

The Influence of Product Innovation and Innovation Based Marketing on the Competitiveness of MSMEs and Their Impact on Local Economic Growth in West Java

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ABSTRACT

Objective: Regional economic growth is greatly influenced by the ability of micro, small, and medium enterprises (MSMEs) to innovate and adapt to market changes. This study aims to analyze the effect of product innovation and innovation-based marketing on the competitiveness of MSMEs and their impact on local economic growth in West Java Province.

Methodology: This research is an explanatory quantitative study using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. The research population includes all MSME actors in the creative industry, agribusiness, and service sectors in West Java, with a sample of 200 respondents selected using purposive sampling. Data collection was conducted through a structured questionnaire that had been tested for validity and reliability.

Findings: The results showed that product innovation and innovation-based marketing had a positive effect on the competitiveness of MSMEs, and competitiveness was proven to mediate the influence of these two variables on local economic growth. These findings suggest that enhancing innovation capacity and adopting adaptive marketing strategies are crucial factors in strengthening the market position of MSMEs while driving regional economic development.

Conclusion: The practical implication of this study is the need for local government policy support to enhance the innovation ecosystem and digitization of MSMEs, creating inclusive and sustainable regional economic development.

Keywords: Product Innovation; Innovation Based Marketing; SME Competitiveness; Local Economic Growth; West Java.

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INTRODUCTION

In an era of globalisation marked by increasingly intense competition, Micro, Small, and Medium Enterprises (MSMEs) have become a key pillar of the national economy in various countries, including Indonesia. According to data from the Ministry of Cooperatives and SMEs of the Republic of Indonesia (2024), MSMEs contribute around 60 per cent to the Gross Domestic Product (GDP) and absorb more than 97 per cent of the workforce in the non-agricultural sector, making them the largest provider of employment and a pillar of national economic stability. Despite their enormous contribution, MSMEs still face various challenges such as limited access to capital, low adoption of digital technology, and limited market penetration, which impact their competitiveness (Arnita et al., 2024). In this context, the ability to innovate is a crucial factor that determines the survival and growth of MSMEs.

One key strategy for increasing competitiveness is through product innovation and innovation-based marketing. Product innovation is not only limited to the creation of new products, but also includes improvements in quality, production efficiency, design, and added value for consumers (Hanaysha & Hilman, 2015; Ismanu et al., 2021). Several studies have demonstrated that product innovation has a positive impact on the performance and sustainability of SMEs (Octasyulva et al., 2022; Prabowo & Firdaus, 2024). On the other hand, the success of product innovation greatly depends on how the innovation is communicated to the market through effective marketing strategies. Innovation-based marketing, as explained by Purchase and Volery (2020) and Kotler (2016), is an approach that emphasises the integration of creativity and technology in the marketing mix to build differentiation and create customer value.

The relationship between product innovation and innovative marketing is reciprocal: innovation creates product differentiation, which is the main attraction for consumers, while innovative marketing ensures that the product has optimal visibility and market acceptance. Research by Pramuki and Kusumawati (2024) indicates that combining the two can enhance the competitiveness and marketing performance of MSMEs in Indonesia. Furthermore, the use of digital technology in marketing strategies also plays a crucial role in expanding market reach and strengthening the competitive position of MSMEs, particularly in the rapidly growing creative and agribusiness sectors (Wiweko & Anggara, 2025).

However, despite numerous studies examining the relationship between innovation and SME business performance, a gap remains in the literature directly linking product innovation and innovative marketing to local economic growth. Herlinawati and Machmud (2020) found that innovation has a positive effect on business performance; however, they did not extensively discuss its impact on regional economic development. Meanwhile, the macroeconomic perspectives of the OECD (2021) and Robra et al. (2023) within the Schumpeterian growth theory framework emphasise that innovation is the main driving force behind the process of "creative destruction", whereby innovation replaces old technologies with more efficient and productive ones, thereby accelerating local economic growth and job creation.

In this context, this study is grounded in three complementary theoretical approaches. First, Schumpeterian growth theory posits that innovation is the driving force behind productivity and economic development through the process of creative destruction (Schumpeter; Robra et al., 2023; OECD, 2021). Second, the marketing innovation framework, which explains how innovation in the marketing mix and processes can create customer value and differentiation that become sources of competitive advantage (Purchase & Volery, 2020; Kotler, 2016; Pramuki & Kusumawati, 2024). Third, the perspective of sustainable competitiveness in MSMEs emphasizes the importance of sustainable innovation, operational efficiency, and

product quality as the basis for forming a sustainable competitive advantage (Octasyilva et al., 2022; Thi et al., 2023).

Based on this theoretical foundation, this study aims to analyse the influence of product innovation and innovation-based marketing on the competitiveness of SMEs and their impact on local economic growth in West Java Province. This study is expected to make empirical contributions to the development of innovation theory in the context of MSMEs in developing countries, while also providing practical recommendations for local governments and business actors on strengthening the innovation ecosystem that supports inclusive and sustainable regional economic growth.

LITERATURE REVIEW

Product Innovation

Product innovation is a key strategy in modern business, enabling companies to meet the ever-changing needs of the market. Research by Prabowo and Firdaus (2024) shows that strategic orientation, market power, and organisational collaboration have a significant positive impact on product innovation in SMEs, which in turn strengthens company performance. Furthermore, Hidayat and Pok (2025) found that intangible factors, such as creativity, knowledge, and adaptability, also enhance product innovation among SMEs, although resource constraints remain a significant obstacle to this process. These findings confirm that for SMEs, product innovation involves not only the creation of new products but also improvements in quality, design, and production efficiency, to remain relevant in a rapidly changing market. By focusing on sustainable innovation, SMEs can extend product life cycles, increase customer satisfaction, and expand market opportunities.

Product Innovation-Based Marketing

Innovation-based marketing enhances the market position of innovative products. A literature study by Wiweko and Anggara (2025) shows that MSMEs in Indonesia that adopt digital marketing practices such as social media, e-commerce, and creative content have greater opportunities to expand their market and increase product visibility. Research by Astriani et al. (2022) even reveals that marketing innovation has a greater influence on SME performance during the pandemic than product or process innovation. This shows that product innovation must be balanced with innovative marketing strategies so that its added value can be recognised, accepted, and purchased by consumers.

With advances in digital technology, innovation-based marketing enables SMEs to reach a broader market at a relatively low cost. This approach also plays a crucial role in building a brand image, increasing customer loyalty, and enhancing competitiveness in a competitive global market.

Local Economic Growth

Local economic growth reflects a region's ability to create jobs, increase per capita income, and strengthen regional economic resilience. Hidayat and Pok (2025) emphasize that product innovation, achieved through the strengthening of intangible factors, contributes to improved business performance, which can have a broader impact on the local economy. MSMEs, as the dominant sector in Indonesia's economic structure, have the potential to accelerate regional economic growth through innovation and effective marketing strategies.

