

Research Article

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Towards the Sustainability of Food MSMEs through Strengthened Collaboration and Competitiveness

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Abstract: *The sustainability of Micro, Small, and Medium Enterprises (MSMEs) is the most pressing issue in economic, social, and environmental development in the modern era, where the focus of business has shifted from mere financial growth to social responsibility and resource sustainability. MSMEs, especially in the food sector in Sukabumi Regency, play a crucial role, although many still face challenges in terms of using modern technology and building extensive networks. This study aims to fill the gap by explicitly exploring the relationship between collaboration and competitiveness on the sustainability of MSMEs in the food sector, particularly in Sukabumi Regency, by considering these two variables in parallel. This study uses a descriptive quantitative method, taking a sample of 200 business actors from the total population of the food industry in Sukabumi Regency (3,501) through non-probability purposive sampling. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results showed that the proposed model had very strong predictive power, as evidenced by an R-Square value of 0.963 and a Q² value of 0.632, confirming its high predictive relevance. Specifically, MSME collaboration was found to have a positive and significant effect on business sustainability (Original Sample 0.466). Collaboration enables business actors to share resources, information, and networks, which strengthens their capacity for adaptation and innovation. In addition, MSME competitiveness also has a positive and significant effect on business sustainability (Original Sample 0.519), which is achieved through operational efficiency and product differentiation. The synergy between collaboration and competitiveness is crucial to realizing resilient and competitive food MSMEs in Sukabumi.*

Keywords: *Collaboration, Competitiveness, MSME Sustainability.*

Introduction

Sustainability has become one of the most pressing issues in economic, social, and environmental development in the modern era. In recent decades, we have witnessed a significant shift in the way businesses operate, where the focus is not only on financial growth but also on social responsibility and resource sustainability. This concept has become increasingly relevant as consumers become more aware of ethical, healthy, and environmentally friendly products. With their significant contribution to the national economy, micro, small, and medium enterprises (MSMEs) play a crucial role in creating jobs and supporting economic growth, especially in areas such as Sukabumi Regency (Jayanti & Karnowati, 2023 ; Handayani et al., 2024).

In this context, collaboration is a key component for the sustainability of SMEs. Collaboration involves not only cooperation within organizations but also between businesses, the government, business associations, and academics. Through these collaborative networks, SMEs can access relevant technology, market information, and financial resources, which are often limited. Research shows that networking and collaboration between business actors can strengthen adaptation and innovation capacities, thereby supporting business sustainability amid increasingly fierce competition (Sutiawan & Mulyaningsih, 2020 ; Setiadi et al., 2025). However, low indicators in networks between MSMEs in developing countries remain a major challenge that must be addressed.

After collaboration, competitiveness is also an equally important aspect in promoting the sustainability of MSMEs. Competitiveness can be defined as a company's ability to provide added value to customers through innovation and product differentiation (Sulandjari & Suparwata, 2023). The success of a business is greatly influenced by operational efficiency, innovation, and product competition. However, MSMEs, especially in the food sector, often face obstacles in improving competitiveness due to limited capital, lack of training for human resources, and difficulties in marketing products in a wider market (Ferine et al., 2023). Success in competitiveness not only impacts economic growth but also customer loyalty and long-term business sustainability (Fi'alaudidin, 2024).

In Sukabumi Regency, the food MSME sector offers great potential with rapid growth in the number of businesses. However, many of these MSMEs operate with traditional business models and face challenges in using modern technology and building broader networks (Fitriyah et al., 2024). With many MSMEs relying solely on local markets, the sustainability of their businesses is vulnerable, especially when competing with products from large industries and national brands. The impact of the COVID-19 pandemic has also further reduced people's purchasing power and encouraged MSME players to adapt to the power of digitalization, although not all of them are able to do so (Rosita, 2020).

There has been little research explicitly exploring the relationship between collaboration and competitiveness in the context of SME sustainability in the food sector, particularly in Sukabumi Regency. Most previous studies have focused more on one variable, either collaboration or competitiveness, without considering both in parallel. This is a crucial research gap because efforts to bridge these two variables will help in understanding how they interact and contribute to the sustainability of MSMEs (Rahayu & Fauzi, 2020).

