and focus [22]. Cost leadership entails reducing production costs to attract price-sensitive consumers, differentiation involves providing customers with distinctive and unique products, and the focus strategy targets specialized market segments [22]. Building on Porter's framework, the hybrid strategy model has been introduced, combining product differentiation with innovation to achieve profitability [23, 24]. By doing so, companies can improve their business performance and secure a stronger competitive position by delivering greater value to customers compared to when they rely solely on a single strategy [18].

The importance of innovation lies in its ability to develop and execute business strategies effectively [15]. The adoption of technological innovations, particularly online technologies, establishes a strong connection between Micro, Small, and Medium Enterprises (MSMEs) and the strategies they implement [21]. Previous studies have explored the relationship between innovation and performance and found that innovation significantly impacts business strategy. The stability of a business is supported by the reliability of its well-crafted strategy, which, in turn, is influenced by innovation. Therefore, the second hypothesis is:

*H<sub>2</sub>: Innovation influences Business Strategy*

## **2.3. Influence of Business Strategy on MSME Performance**

The relationship between business strategy and the performance of Micro, Small, and Medium Enterprises (MSMEs) has been widely explored in academic literature. Studies have highlighted that the adoption of effective business strategies significantly affects MSME performance, particularly among enterprises that utilize application-based technologies [21, 25, 26]. This suggests that strategic decision-making serves as a critical factor in enhancing operational efficiency, market responsiveness, and overall business outcomes.

Business strategy is multidimensional, encompassing managerial capabilities, the ability to develop a clear vision and mission, and efforts to create added value through synergistic relationships between businesses, customers, and the broader environment [25]. Managerial capabilities enable MSME owners to make informed decisions, allocate resources effectively, and adapt to dynamic market conditions. Meanwhile, a well-articulated vision and mission provide strategic direction and help align organizational objectives with market opportunities, thus fostering a competitive advantage [26].

The integration of business strategy with technological advancements, such as application-based tools and digital platforms, further improves MSME performance. The adoption of digital technologies has been reported to enable MSMEs to streamline processes, reduce operational costs, and expand market reach [21]. Such alignment between business strategy and technology encourages innovation, enhances customer satisfaction, and contributes to sustainable growth.

Moreover, MSMEs' ability to create added value through collaboration with stakeholders, including suppliers, customers, and community members, strengthens their competitive positioning. The value derived from such collaborations improves business performance by promoting loyalty, trust, and long-term partnerships [18]. This value creation is particularly relevant in MSMEs operating within resource-constrained environments, where leveraging relational capital is essential for survival and growth.

In conclusion, the interplay between business strategy and MSME performance underscores the importance of strategic planning, managerial competence, and technological integration. Future research should delve deeper into the specific mechanisms through which business strategy contributes to MSME resilience and adaptability, particularly in the context of emerging markets where MSMEs play a vital role in economic development. Based on the above explanation, the third hypothesis is:

*H<sub>3</sub>: Business Strategy influences MSME Performance*

## **2.4. The Mediating Role of Business Strategy in the Impact of Innovation on MSME Performance**

The interplay between innovation and the performance of Micro, Small, and Medium Enterprises (MSMEs) has been widely recognized as a critical driver of competitive advantage and growth. Meanwhile, studies have suggested that business strategy acts as a mediating factor that amplifies the impact of innovation on MSME performance, particularly among enterprises that leverage application-based technologies [21, 25, 26]. These findings emphasize the importance of integrating strategic planning with innovation to maximize performance outcomes.

Characterized by technological advancements and novel processes, innovation provides MSMEs with essential

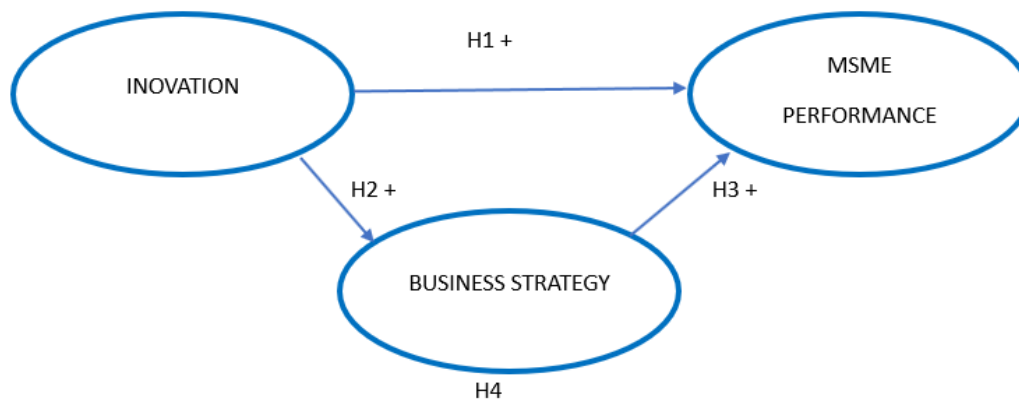
tools for improving efficiency, reducing costs, and creating unique value propositions [27]. However, the effectiveness of innovation in driving performance depends significantly on its alignment with the company's strategic objectives. The three key elements of business strategy, i.e., managerial capabilities, the ability to develop a clear vision and mission, and value creation among businesses, customers, and the environment, serve as critical mediators that enhance the transformative potential of innovation [25].