However, a gap remains in the literature that directly links MSME innovation with macroeconomic indicators, such as job creation and regional income growth. Therefore, recent studies emphasise the need for a cross-sectoral approach that combines product innovation, digital marketing, and collaboration between business actors to promote inclusive local economic development.

Competitive Skills and SME Business Sustainability

The competitiveness of SMEs is greatly influenced by their ability to innovate sustainably, operational efficiency, and product differentiation. Isa and Mardalis (2024) demonstrate, in the context of Indonesian SMEs, that entrepreneurial orientation and innovation capabilities have a significant impact on business performance. Similar results were presented by Octasyilva et al. (2022), who emphasised that planned and sustainable innovation is the key to the long-term growth of MSMEs. Product and marketing innovation are not one-off activities, but rather a continuous process that enables MSMEs to maintain their competitive advantage in a dynamic market.

By strengthening their capacity for innovation and adaptation to market changes, MSMEs can build business sustainability and consistently improve local economic resilience.

Dynamic Innovation and Marketing Model for SMEs

A dynamic model that integrates product and marketing innovation emphasises that these two variables reinforce each other. Ramawati et al. (2024) found that product innovation strategies in the food and beverage SME sector, supported by digital technology and innovative marketing, can significantly increase competitiveness. This integration demonstrates that the success of innovation depends not only on product quality but also on the ability to effectively communicate product value to the market through the proper marketing channels.

Advances in digital technology and e-commerce platforms present significant opportunities for MSMEs to market innovative products efficiently and reach a global audience. Therefore, an innovation-marketing model that is adaptable to technological changes is a crucial foundation for the sustainable growth of MSMEs in the digital era.

Local Economic Innovation and Synergy

The Schumpeterian growth theory framework posits that innovation is the primary driver of economic development through the process of creative destruction, which involves replacing outdated products, technologies, and methods with more efficient and relevant ones. This process drives productivity growth and creates new economic opportunities (Aghion & Howitt, 2023; Caballero, 2008). In the context of the local economy, innovations made by MSMEs can spur structural transformation through job creation, increased competitiveness, and product diversification based on regional potential.

Although empirical studies on creative destruction in Indonesia are still limited, several studies confirm the strategic role of MSME innovation in strengthening the local economy. Hidayat and Pok (2025) demonstrate that the innovative and collaborative capabilities of MSME actors contribute to enhanced business performance and regional economic growth. Meanwhile, the OECD (2021) highlights that MSME innovation in the creative industry, agribusiness, and service sectors has a multiplier effect on local economic growth. Thus, sustainable product and marketing innovation not only drives micro-business success but also catalyzes inclusive and sustainable economic development.

HYPOTHESIS AND RESEARCH FRAMEWORK

The Relationship between Product Innovation and SME Competitiveness

Product innovation is a key business strategy that enables SMEs to remain competitive in the market. Prabowo and Firdaus (2024) demonstrate that strategic orientation, market power, and organisational collaboration have a significant positive impact on product innovation, which in turn enhances the performance and competitiveness of SMEs. Similar results were found by Octasylya et al. (2022), who confirmed that sustainable innovation enhances competitive advantage and business sustainability.

A study by Ibrahim, Wolok, and Abdussamad (2024) also confirms that product innovation has a positive and significant effect on the competitiveness of MSMEs in Gorontalo City. Meanwhile, research by Hidayat & Pratama (2023) found that internal strategy flexibility and the organisational environment support the success of SME product innovation in enhancing competitiveness in the digital era. Thus, product innovation encompasses not only the development of new products but also the improvement of existing products, the expansion of product lines, and the rapid adaptation to changes in consumer needs and preferences.

H1: Product innovation has a positive impact on the competitiveness of SMEs.

The Relationship between Product Innovation and Local Economic Growth

Product innovation not only impacts a company's internal performance but also has positive implications for local economic growth. Within the Schumpeterian growth theory framework, innovation drives the process of creative destruction, which involves replacing old technologies and products with more efficient and relevant ones, thereby increasing productivity and promoting economic growth (Aghion & Howitt, 2023; Caballero, 2008).

An OECD study (2021) confirms that MSME innovation has a multiplier effect on local production capacity, creating jobs and opening up new business opportunities in the agribusiness, manufacturing, and creative industries. In line with this, Hidayat and Pok (2025) state that the innovative capacity of MSMEs has a positive correlation with increased economic activity at the regional level.

H2: Product innovation has a positive impact on local economic growth.

The Relationship between Product Innovation-Based Marketing and SME Competitiveness

Product innovation-based marketing plays a crucial role in ensuring that innovative products can reach and be well-received by the market. Kotler (2016) states that effective marketing strategies can create strong differentiation and increase customer value. In the digital context, Wiweko and Anggara (2025) show that the use of social media, e-commerce, and creative content-based marketing significantly expands the market reach of SMEs and increases product visibility.

Research by Hidayat and Pratama (2023) found that innovation in the marketing mix (product, price, place, promotion) directly increases the competitiveness of MSMEs by strengthening brand image and customer relationships. Therefore, innovation in marketing is a strategic element that complements product innovation in creating a competitive advantage.

H3: Product innovation-based marketing has a positive impact on the competitiveness of SMEs.

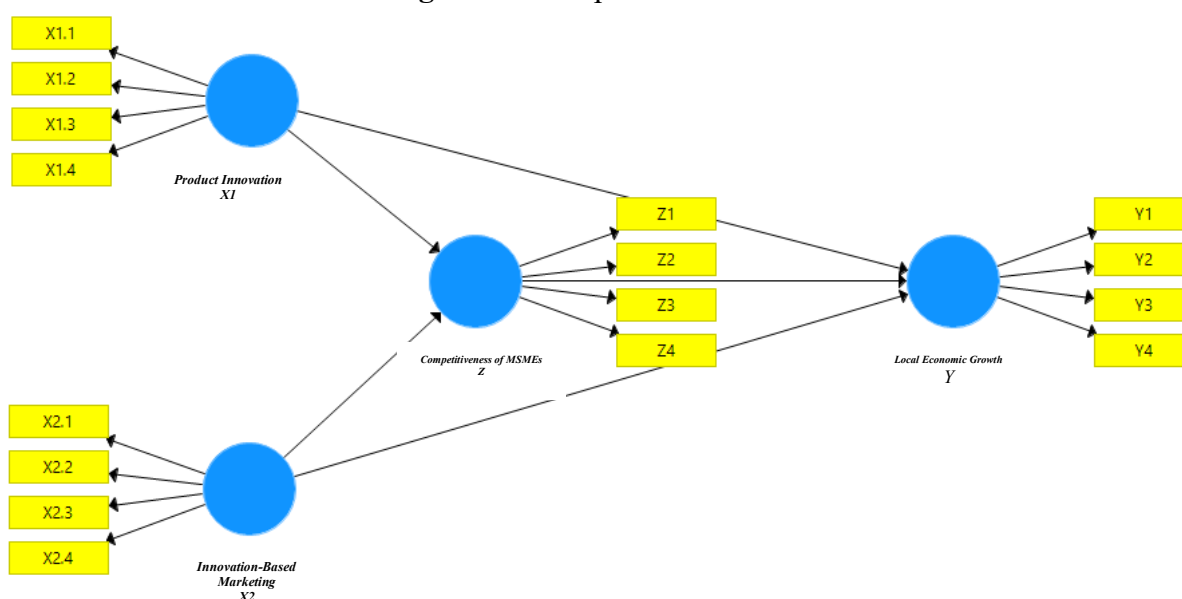
The Relationship between SME Competitiveness and Local Economic Growth