Thus, the novelty of this study lies in the integration of collaboration and competitiveness variables into the sustainability of food MSMEs in Sukabumi Regency. This study is expected to provide deeper insights into collaborative practices that will optimize the competitiveness of MSMEs while considering market dynamics and changes in consumption culture that are increasingly leaning towards local and sustainable products (Armada et al., 2024). This is particularly important given that the food sector involves not only commodities but also public health and environmental sustainability, which are now major concerns worldwide.

By strengthening the theoretical basis of collaboration and competitiveness, it is hoped that this research can make a real contribution, not only to food MSMEs in Sukabumi Regency but also to the development of policies that support business sustainability at the national level (Nurhasanah et al., 2022). Efforts to enhance the capabilities and competitiveness of SMEs in the food sector should be a priority in the regional economic development agenda, aimed at strengthening their position in an increasingly competitive market.

Literature Review

Business Sustainability of MSMEs

The sustainability of MSME (Micro, Small, and Medium Enterprises) businesses is often defined as the ability of these small businesses to continue to survive, grow, and adapt in the face of a changing business environment. This concept encompasses economic, social, and environmental aspects that MSMEs must consider to ensure their long-term business continuity (Skouloudis et al., 2023). Sustainability can involve adjusting business strategies to cope with market changes, adopting new technologies, and improving resource management to increase efficiency. The social aspect of sustainability includes how

MSMEs interact with local communities and the social impact they have, while the environmental aspect focuses on reducing the ecological footprint of their businesses (Fares et al., 2022) .

MSMEs (Micro, Small, and Medium Enterprises) are the backbone of the economy in many countries, including Indonesia. To ensure the sustainability of MSME businesses, several important indicators in this study can be considered based on existing research, namely (1) Sustainability Orientation (Shashi et al., 2018). (2) Technology Adoption and Digitalization (Shahzad et al., 2023). (3) Employee Action Competence (Schröder et al., 2022). (4) Supply Chain Integration (Shashi et al., 2018). (5) Micro Actions by Owner-Managers (Del Giudice et al., 2017). (6) Sustainable Entrepreneurship Development (Mendes et al., 2022). By paying attention to these indicators, MSMEs can be better prepared to overcome challenges and take advantage of opportunities in implementing sustainable practices.

MSME Collaboration

Collaboration in the context of Micro, Small, and Medium Enterprises (MSMEs) refers to cooperation between various small business actors with the aim of strengthening business capacity, increasing competitiveness, and optimizing existing resources. Collaboration can take various forms, including sharing knowledge, financial resources, technology, and market access. Collaboration between MSMEs is often driven by the need to overcome various obstacles, such as limited capital, lack of access to technology, and limited managerial capabilities (Lee et al., 2023; Sahoo & Thakur, 2022).

In this study, indicators of collaboration among micro, small, and medium enterprises (MSMEs) can be obtained from various research studies that highlight different aspects of collaboration that can improve MSME performance. The main indicators include (Candra et al., 2021; Egere et al., 2022; Kilay et al., 2022; Latifah et al., 2020; Sari et al., 2024): (1) Digital Integration. (2) Entrepreneurship Ecosystem. (3) Innovation and Information Systems. (4) Sustainable Strategic Planning. (5) Centralized Decision-Making. These indicators highlight the multifaceted role of digital integration, ecosystem support, innovation strategies, sustainable practices, and decision-making in fostering collaboration among SMEs, which ultimately contributes to their sustainable growth and success.

MSME Competitiveness

The competitiveness of MSMEs (Micro, Small, and Medium Enterprises) refers to the ability and capacity of small-scale businesses to compete effectively in the market. The main focus of this competitiveness involves the ability of MSMEs to survive, grow, and profit in a dynamic and potentially difficult business environment. Key factors that determine the competitiveness of MSMEs include innovation, adaptability to market and policy changes, and operational efficiency. In the context of international trade, as seen in the dynamics of the World Trade Organization (WTO), the competitiveness of MSMEs is also linked to their ability to navigate the complex global trading environment, as well as their ability to adapt to changes such as e-commerce and investment facilitation. This strategic issue is important in helping MSMEs overcome trade barriers and take advantage of opportunities from the global market (Hannah et al., 2018).