Managerial capabilities enable MSME owners to translate innovative ideas into actionable strategies, fostering alignment between technological advancements and business goals. Application-based technologies, for example, require strategic integration to optimize resource allocation, streamline processes, and expand market access [21]. Similarly, the development of a vision and mission provides MSMEs with a strategic framework to guide the adoption and implementation of innovative practices, ensuring that these efforts align with long-term organizational objectives [26].

Furthermore, the ability to create value through collaboration with stakeholders amplifies the impact of innovation on MSME performance. The synergistic relationship between innovation and business strategy fosters customer satisfaction, loyalty, and trust, all of which are critical for sustained growth [18]. This supports the finding of a previous study that the integration of innovation into a business strategic planning process enhances the company's capacity to respond to dynamic market conditions, thereby improving its overall performance [26].

In conclusion, business strategy plays a pivotal role in mediating the relationship between innovation and MSME performance. By aligning innovative initiatives with strategic objectives, MSMEs can unlock greater value and achieve sustainable growth. Future research should further explore this mediating relationship, particularly in the context of emerging economies, where MSMEs face unique challenges and opportunities. Thus, the fourth hypothesis is:

*H4: Business Strategy mediates the impact of innovation on MSME Performance*



**Figure 1.**  
Framework.

## 2.5. Methods

This study involved Micro, Small, and Medium Enterprises (MSMEs) located in the Greater Solo area, which encompasses Surakarta, Karanganyar, Sukoharjo, Boyolali, Wonogiri, Sragen, and Klaten regions. Participants were selected using a cluster random sampling to enhance the practicality of the data collection process, allowing the classification of participants based on their geographical location. The use of this sampling method was primarily driven by its logistical advantages, including reductions in time, effort, and costs associated with identifying and recruiting respondents. Sufficient data were gathered despite resource constraints by focusing on MSMEs that were accessible and willing to participate. However, the use of this sampling technique has certain limitations. Specifically, the reliance on geographically clustered samples may reduce the generalizability of the findings to broader populations of MSMEs beyond the Greater Solo area or within other regional and national contexts. This limitation should be carefully considered when interpreting the study's outcomes, as the sample may not fully capture the diversity of MSMEs across Indonesia.

## 2.6. Data

This study utilized both primary and secondary data. The primary data were obtained through surveys conducted with MSME business actors. Meanwhile, the secondary data were pre-existing information, such as that provided by Statistics Indonesia (*Badan Pusat Statistik/BPS*) and local government agencies.

A questionnaire was distributed to participants to gather the data needed to address the research problems and carry out the analysis. According to *Kamus Besar Bahasa Indonesia* (KBBI; lit. the Great Dictionary of the Indonesian Language), data collection is the process, method, or act of gathering or compiling data. Meanwhile, an instrument refers to a tool used to perform a task (such as tools used by technical workers, and instruments in the fields of medicine, optics, and chemistry), or more specifically, a research tool (in the form of a set of tests, etc.) used to collect data for further processing. In this study, primary data were measured using an instrument consisting of items in the questionnaire. As a data collection technique, the use of a questionnaire involves providing a set of pre-prepared written questions for respondents to answer [28].

One of the essential stages in the research process is testing the instrument used to collect data. Before being distributed to respondents, the questionnaire was tested for its validity and reliability to ensure that the instrument met the criteria of a proper measurement tool [28]. Validity testing assesses whether the instrument, technique, or process used to measure a concept actually measures the intended concept. This study employed the Confirmatory Factor Analysis (CFA) for validity testing to determine whether each questionnaire item was valid. Reliability testing, on the other hand, measures the extent to which the assessment is free from bias or error (error-free). In this study, the internal consistency of the items in the questionnaire was assessed using Cronbach's Alpha, with a threshold value of  $> 0.7$ .