The competitiveness of MSMEs plays an essential role in driving local economic growth. Isa and Mardalis (2024) demonstrate that entrepreneurial orientation and innovation capabilities have a significant impact on enhancing the performance of MSMEs. From a Schumpeterian perspective, innovation and strong competitiveness expand markets, increase production efficiency, and create new jobs, thereby strengthening the local economic structure (Caballero, 2008; Aghion & Howitt, 2023).

The research by Ibrahim et al. (2024) confirms that highly competitive MSMEs can create added value for the regional economy through their contributions to the GRDP and community empowerment. Therefore, the competitiveness of MSMEs is a crucial variable that bridges the relationship between innovation and local economic growth.

H4: The competitiveness of MSMEs has a positive impact on local economic growth.

Figure 1 Conceptual Framework



Source: Data processing with PLS, 2025

METHOD

This study uses a quantitative approach with a correlational research design. The primary objective of this study is to analyze the influence of exogenous variables product innovation and innovation-based marketing on endogenous variables, specifically the competitiveness of MSMEs and local economic growth. The quantitative approach was chosen because it allows for the systematic measurement of relationships between variables through numerical data and hypothesis testing using inferential statistical tools (Creswell & Creswell, 2018; Sugiyono, 2022).

Analysis Approach

Data analysis was conducted using Structural Equation Modelling–Partial Least Squares (SEM-PLS) through the latest version of SmartPLS software (v4.0). The SEM-PLS approach was chosen because it is well-suited for research models that involve numerous latent constructs and complex relationships between variables (Hair et al., 2021). Additionally, this method does

not require standard distribution assumptions and can handle moderate sample sizes (Henseler et al., 2015; Sarstedt et al., 2017).

The SEM-PLS method also enables researchers to evaluate two primary models: the measurement model (construct Validity and Reliability) and the structural model (relationships between latent variables), while testing direct, indirect (mediation), and total effects between constructs (Jiemar et al., 2022).

Research Instruments

The main instrument was a closed-ended questionnaire designed based on empirical indicators and theories that had been validated in previous studies. Each item used a 1–5 Likert scale, with one indicating "strongly disagree" and five indicating "strongly agree." This scale was chosen because it is commonly used in behavioural and organisational research to measure respondents' perceptions and attitudes quantitatively (Sekaran & Bougie, 2020).

The indicators for each construct were compiled based on previous literature: product innovation (Kotler, 2016; Febrianti, 2025), innovation-based marketing (Hendrawan et al., 2024), MSME competitiveness (Octasylya et al., 2022; Thi et al., 2023), and local economic growth (Schumpeter; Robra et al., 2023; Dasaraju et al., 2020).

Data Sources

The research data consists of two types:

1. Primary data was collected through the distribution of questionnaires to SME actors in West Java Province.
2. Secondary data, obtained from supporting documents such as SME annual reports, publications from the Ministry of Cooperatives and SMEs, and previous research results.

The combination of these two sources allows for data triangulation to strengthen the external Validity of the research (Creswell & Plano Clark, 2017; Sekaran & Bougie, 2020).

Research Location and Time

The research was conducted in West Java Province, which is known to have the highest SME growth rate in Indonesia, particularly in the creative industry, agribusiness, and service sectors (West Java BPS, 2024). Data collection was conducted from January to June 2024, covering the preparation of instruments, pilot testing, data collection, and data analysis using SmartPLS (Hair et al., 2021).

Population and Sampling Technique

The research population consisted of all MSMEs operating in West Java across the creative industry, agribusiness, and service sectors. The sampling technique used was purposive sampling, which is the selection of respondents based on specific criteria—MSMEs that have been operating for at least two years and have product innovation activities. The total sample size was set at 200 respondents, in accordance with the recommendation by Hair et al. (2014) that the minimum sample size in a PLS-SEM model is 5–10 times the number of indicators tested.

Variable Operationalisation

Each variable was measured using reflective indicators designed based on previous theories and research:

1. Product Innovation: new product development, quality improvement, product line expansion, application of new technology (Kotler, 2016; Febrianti, 2025).
2. Innovation-Based Marketing: digital marketing, product differentiation, data-based strategies, customer experience (Hendrawan et al., 2024).
3. MSME Competitiveness: sustainable innovation, operational efficiency, brand differentiation, service quality (Octasyilva et al., 2022; Thi et al., 2023).
4. Local Economic Growth: job creation, increased per capita income, regional investment, and infrastructure development (Robra et al., 2023; Dasaraju et al., 2020).

Instrument Validity and Reliability Test

Before conducting the structural model analysis, Validity and reliability tests were performed on all constructs.

1. Convergent Validity: Each indicator is considered valid if it has an outer loading value > 0.70 and an Average Variance Extracted (AVE) value > 0.50 (Hair et al., 2021).
2. Discriminant Validity: assessed using the Fornell Larcker Criterion and Heterotrait–Monotrait Ratio (HTMT). The AVE square root value must be higher than the correlation between constructs, while the HTMT must be < 0.90 (Henseler et al., 2015).
3. Internal Reliability: determined through Composite Reliability (CR) and Cronbach's Alpha, each with a minimum of ≥ 0.70 (JPTI Journal, 2023; Hair et al., 2021).

Strong reliability test results ensure that each construct is measured consistently and accurately. If an indicator with a low outer loading value (< 0.70) is found, it will be eliminated to improve the Validity of the model (Sarstedt et al., 2017).

Data Analysis Techniques

The analysis was conducted in several stages:

1. Measurement Model Evaluation (Outer Model): to assess the Validity and Reliability of latent constructs.
2. Structural Model Evaluation (Inner Model): to test the direction and strength of relationships between variables using path coefficients and t-statistic values through bootstrapping.
3. Direct and Indirect Effect Tests: to identify the mediating role of SME competitiveness between innovation and local economic growth.
4. Model Fit Evaluation: based on R^2 , f^2 , and Q^2 values to assess the predictive power of the model (Hair et al., 2021).
5. Interpretation and Implications: The results are then compared with previous research findings to draw empirical and theoretical conclusions.