The competitiveness indicators of Micro, Small, and Medium Enterprises (MSMEs) can be measured through various aspects that reflect the ability of MSMEs to be competitive in the market. In this study, indicators used from various studies and theoretical frameworks highlight several key factors that influence MSME competitiveness (Abid et al., 2023; Shahzad et al., 2023): (1) Technology Adoption and Innovation. (2) Environmental Sustainability. (3) Business Strategy and Strategic Clarity. (4) Entrepreneurial

Orientation and Resource Mobilization. (5) Skill Enhancement and Training. (6) Financial and Regulatory Constraints. By focusing on these indicators, SMEs can enhance their competitiveness in both local and international markets. While technology and innovation offer great opportunities, policies that prioritize sustainability and education also play an important role in creating competitive advantages for MSMEs.

Hypothesis Development

MSME Collaboration for Business Sustainability

Collaboration among small and medium-sized enterprises (SMEs) is increasingly recognized as an important strategy for ensuring business sustainability. Various studies highlight the link between collaborative efforts and innovation, digitalization, and strategic management in improving sustainability outcomes for SMEs (Olaleye et al., 2024). Cluster management organizations also provide a platform for SMEs to collectively pursue sustainability goals, such as the Sustainable Development Goals (SDGs). This approach enables SMEs to collaboratively address common sector challenges and strengthen their sustainability impact (Jiménez et al., 2021). Furthermore, the stability of regional SMEs is crucial, as they contribute significantly to the local economy and environmental efforts, thus demanding sustainable practices (Artin, 2022). In conclusion, for SMEs, collaboration through innovation, digitalization, strategic supply chain partnerships, or cluster networks plays an important role in achieving business sustainability. Therefore, the hypothesis is:

H1: Collaboration among SMEs has a positive impact on business sustainability

The Competitiveness of SMEs in Relation to Business Sustainability

The competitiveness of Micro, Small, and Medium Enterprises (SMEs) is crucial for their business sustainability. Various factors influence this competitiveness, including innovation orientation, network capabilities, and the use of smart technology, which also have an impact on economic and environmental sustainability (Nawi et al., 2020). Strong competitiveness is a fundamental factor for the business sustainability of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. Competitiveness is influenced by the ability to create value through differentiation and innovation. In the context of MSMEs, increased competitiveness is driven by adaptation to market changes and the use of digital technology, such as digital marketing, which is significant for reaching a wider range of consumers (Sulistiyowati et al., 2024). The sustainability of SME businesses does not only focus on short-term profits, but also includes social and environmental responsibilities. Collaboration with local stakeholders and strengthening human resource capacity through skills training are key to strengthening competitiveness. Therefore, the hypothesis is:

H2: The competitiveness of SMEs has a positive effect on business sustainability

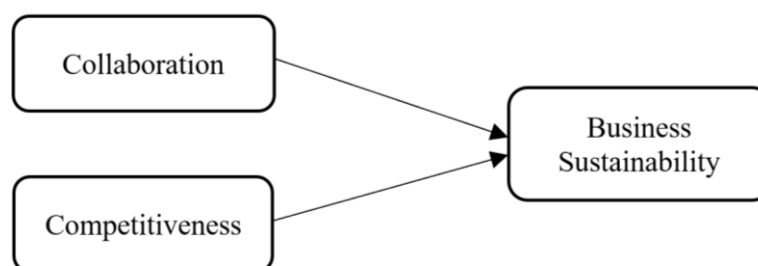


Figure 1. Research Framework

Method

This study adopts a quantitative method to explore the relationship between variables and test hypotheses. Quantitative methods, particularly through a descriptive approach, are used to obtain a clear picture of the phenomenon and measure the impact of the variables under consideration (Shidiq et al., 2024). By collecting data through questionnaires and statistical analysis, the research can assess the significant relationship between variables. Quantitative research allows for broader and more applicable conclusions in the context of policy or strategy making (Prameswari & Oetarjo, 2024).

The population in this study was the food industry in Sukabumi Regency, which numbered 3,501 (opendata.sukabumikab.go.id). The sample was taken using non-probability purposive sampling, with criteria of a minimum business capital of IDR 15,000,000, a minimum business age of 5 years, and the position of the business owner, resulting in a sample of 200 business actors.