To analyze the data, this study employed Partial Least Squares (PLS) using the SmartPLS software for prediction and theory development purposes. PLS is a variance-based Structural Equation Modeling (SEM) method [19]. It is a statistical approach aimed at explaining the relationships among multiple variables simultaneously. The rationale for using the PLS-SEM method in this study is that it is widely recognized as a robust technique for estimating path coefficients in structural models [19]. Moreover, PLS performs excellently with both small and large sample sizes [19]. This method is frequently used in research involving non-normally distributed data, limited sample sizes, and models that are exploratory or complex in nature [19]. Therefore, this method is well-suited to the needs of this study in examining the relationships among the investigated variables.

### 3. Results

In this study, the assessment of convergent validity used the average variance extracted (AVE) criterion, and the value should exceed 0.50 [19]. The results confirm that all constructs meet this requirement, as indicated by AVE values of greater than 0.50 (Table 1).

**Table 1.**  
Measurement Model.

Construct	AVE	Composite Reliability	Cronbach's Alpha (CA)
Innovation	0.670	0.890	0.834
MSME Performance	0.619	0.866	0.795
Business Strategy	0.613	0.887	0.843

The reliability of the measurement model was determined using Cronbach's Alpha (CA) and Composite Reliability (CR). According to the data presented in Table 1, both CR and CA exceeded the threshold of 0.70, indicating that the reliability conditions were satisfactorily met. Furthermore, discriminant validity was evaluated through cross-loading values, following the general rule that each variable should exhibit the highest correlation with its designated factor compared to other constructs. As shown in Table 2, the findings support this criterion, thereby confirming the model's discriminant validity.

**Table 2.**  
Cross Loading.

	INNOV	MSME PERF.	BUSINESS STR.
Innovation (Innov.)	0.818		
MSME Performance (MSME Perf.)	0.483	0.775	
Business Strategy (Business Str.)	0.576	0.423	0.787

In assessing the model structure, the coefficient of determination ( $R^2$ ) represents the extent to which variance in the endogenous construct is explained by the associated exogenous constructs [19]. In this study, all dependent variables had  $R^2$  values exceeding 0.1 (Table 3). The highest predictive variance recorded was 30.1%, reflecting the model's ability to explain environmental performance.

**Table 3.**  
Measurement Model.

Hypothesis	Path		Direct Effect Coefficient	Cronbach's Alpha (CA)
	From	To		
H <sub>1</sub>	Innovation	MSME Performance	10.604 (0.000)	Supported
H <sub>2</sub>	Innovation	Business Strategy	3.010 (0.003)	Supported
H <sub>3</sub>	Business Strategy	MSME Performance	6.273 (0.000)	Supported
H <sub>4</sub>	Innovation	MSME Performance	4.254 (0.000)	Supported
	R <sup>2</sup> : 0.401			

This study applied a rule of thumb with a critical t-value of 1.96 at a 5% significance level ( $\alpha = 0.05$ , two-tailed test). This means that hypotheses are supported if the t-values exceed 1.96 and the p-values are below 0.05. As displayed in Table 3, innovation significantly influences MSME performance ( $t = 10.604$ ,  $p = 0.000$ ) and business strategy ( $t = 3.010$ ,  $p = 0.003$ ). Therefore, both H1 and H2 are supported. Business strategy also has a significant effect

on MSME Performance ( $t = 6.273$ ,  $p = 0.000$ ), supporting H3. Furthermore, mediating tests reveal that business strategy succeeds in mediating the impacts of innovation on MSME performance, thus supporting H4.

#### **4. Discussion**

1. Innovation is considered to have a significant effect on Business Strategy (H1) as it can be considered a unique resource that gives organizations a competitive advantage. Innovation encourages and gives opportunities to Micro, Small, and Medium Enterprises (MSMEs) to fulfill the expectations of their customers, for instance, by sending positive messages stating their readiness to carefully consider customer advice and suggestions. These findings support the Resource-Based View (RBV) theory, which posits that competitive advantage is derived from internal resources that are valuable, inimitable, and non-substitutable. The business strategy findings among respondents reveal that, even at the MSME level, having a well-defined strategy is essential for improving performance. The significant results indicate that the more effectively MSMEs employ appropriate business strategies, the better their performance. In this study, business strategy encompasses planning, implementation, and evaluation. These findings are consistent with prior research.