RESULTS AND DISCUSSION

Respondent Characteristics

The following table displays the demographic and operational characteristics of 200 SME actors in West Java Province who were sampled in the study. Respondents came from the creative industry, agribusiness, and service sectors, describing a diverse profile of business

actors that could influence the innovation capabilities and competitiveness of SMEs at the local level.

Table 1 Summary of Respondent Characteristics

Variable	Category	Percentage
Gender	Male	57%
	Female	43%
Age	Under 30 years old	22%
	30–50 years old	64%
	Over 50 years old	14%
Highest level of education	High school / equivalent	42%
	Diploma / Bachelor's degree	49%
	Postgraduate	9%
Length of business operation	2–5 years	38%
	5–10 years	36%
	> 10 years	26%
Main business sector	Creative industries	41%
	Agribusiness	33%
	Services & trade	26%

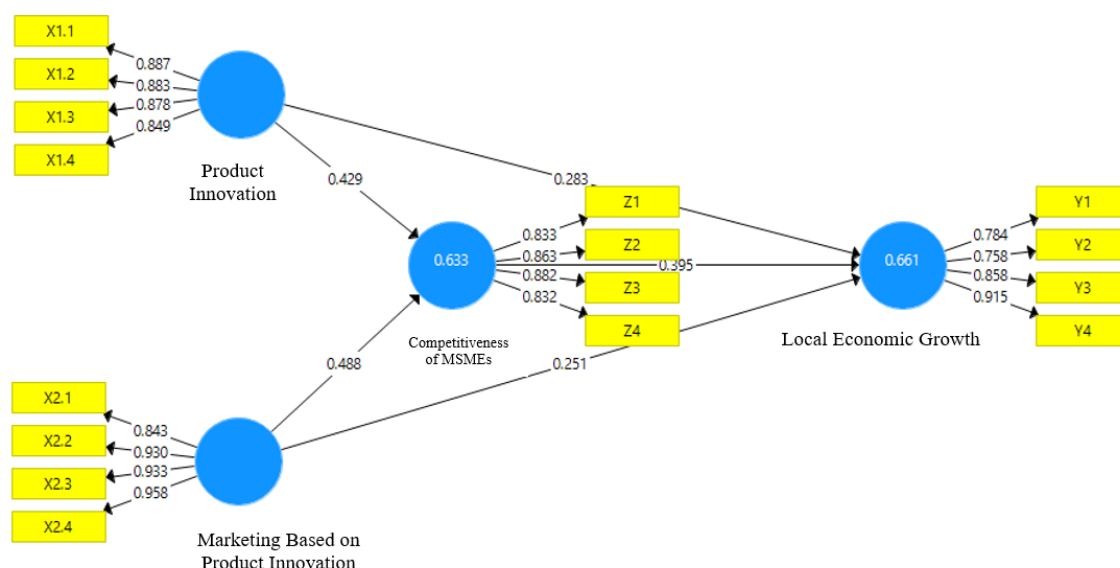
Source: Processed primary data (2024)

Based on Table 1, the majority of respondents were male (57%) and aged between 30 and 50 (64%), indicating that most MSME players are of productive age and adaptable to innovation and technology. A total of 91% of respondents had completed secondary education or higher (from high school to university), reflecting good business literacy. In comparison, 9% held postgraduate education and generally occupied strategic positions within their businesses. Most MSMEs have been operating for more than five years (74%), indicating strong business stability and better innovation capabilities (Ministry of Cooperatives and SMEs, 2024). In terms of sectors, the creative industry dominates (41%), followed by agribusiness (33%) and services (26%), reflecting West Java's local economic growth, which is supported by product innovation and digital marketing. Overall, this profile shows that the MSME actors who were respondents have characteristics that support innovation and business competitiveness at the local level.

Outer Model Analysis

This study uses the Partial Least Squares (PLS) method to analyse the relationship between latent variables. The initial stage involved analyzing the outer model, which describes the relationship between latent constructs and their indicators. The structural model in Figure 2 comprises four main variables: Product Innovation (X1), Product Innovation-Based Marketing (X2), MSME Competitiveness (Z), and Local Economic Growth (Y). Each construct is measured using several indicators, and the outer loading results are used to assess the validity and reliability of each indicator in the model.

Figure 2 PLS Model Diagram Showing the Relationship Between Latent Variables and Indicators



Source: Data processing with PLS, 2025

Model Validity

Model validity was tested through convergent and discriminant validity. Convergent validity measures the extent to which indicators of a construct measure the same concept, with indicators considered valid if the outer loading is > 0.7 . All indicators X1, X2, and Z are valid, except for X1.5 (0.429), which is recommended for revision or removal. Discriminant validity is measured using Average Variance Extracted (AVE), which shows a value greater than 0.5 for each construct, indicating that the constructs can be clearly distinguished without overlap.

Model Reliability

Model reliability was tested using Composite Reliability (CR) and Cronbach's Alpha, with values above 0.7 indicating good reliability. The analysis results suggest that most indicators, particularly those related to Product Innovation-Based Marketing (X2), exhibit high reliability. However, indicator X1.5 (outer loading 0.429) exhibits low reliability and requires improvement or removal. Overall, the model demonstrates good validity and reliability, and improving less reliable indicators will further enhance the model's quality.

Outer Loading Analysis and Indicator Validity

Indicator reliability was tested through outer loading analysis, which shows the extent to which indicators explain the variance of latent constructs. According to Wong (2013) and Sarstedt et al. (2017), an outer loading value > 0.7 indicates a valid indicator, while a value < 0.7 indicates an invalid indicator.

Table 2 Outer Loading Values for Each Indicator and Latent Construct

	MSME Competitive Skills (Z)	Product Innovation (X1)	Product Innovation- Based Marketing (X2)	Local Economic Growth (Y)
X1.1		0.887		
X1.2		0.883		
X1.3		0.878		
X1.4		0.849		
X2.1			0.843	
X2.2			0.930	
X2.3			0.933	
X2.4			0.958	
Y1				0.784
Y2				0.758
Y3				0.858
Y4				0.915
Z1	0.833			
Z2	0.863			
Z3	0.882			
Z4	0.832			

Source: Data processing with PLS, 2025

Based on the table, all indicators for Product Innovation (X1), Product Innovation-Based Marketing (X2), Local Economic Growth (Y), and SME Competitiveness (Z) have loadings greater than 0.7, indicating convergent validity. These values indicate that the constructs can explain more than 50% of the variance in the indicators, making the constructs in this model valid and reliable.