In this study, there are 3 variables, including 2 independent variables (Collaboration and Competitiveness) and 1 dependent variable (Business Sustainability). Quantitative data was collected through a questionnaire (Google Form) based on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

This study applied a quantitative approach in data analysis by collecting information from 200 respondents through questionnaires. The data obtained was analyzed using descriptive statistics to describe the characteristics of the respondents and the distribution of the research variables. Furthermore, the validity and reliability of the instruments were measured through Composite Reliability (CR) and Average Variance Extracted (AVE), as well as discriminant validity. The analysis of the relationship between variables was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the help of SmartPLS software, which is very suitable for structural model analysis, especially when the data does not meet the normality assumption and when the sample size is small (Li et al., 2020 ; Setiadi, Widyastuti, et al., 2025). The structural model was evaluated based on path coefficients, R^2 values, and Q^2 values, while the significance of the effects was tested using the bootstrapping technique with 5,000 resampling at a significance level of $p < 0.05$ (Kurniasari et al., 2023).

Results and Discussion

Measurement Model (Outer Model) and Structural Model (Inner Model)

This study involved 34 manifest variables (indicators) and 3 latent variables. The analysis was conducted through a measurement model (Outer Model) and a structural model (Inner Model), which were then used to test the Structural Equation Model (SEM) using the Partial Least Square (PLS) method. In convergent validity analysis using PLS-SEM, there are several important standardizations that must be considered. First, factor loadings should exceed 0.70 so that indicators can be considered to have a strong correlation with the intended construct. Second, the average variance extracted (AVE) and communality values must exceed 0.50. This criterion ensures that the construct can explain more than half of the variance of its indicators, indicating adequate convergent validity. In addition, discriminant validity is also important, where the root mean square of the AVE must be greater than the correlation between constructs to ensure that the constructs are truly different (Huda & Setyowardhani, 2023).

1. Validity Test

In research, convergent and discriminant validity are used to ensure that the instruments or scales used are truly valid and reliable in measuring the intended constructs (Huda & Setyowardhani, 2023).

a. Convergent Validity

In the context of using SmartPLS with reflective indicators, convergent validity is assessed through factor loadings, which are correlations between item or indicator scores and construct scores. Factor loadings serve as part of the validity test to ensure that each indicator truly represents the intended construct. A diagram showing the causal relationships between constructs, as well as the factor loading values for each indicator:

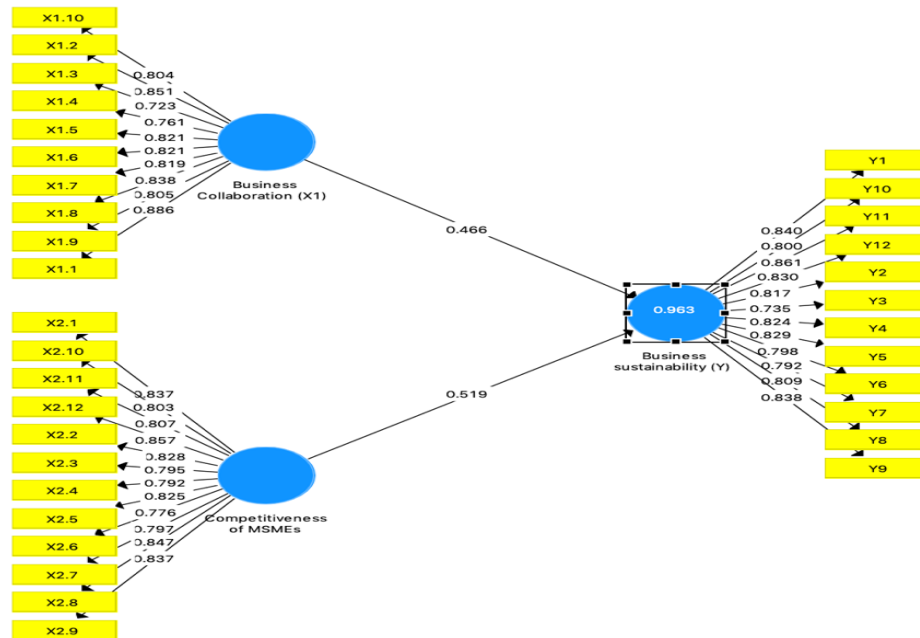


Figure 2. Outer Model

Source: processed by SMART PLS3 (2025)

Figure 2 shows the convergent validity results obtained through PLS software, with the assessment based on the factor loading values of each construct indicator. A construct is considered to meet convergent validity if the factor loading is greater than 0.70 and the Average Variance Extracted (AVE) value exceeds 0.5. Based on the test results, all indicators in the manifest variables have factor loading values above 0.70, so it can be concluded that these indicators are valid.