2. Innovation's successful influence on MSME Performance (H2) indicates that an innovative enterprise will be able to enhance its performance significantly. This finding aligns with the innovation theory proposed by Hult, et al. [29] which asserts that effective innovation significantly enhances managerial performance. By fostering improved performance, innovation contributes to the sustainability and continuity of businesses, ensuring they remain aligned with their strategic objectives. Entrepreneurs with strong innovation are more adept at delivering MSME performance effectively, ultimately resulting in improved performance. This underscores the necessity for MSMEs to integrate innovation planning with proactive behavior to maximize their performance. Such integration not only validates established theories but also provides MSMEs with actionable insights as to how they can achieve sustained growth.

3. Besides innovation, the business strategy (BS) adopted by owners or managers also affects MSME performance (H3). By implementing better business strategies, MSMEs have higher probabilities and opportunities to enhance their performance. This finding confirms those of previous studies that have reported the influences of business strategy on MSME performance, particularly among enterprises leveraging application-based technologies and adopting personalized customer engagement approaches [21, 25, 26]. The results reveal a positive relationship, indicating that the more effectively MSMEs implement well-suited strategies, the better their performance outcomes. In this study, business strategy encompasses three key components, namely: planning, execution, and evaluation. These findings are consistent with the conclusions drawn from prior research, further explaining the critical role of business strategy in driving the success of MSMEs.

4. Business strategy performs a mediating role in improving MSME performance through innovation (H4). In this regard, the implementation of innovation, whether directly or indirectly through business strategies, can influence MSME performance. When applied through a business strategy, the coefficient score of innovation becomes higher than that of its direct implementation. This study aims to predict the role of business strategy as a mediating variable in the relationship between innovation and MSME performance, which has not been explored in prior research. A previous study has only speculated on the potential effect of business strategy on performance [26]. Meanwhile, this study explicitly examines the mediating role of business strategy by quantitatively assessing its impact. The result confirms that business strategy does mediate the effect of innovation on MSME performance, although its mediating effect is relatively weak, suggesting that the structural implementation of business strategy within MSMEs remains underdeveloped. These results underline the need for further strategic alignment to maximize the positive influence of innovation on MSME performance.

#### **5. Conclusion**

##### **5.1. Implication**

This study comprehensively highlights that innovation, business strategy, the mediating effect of business strategy, and performance are elements that play a crucial role in determining the success of Micro, Small, and Medium Enterprises (MSMEs). Well-designed business strategies—encompassing meticulous planning, effective execution, and continuous evaluation—have been shown to positively impact the enhancement of MSME performance. The findings of this study confirm that innovation enhances MSME performance directly and indirectly through business strategy. For policymakers, these findings align with prior works on SME empowerment and sustainability [23-25]. Entrepreneurial mindset and competencies are also critical for strengthening innovation outcomes [26, 28, 30]. Digital transformation and adoption of marketing technologies further reinforce MSME resilience and competitiveness [19, 31]. These results highlight the importance of integrating innovation into both strategic management and technological advancement [32].

##### **5.2. Limitation**

This cross-sectional study focuses solely on Micro, Small, and Medium Enterprises (MSMEs) operating within the culinary sector around the Greater Solo area. As noted in previous works, contextual limitations may reduce the generalizability of findings [33, 34]. In addition, the social and community-based dimensions of MSMEs need to be further explored to understand broader empowerment effects [35, 36]. Moreover, financial literacy and entrepreneurial orientation, shown to influence SME sustainability [27, 37] were not considered in the present model.



### 5.3. Future Research

Future studies are recommended to explore various sectors other than culinary, adopt longitudinal designs, and examine other moderating variables. Previous studies have considered resource orchestration, entrepreneurial orientation, and dynamic capabilities as promising avenues [37, 38]. Founders' characteristics and absorptive capacity also play crucial roles in shaping long-term SME competitiveness [39]. These perspectives have the potential to complement future models linking innovation, business strategy, and MSME performance.

In conclusion, this study underscores that achieving sustainable success for MSMEs requires a holistic approach that integrates robust business strategies and entrepreneurial behavior with consistent performance evaluation. Such an approach ensures that MSMEs remain resilient and competitive, ultimately enabling them to contribute significantly to economic growth and community development. By adopting these principles, MSMEs can secure their position as vital drivers of innovation and economic stability in both local and global markets. The implications of this study serve as a foundation for future research and practical interventions aimed at enhancing the performance and sustainability of MSMEs.

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