Multicollinearity Analysis of the Internal Model

Multicollinearity between exogenous constructs was evaluated using the Variance Inflation Factor (VIF). VIF values below five are considered normal, while higher values indicate potential multicollinearity issues that could interfere with model predictions.

Table 3 VIF Values for the Internal Model

	Brand Image (X4)	Customer Loyalty (Y)	Customer Satisfaction (Z1)	Perceived Price (X2)	Perceived Value (X1)	Service Quality (X3)	Trust (Z2)
Brand Image (X4)		2,630	2,452				2,595
Customer Loyalty (Y)							
Customer Satisfaction (Z1)		2,845					2,736

	Brand Image (X4)	Customer Loyalty (Y)	Customer Satisfaction (Z1)	Perceived Price (X2)	Perceived Value (X1)	Service Quality (X3)	Trust (Z2)
Perceived Price (X2)		2,286	2,018				2,119
Perceived Value (X1)		3,218	2,693				3,200
Service Quality (X3)		1,978	1,804				1,811
Trust (Z2)		2,508					

Source: Data processing with PLS, 2025

Based on Table 3, the VIF values for the Inner Model do not exceed 5, indicating no multicollinearity issues between the exogenous constructs. Constructs such as Brand Image (X4), Customer Satisfaction (Z1), and Perceived Value (X1) have acceptable VIF values, indicating that the relationships between these constructs are independent and do not interfere with model predictions.

Multicollinearity in the Outer Model

Multicollinearity in the External Model was evaluated by ensuring that the VIF values were below 10 to avoid problems that could interfere with the relationships between indicators. The following table shows the results of the VIF analysis for the External Model.

Table 4 VIF Values for the External Model

	VIF
X1.1	2.719
X1.2	2.814
X1.3	2,737
X1.4	2,295
X2.1	2,391
X2.2	4,370
X2.3	5,403
X2.4	7,545
Y1	1,895
Y2	1,937
Y3	2,057
Y4	3,205
Z1	2,122
Z2	2,427
Z3	2,560
Z4	2,133

Source: Data processing with PLS, 2025

The analysis results show that all VIF values in the outer model are below 10, with no significant multicollinearity issues. Indicator X2.4, with the highest VIF value of 7.545, is still within acceptable limits. Neither the inner nor outer models show any multicollinearity issues,

ensuring that the relationship between constructs and indicators is stable and that the models are reliable for further analysis.

Construct Reliability Analysis

The next step is to test Construct Reliability to assess the consistency and reliability of the latent variable constructs. Cronbach's Alpha, rho_A, and Composite Reliability values must be greater than 0.7, while AVE greater than 0.5 indicates that the indicators explain more than half of the construct variance. The analysis results show that all constructs in this model meet the requirements for good reliability, with appropriate values for all three statistics, as shown in the following table.

Table 5 Construct Reliability Analysis Results

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
MSME Competitive Skills (Z)	0.875	0.877	0.914	0.728
Product Innovation (X1)	0.897	0.900	0.928	0.764
Product Innovation-Based Marketing (X2)	0.937	0.948	0.955	0.841
Local Economic Growth (Y)	0.849	0.864	0.899	0.691

Source: Data processing with PLS, 2025

The table above shows that all constructs in this model have a Composite Reliability value greater than 0.7, indicating good reliability. For example, Product Innovation-Based Marketing (X2) has a high Composite Reliability value (0.955) and AVE (0.841), indicating excellent reliability and validity. Other constructs, such as Product Innovation (X1), SME Competitiveness (Z), and Local Economic Growth (Y), also meet the desired reliability standards.

Internal Consistency Reliability

Internal Consistency Reliability measures the extent to which indicators can measure latent constructs. Composite reliability values between 0.6 and 0.7, along with Cronbach's alpha above 0.7, indicate good reliability. Based on the table, all constructs have a Cronbach's Alpha value greater than 0.6, indicating they can be considered reliable, as seen in variable Y, which has a Cronbach's Alpha of 0.849. The unidimensionality test ensures that there are no problems with the measurement, with a threshold value for composite reliability and Cronbach's alpha of 0.7. Based on the table, all constructs meet the unidimensionality requirements, as indicated by variable Y, which has a composite reliability of 0.899.

Convergent Validity

Convergent validity measures the extent to which measurements of a construct are highly correlated, with an AVE value > 0.5 indicating that the construct can explain more than 50% of the item's variance. Based on the table, all constructs meet the convergent validity requirements because the AVE value is > 0.5 , as in variable Y with an AVE of 0.691.

Discriminant Validity

Discriminant validity measures the extent to which reflective indicators measure their constructs uniquely, without having high correlations with other constructs. Discriminant validity tests were conducted using cross-loadings, Fornell-Larcker criteria, and Heterotrait-Monotrait (HTMT). Discriminant validity is considered good if the square root of AVE for each construct is greater than the correlation between other constructs. If this value is met, the construct is deemed unique and valid, as indicated by the Fornell-Larcker criteria (Henseler et al., 2015).

Discriminant Validity Analysis Based on Fornell-Larcker Criteria

Below is a table of the results of the discriminant analysis using *the Fornell-Larcker Criteria*.

Table 6 Results of Discriminant Validity Analysis Based on the Fornell-Larcker Criteria

	Competitiveness of SMEs (Z)	Product Innovation (X1)	Marketing Based on Product Innovation (X2)	Local Economic Growth (Y)
Competitive Skills of SMEs (Z)	0.853			
Product Innovation (X1)	0.674	0.874		
Product Innovation-Based Marketing (X2)	0.703	0.503	0.917	
Local Economic Growth (Y)	0.763	0.676	0.671	0.831

Source: Data processing with PLS, 2025

Discriminant analysis based on the Fornell-Larcker criteria shows that the root mean square error of approximation (RMSEA) value for each construct is greater than the correlation with other constructs. For example, for construct Z, the Fornell-Larcker criteria value is 0.853. Thus, the discriminant validity requirements in this model have been met, as shown in the table.

Cross-Loading

Cross-loadings were evaluated to ensure that the correlations of constructs with measurement items were greater than those with other constructs. Cross-loadings were expected to be greater than 0.7 (Ghozali & Latan, 2015). This method was used to assess discriminant validity, with items required to have greater loadings on their own constructs than on other constructs. The following table shows the cross-loadings.