Table 1. AVE Values

Variable	AVE Value
MSME Collaboration	0.663
Competitiveness of MSMEs	0.668
Business Sustainability	0.664

Source: Data processed by the researcher (2025)

Based on Table 1, it can be seen that the three latent variables have AVE values above the minimum threshold of 0.5. Therefore, all variables are valid in describing the latent construct. This indicates that the indicators used have met the AVE requirements.

b. Discriminant Validity

Discriminant validity is an important aspect in assessing construct validity, especially in the context of structural equation modeling (SEM). This validity ensures that each construct in the model has a lower

relationship with other constructs than with its own indicators. One method used to assess discriminant validity is cross-loading analysis. In this analysis, it is examined whether the factor loading values of the indicators on their own constructs are higher than on other constructs. This is important to ensure that the construct does measure the intended domain, not the domain measured by other constructs (Prokofieva et al., 2023). The cross loading values obtained are presented as follows:

Table 2. Cross-Loading Factor

Indicator	Business Collaboration (X1)	Competitiveness of MSMEs (X2)	Business Sustainability (Y)
X1.1	0.886	0.876	0.873
X1.2	0.851	0.833	0.822
X1.3	0.723	0.695	0.702
X1.4	0.761	0.735	0.724
X1.5	0.821	0.795	0.799
X1.6	0.821	0.809	0.815
X1.7	0.819	0.837	0.832
X1.8	0.838	0.828	0.823
X1.9	0.805	0.795	0.767
X1.10	0.804	0.792	0.777
X2.1	0.819	0.837	0.832
X2.2	0.838	0.828	0.823
X2.3	0.805	0.795	0.767
X2.4	0.804	0.792	0.777
X2.5	0.791	0.825	0.804
X2.6	0.765	0.776	0.777
X2.7	0.787	0.797	0.785
X2.8	0.830	0.847	0.835
X2.9	0.811	0.837	0.815
X2.10	0.787	0.803	0.781
X2.11	0.783	0.807	0.763
X2.12	0.828	0.857	0.821
Y1	0.815	0.814	0.840
Y2	0.816	0.816	0.817
Y3	0.736	0.731	0.735
Y4	0.816	0.811	0.824
Y5	0.816	0.819	0.829
Y6	0.785	0.792	0.798
Y7	0.770	0.774	0.792
Y8	0.790	0.787	0.809
Y9	0.814	0.824	0.838
Y10	0.763	0.761	0.800
Y11	0.837	0.836	0.861

Y12	0.788	0.789	0.830
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Source: Data processed by the researcher (2025)

Based on the cross-loading results, the majority of indicators show the highest loading values in their original constructs, such as indicator X1 in Collaboration, X2 in Competitiveness, and Y in Business Sustainability. These findings indicate that discriminant validity has been achieved and that each indicator is able to represent the appropriate construct.

2. Reliability Testing

Reliability testing in Partial Least Square (PLS) can be done using two approaches, namely Composite Reliability (CR) and Cronbach's Alpha (CA), which are presented as follows:

Table 3. CA and CR

Variable	CA	CR	Conclusion
MSME Collaboration	0.943	0.951	Reliable
MSME Competitiveness	0.955	0.960	Reliable
Business Sustainability	0.954	0.960	Reliable

Source: Data processed by the researcher (2025)

The analysis results show that the Composite Reliability (CR) value is above 0.7 and the Cronbach's Alpha (CA) value exceeds 0.6. Thus, it can be concluded that the data is reliable, which means that all indicators are consistent in measuring their respective variables.