Table 7 Cross-loading

	MSME Competitive Skills (Z)	Product Innovation (X1)	Product Innovation- Based Marketing (X2)	Local Economic Growth (Y)
X1.1	0.627	0.887	0.417	0.650
X1.2	0.565	0.883	0.461	0.615
X1.3	0.581	0.878	0.384	0.514
X1.4	0.581	0.849	0.496	0.575
X2.1	0.490	0.331	0.843	0.540
X2.2	0.666	0.551	0.930	0.615
X2.3	0.705	0.457	0.933	0.655
X2.4	0.693	0.485	0.958	0.644
Y1	0.678	0.432	0.527	0.784
Y2	0.468	0.574	0.395	0.758
Y3	0.722	0.574	0.630	0.858
Y4	0.642	0.663	0.643	0.915
Z1	0.833	0.626	0.560	0.626
Z2	0.863	0.608	0.541	0.622
Z3	0.882	0.592	0.685	0.690
Z4	0.832	0.474	0.607	0.661

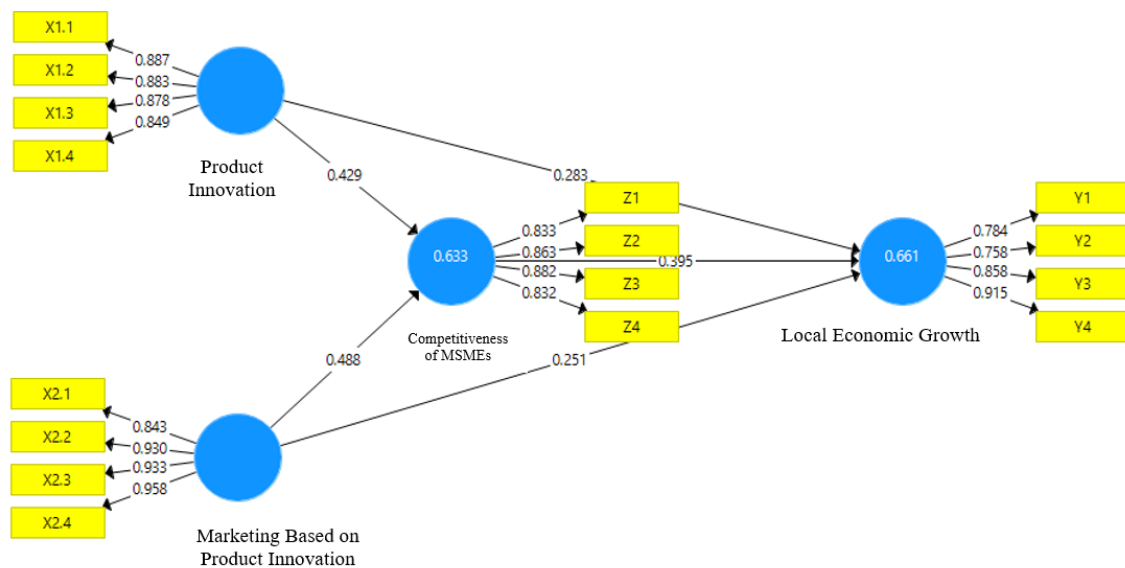
Source: Data processing with PLS, 2025

The table above shows that all indicator loadings on the construct are greater than their cross-loadings. For example, indicator X1.1 has a loading of 0.887, which is greater than the cross-loading on other constructs, such as Z (0.627). All other items also show loadings greater than their cross-loadings. Therefore, this model meets the requirements for discriminant validity. All indicators have met the validity and reliability requirements, and there is no multicollinearity between indicators. The next step is internal model analysis.

Interpretation of Results (Internal Model)

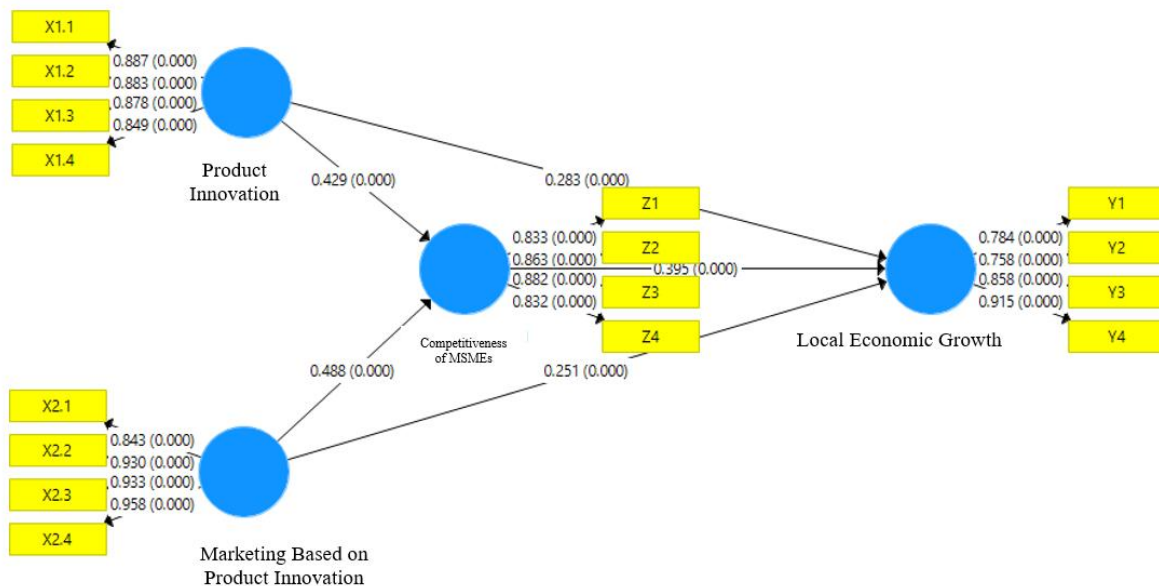
Additionally, path coefficient measurements were conducted between constructs to test the significance and strength of the relationships and hypotheses. Path coefficient values range from -1 to +1, with values closer to +1 indicating a stronger relationship, while values closer to -1 indicate a negative relationship (Sarstedt et al., 2017). The results of the analysis at the internal model level are as follows: (T values are calculated from factor loadings and direct effects of path coefficients).

Figure 3 Bootstrapping Model Diagram T-values



The results of the analysis at the internal level are as follows: (P-values from the direct effects of path coefficients)

Figure 4 Bootstrapping Model Diagram of P Values for Direct Effects of Path Coefficients



Bootstrapping analysis was conducted to test the significance of the paths between variables in the structural model. The path coefficient values (Original Sample), along with the t-statistic and p-value values, were used to determine whether the relationships between variables were statistically significant. A summary of the bootstrapping test results is shown in Table 8 below.

Table 8 Results of Direct Effect Analysis (Bootstrapping Path Coefficients)

Path	β (O)	t	p	Decision
Z $\rightarrow$ Y	0.395	7.111	0.000	Significant
X1 $\rightarrow$ Z	0.429	10.625	0.000	Significant
X1 $\rightarrow$ Y	0.283	5.123	0.000	Significant
X2 $\rightarrow$ Z	0.488	9.923	0.000	Significant
X2 $\rightarrow$ Y	0.251	6.250	0.000	Significant

Source: Data processing with PLS, 2025

Based on the results in Table 8, all paths exhibit t-statistic values exceeding 1.96 and p-values less than 0.05, indicating that all relationships are statistically significant. This confirms that product innovation (X1) and product innovation-based marketing (X2) have a positive effect on the competitiveness of MSMEs (Z) and local economic growth (Y), both directly and indirectly.

The highest coefficient value is found in the X2 $\rightarrow$ Z path (0.488) with a high significance level ($p = 0.000$), indicating that innovative marketing strategies are the primary driver of increased competitiveness. Meanwhile, the X1 $\rightarrow$ Z (0.429) and X1 $\rightarrow$ Y (0.283) paths indicate that product innovation also significantly contributes to competitiveness and economic growth. Additionally, the Z $\rightarrow$ Y path (0.395) reinforces the finding that more competitive SMEs have a greater ability to drive local economic growth. Thus, this table shows that all proposed hypotheses can be accepted, and the structural model has strong empirical support.

Direct Effect Analysis: Path Coefficients and Hypothesis Testing

The following shows the direct effects of each exogenous variable construction on the endogenous variable:

Table 9 Direct Effect Analysis Results (Path Coefficients)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	P-value	Conclusion
Competitive Skills of SMEs (Z) $\rightarrow$ Local Economic Growth (Y)	0.395	0.398	0.056	7.111	0.000	Accept H1 (Significant)
Product Innovation (X1) $\rightarrow$ Competitiveness of MSMEs (Z)	0.429	0.432	0.040	10.625	0.000	Accept H1 (Significant)
Product Innovation (X1) $\rightarrow$ Growth Local Economy (Y)	0.283	0.282	0.055	5.123	0.000	Accept H1 (Significant)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	P- value	Conclusion
Product Innovation- Based Marketing (X2) → SME Competitiveness (Z)	0.488	0.486	0.049	9.923	0.000	Accept H1 (Significant)
Product Innovation- Based Marketing (X2) → Local Economic Growth (Y)	0.251	0.249	0.040	6.25	0.000	Accept H1 (Significant)

Source: Data processing with PLS, 2025

This table displays the Path Coefficient results for each direct relationship between constructs in the model, with Original Sample (O) as the coefficient estimate, Sample Mean (M) as the bootstrap sample mean, and Standard Deviation (STDEV) indicating the variation in the estimate. T-statistics are calculated by dividing O by STDEV, while P-values are used to test statistical significance. All relationships between constructs have a P-value < 0.05, indicating that all hypotheses are accepted and the relationships between constructs are significant.

The analysis reveals that SME Competitiveness (Z) has a significant positive effect on Local Economic Growth (Y), with a path coefficient of 0.395, a T-value of 7.111, and a p-value of 0.000. Product Innovation (X1) has a positive effect on SME Competitiveness (Z), with a path coefficient of 0.429, a T-value of 10.625, and a p-value of 0.000. Product Innovation (X1) also has a positive effect on Local Economic Growth (Y), with a path coefficient of 0.283, a T-value of 5.123, and a p-value of 0.000. Product Innovation-Based Marketing (X2) shows a substantial effect on the Competitiveness of Product Innovation-Based MSMEs (Z) with a path coefficient of 0.488, a T-value of 9.923, and a P-value of 0.000, as well as a moderate effect on Local Economic Growth (Y) with a path coefficient of 0.251, a T-value of 6.250, and a P-value of 0.000.

Based on the path coefficient and bootstrapping results, all hypotheses are accepted, indicating that Product Innovation (X1), Product Innovation-Based Marketing (X2), and SME Competitiveness (Z) have a significant effect on Local Economic Growth (Y), both directly and indirectly.

Indirect Effect Analysis: Indirect Effect

Indirect effect analysis is used to measure the influence of exogenous variables on endogenous variables through the mediation of one or more intermediate variables. Significance testing was conducted using the T-statistic (greater than 1.96) and a P-value (less than 0.05), indicating a statistically significant effect.

Table 10 Results of Indirect Effect Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (Stdev)	T-statistic (O/Stdev)	P-value
Product Innovation (X1) → SME Competitive ness (Z) → Local Economic Growth (Y)	0.170	0.172	0.031	5.456	0.000
Product Innovation- Based Marketing (X2) → SME Competitive ness (Z) → Local Economic Growth (Y)	0.193	0.194	0.035	5.556	0.000

Source: Data processing with PLS, 2025

The results of the indirect effect analysis indicate a significant effect of the exogenous variable on the endogenous variable through the mediating variable, with a P-value <0.05. Product Innovation (X1) has a positive effect on Local Economic Growth (Y) through MSME Competitiveness (Z), with a path coefficient of 0.170, a T-value of 5.456, and a p-value of 0.000. Innovation-Based Marketing (X2) also has a positive effect, with a path coefficient of 0.193, a T-value of 5.556, and a p-value of 0.000. Both effects are significant, indicating that Product Innovation and Innovation-Based Marketing influence local economic growth both directly and indirectly.

Total Effect Analysis: Direct and Indirect Effects

The Total Effect measures the influence of exogenous variables on endogenous variables, both directly and indirectly through the mediation of other variables. The Total Effect value is calculated by summing the direct and indirect effects. This test is conducted using bootstrapping, followed by T-statistics and P-values, with effects considered significant if $P < 0.05$.

Table 11 Results of Total Effect Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	P-value
Competitive Skills of SMEs (Z) - > Local Economic Growth (Y)	0.395	0.398	0.056	7.111	0.000
Product Innovation (X1) → Competitiveness of MSMEs (Z)	0.429	0.432	0.040	10,625	0.000
Product Innovation (X1) → Local Economic Growth (Y)	0.453	0.454	0.048	9,390	0.000
Innovative Product-Based Marketing (X2) → SME Competitiveness (Z)	0.488	0.486	0.049	9,923	0.000
Product Innovation-Based Marketing (X2) → Local Economic Growth (Y)	0.444	0.443	0.048	9.219	0.000

Source: Data processing with PLS, 2025

This table displays the results of the Total Effects analysis, including coefficient estimates, bootstrap sample means, variance estimates, T-statistics, and P-values. All tested relationships have P-values <0.05, indicating that the hypotheses are accepted and the relationships between constructs are significant. MSME Competitiveness (Z) has a significant positive effect on Local Economic Growth (Y) with a path coefficient of 0.395. Product Innovation (X1) has a positive effect on MSME Competitiveness (Z) (0.429) and Local Economic Growth (Y) (0.453). Product Innovation-Based Marketing (X2) also has a positive effect on SME Competitiveness (Z) (0.488) and local economic growth (Y) (0.444). All relationships show a significant

influence, indicating the important impact of Product Innovation and Product Innovation-Based Marketing on both variables.