Structural Model Test (Inner Model)

In structural model measurements, such as Structural Equation Modeling (SEM), path coefficient evaluation is performed to assess the significance of the relationship between latent variables. This assessment usually uses the bootstrapping technique, which produces inferential statistical estimates, such as t values, to determine the significance of the path coefficients (Saka et al., 2023). The following shows a visualization of the bootstrapping results obtained from this study:

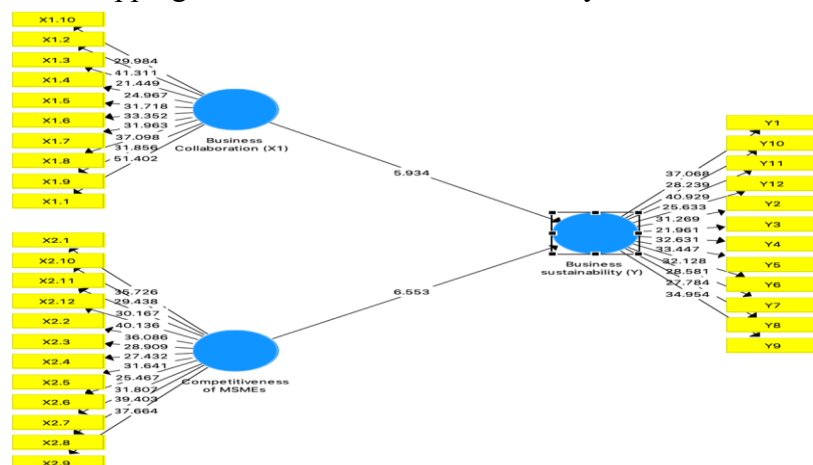


Figure 3. Bootstrapping

Source: processed by Smart PLS 3 (2025)

Figure 3 shows that bootstrapping indicates that the constructs of Business Collaboration (X1) and Competitiveness of MSMEs (X2) have a significant effect on Business Sustainability (Y). The t-statistic values for each path, namely 5.934 and 6.653, exceed the significance threshold, thus supporting the research hypothesis. All indicators also show high t-values, confirming the convergent validity and reliability of the constructs. These findings indicate that business collaboration and competitiveness play an important role in promoting MSME sustainability.

In the context of Structural Equation Modeling (SEM), R-Square (coefficient of determination) serves as an important indicator to evaluate how well the model explains the variance in the dependent latent construct. A high R-Square value indicates that the model has a good fit, allowing researchers to understand how effectively the latent variables capture the variation of the constructs they represent (Maydeu-Olivares et al., 2024). The following table presents the estimated R-Square values obtained from data processing using SMARTPLS version 3 software.

Table 4. *R Square* Results

Variable	<i>R Square</i>
Business Sustainability	0.963

Source: Data processed by the researcher (2025)

An R-Square value of 0.963 indicates that 96.3% of the variability in Business Sustainability can be explained by the independent variables in the model, while 3.7% is influenced by other factors outside the model. Based on this criterion, the value falls into the very high category, meaning that the model has strong predictive power (Pap et al., 2022).

The Q^2 (Q Square) value is an important indicator in Partial Least Squares (PLS) analysis that reflects the model's ability to predict observational data. Based on evaluation criteria, a Q^2 value above 0 indicates predictive power, while a value below 0 indicates that the model is not suitable for prediction. Furthermore, a Q^2 value above 0.25 indicates moderate predictive ability, while a value above 0.50 indicates that the model has high and significant predictive relevance (Kumar, 2021).

Table 5. Q-square

Variable	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
Business Sustainability	2100,000	772,879	0.632

Source: processed by Smart PLS 3 (2025)

Based on the calculation results, the Business Sustainability variable has a Q^2 value of 0.632. This value is well above the threshold of 0.25 and 0.50, indicating that the model has very strong and significant predictive power. This means that the constructs in this research model are able to explain most of the variation in the business sustainability variable, so that the model can be relied upon for prediction and strategic decision-making purposes related to MSME sustainability. These findings confirm that the model used is relevant and effective in explaining the relationship between latent variables.

3. Hypothesis Testing

Bootstrapping is a resampling method used to assess the characteristics of an estimator, such as variance, by repeatedly taking random samples from the original data using the return technique (Mokhtar et al., 2023). Bootstrapping is used to test significance and construct confidence intervals for path coefficients and indirect effects (mediation) in SEM models. The significance test of path coefficients is performed through t or p values obtained from resampling results to assess the extent to which predictor variables affect the dependent variable. Generally, researchers use a 95% confidence level, where the t-statistic value in Path Coefficient must be greater than 1.96 for a two-tailed hypothesis.

Table 5. Path Significance Test

Variable	Original Sample (O)	T Statistics (O/STDEV)	P Values	Description
MSME Collaboration (X1) -> Business Sustainability (Y)	0.466	5.934	0.000	Accepted
Competitiveness of SMEs (X2) -> Business Sustainability (Y)	0.519	6,553	0,000	Accepted

Source: Data processed by the researcher (2025)

The results from Table 5 show that structural model testing indicates that MSME collaboration (X1) has a positive and significant effect on business sustainability (Y) with an original sample value of 0.466, a t-statistic of 5.934, and a p-value of 0.000. This indicates that the better the level of collaboration between MSMEs, the higher their ability to maintain business sustainability. Furthermore, MSME competitiveness (X2) is also proven to have a positive and significant effect on business sustainability (Y) with an original sample value of 0.519, a t-statistic of 6.553, and a p-value of 0.000. This means that increasing competitiveness, whether through product quality, innovation, or operational efficiency, will strengthen the sustainability of MSME businesses. Thus, the two independent variables, namely collaboration and competitiveness, have a real contribution in promoting the sustainability of MSME businesses.

The findings of this study indicate that collaboration and competitiveness are crucial factors that complement each other in realizing the sustainability of food MSMEs in Sukabumi Regency. All interrelationships between variables proved to be significantly positive, so they can be used as a strategic reference for MSME actors in their efforts to develop their businesses sustainably.

MSME Collaboration on MSME Sustainability

The results of this study indicate that SME collaboration has a significant influence on SME sustainability. Collaboration allows business actors to share resources, information, and networks that can strengthen their position in the market. Through established cooperation, SMEs are able to reduce individual limitations, increase operational efficiency, and create more competitive innovations. Thus, collaboration not only expands business opportunities but also serves as an important foundation for maintaining the sustainability of SMEs amid increasingly fierce business competition. These findings support research conducted by Najib et al. (202), Suchek & Franco (2023), which indicates that SME collaboration has a positive impact on business sustainability.

Competitiveness and Business Sustainability

The analysis results confirm that competitiveness significantly influences business sustainability. SMEs with high competitiveness, whether through product quality, innovation, competitive pricing, or superior service, tend to be more resilient and capable of growing amid market dynamics. Strong competitiveness makes SMEs more adaptive to changes in the business environment while opening up opportunities for broader market expansion. Therefore, increasing competitiveness is a key strategy to ensure long-term business sustainability. These findings support research conducted by López-López et al.(2020, Sarfraz et al.(2021), confirming that competitiveness is very important for maintaining the sustainability of SMEs.

Overall, this study emphasizes that the sustainability of food SMEs in Sukabumi Regency can be achieved through the synergy between collaboration and competitiveness. Collaboration plays a role in opening access to resources, information, and broader networking opportunities, while competitiveness is a key factor in maintaining a business's position in the market on an ongoing basis. The combination of these two aspects enables SMEs not only to survive challenges but also to develop into resilient, innovative, and highly competitive business entities at both the local and regional levels, thereby supporting more sustainable economic growth.

Conclusion

The sustainability of micro, small, and medium enterprises (MSMEs) in the food sector has become a pressing issue in economic, social, and environmental development in the modern era, where business focus must include social responsibility and resource sustainability. In this context, research focusing on food MSMEs in Sukabumi Regency found that collaboration and competitiveness are two crucial and complementary factors for achieving long-term business continuity. This research fills a gap by specifically exploring the parallel integration of these two variables in the context of food MSMEs in Sukabumi.

The findings show that strengthening collaboration among business actors has a significant positive effect on the sustainability of MSMEs. Collaboration allows business actors to share resources, access broader market information and networks, and reduce the individual limitations they often face, which ultimately strengthens their capacity for adaptation and innovation. This cooperation is an important foundation for maintaining the sustainability of MSMEs amid business competition. In line with this, the competitiveness of MSMEs has also been proven to contribute greatly to the ability of businesses to continue operating and growing. MSMEs that are highly competitive tend to be more adaptive to changes in the market environment, including competition from large industries, and open up wider opportunities for expansion.

The synergy between collaboration, which opens up access and networks, and competitiveness, which enables MSMEs to maintain their position, is key for food MSMEs in Sukabumi to become resilient, innovative, and competitive entities at the regional and national levels. These findings provide a tangible contribution to the formulation of policies that support the sustainable development of MSMEs.

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