Coefficient of Determination: R-Square and Adjusted R-Square

The coefficient of determination (R^2) measures the proportion of the variation in the endogenous variable that is explained by the exogenous variables. R^2 values of 0.75, 0.50, and 0.25 indicate strong, moderate, and weak models, respectively (Sarstedt et al., 2017). In contrast, Chin (1998) sets the thresholds at 0.67, 0.33, and 0.19 (Ghozali & Latan, 2015). The following presents the results of R^2 and Adjusted R^2 .

Table 12 Results of the Coefficient of Determination Analysis (R-Square and Adjusted R-Square)

	R-Square	Adjusted R-Square
MSME Competitive Skills (Z)	0.633	0.629
Local Economic Growth (Y)	0.661	0.656

Source: Data processing with PLS, 2025

The analysis results show that the R^2 for SME Competitiveness (Z) is 0.633 and the Adjusted R^2 is 0.629, meaning that approximately 62.9-63.3% of the variation is explained by external variables. Meanwhile, Local Economic Growth (Y) has an R^2 of 0.661 and an Adjusted R^2 of 0.656, indicating an explanation of 65.6-66.1%. These values reflect the moderate explanatory power of the model and provide a strong basis for further analysis.

F-Square

F-Square measures the change in R^2 when exogenous constructs are added. F^2 values of 0.02, 0.15, and 0.35 indicate small, moderate, and significant effects, respectively, while values below 0.02 are considered insignificant (Sarstedt et al., 2017).

Table 13 F-Square Analysis Results (Effect Size)

	MSME Competitive Skills (Z)	Product Innovation (X1)	Product Innovation- Based Marketing (X2)	Local Economic Growth (Y)
Competitive Skills of MSMEs (Z)				0.170
Product Innovation (X1)	0.375			0.129
Product Innovation- Based Marketing (X2)	0.484			0.094
Local Economic Growth (Y)				

Source: Data processing with PLS, 2025

The f^2 analysis results indicate that Product Innovation (X1) has a moderate effect on Local Economic Growth (Y), with an f^2 of 0.129. Product Innovation-Based Marketing (X2) has a negligible effect () on Y with f^2 of 0.094. In terms of MSME Competitiveness (Z), X1 has a

significant effect (f^2 0.375), as does X2 with f^2 0.484, which shows a significant contribution to increasing competitiveness.

Predictive Relevance: Q-Square (Q^2) and Model Accuracy Evaluation

Q-Square (Q^2) measures the predictive relevance of the model through cross-validation. A Q^2 value > 0 indicates good predictive ability, while a value < 0 indicates weak prediction (Sarstedt et al., 2017). Q^2 analysis was conducted to evaluate the predictive accuracy of each endogenous construct. The results are as follows.

Table 14 Results of Predictive Relevance Analysis (Q^2)

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
Competitive Skills of MSMEs (Z)	800,000	437,104	0.454
Product Innovation (X1)	800,000	800,000	
Product Innovation-Based Marketing (X2)	800,000	800,000	
Local Economic Growth (Y)	800,000	443,917	0.445

Source: Data processing with PLS, 2025

The Q^2 results indicate that the model has good predictive relevance for SME Competitiveness (Z) and Local Economic Growth (Y), with values of 0.454 and 0.445, respectively. This indicates that the model can accurately predict variations in both constructs. Q^2 was not calculated for Product Innovation (X1) and Product Innovation-Based Marketing (X2) because both are exogenous variables. Overall, $Q^2 > 0$ confirms the relevant contribution of exogenous variables in explaining endogenous variables.

Model Fit: Evaluating Model Fit with Data

Model fit in SEM assesses the extent to which the model explains the relationships between variables. Key indicators include SRMR, RMS Theta, NFI, and Chi-Square. A good SRMR is < 0.05 (Cangur & Ercan, 2015), while according to SMARTPLS, RMS Theta < 0.079 , SRMR < 0.10 or < 0.08 , and NFI > 0.9 . The following are the results of the model fit analysis based on these indicators.

Table 15 Model Fit Results

Fit Criteria	Saturated Model	Estimated Model
SRMR	0.075	0.075
d_ULS	0.773	0.773
d_G	0.683	0.683
Chi-Square	716.780	716,780
NFI	0.766	0.766
Theta RMS	0.223	

Source: Data processing with PLS, 2025

The model fit results indicate an SRMR of 0.075, which meets the criteria for a good fit (SRMR < 0.08). However, the RMS Theta of 0.223 and NFI of 0.766 do not meet the ideal limits, indicating deficiencies in model fit. The Chi-Square is recorded at 716.780 without specific evaluation limits. Overall, this model fits the data reasonably well, but improvements are needed in RMS Theta and NFI.

Discussion

The Relationship Between Product Innovation and the Competitiveness of MSMEs

The findings in this study indicate that product innovation significantly contributes to improving the competitiveness of MSMEs in West Java. These results support the notion that product differentiation through quality, design, and unique features is a primary source of competitive advantage (Oukil, Chrouki, & El Hadad-Gauthier, 2021). In line with this, research by Pramuki & Kusumawati (2024) on MSMEs in Bali found that market orientation and product innovation together drive the competitive advantage of MSMEs. These findings are also consistent with the results of Ismanu, Kusmintarti, and Riwajanti (2021), which show that product innovation in the Indonesian MSME sector has a positive relationship with performance and competitive advantage.

Conversely, these results differ from a study in South Korea by Lita et al. (2018), which shows that product innovation does not always have a direct impact on competitiveness without the support of an efficient production strategy. This difference can be explained by different market characteristics where MSMEs in Korea emphasise cost efficiency over product differentiation as well as a higher level of technological readiness compared to the MSME context in West Java. The strength of this study lies in the integration of innovation-based marketing variables as a reinforcing relationship and its focus on the creative and agribusiness sectors, which have high potential for product innovation at the local level.

The Influence of Innovation Based Marketing on SME Competitiveness

This study's analysis reveals that innovation based marketing has a more significant impact on the competitiveness of MSMEs than product innovation itself. These results align with the concept that innovative marketing encompassing digital marketing, social media, and customer experience can create strong differentiation and expand market reach (Kotler, 2016; Alford & Page, 2020). Research by Wiweko & Anggara (2025) also shows that the adoption of digital marketing practices by MSMEs in Indonesia significantly increases product visibility and business performance.

Furthermore, these findings are reinforced by Chavarria Barrientos et al. (2021), who found that digital marketing capabilities play a crucial role in enhancing the performance of MSMEs in Latin America. Additionally, Rahman & Rachmawati (2022) emphasize that marketing innovation significantly contributes to business resilience during the COVID-19 pandemic. The difference in results with research in Vietnam (Nguyen et al., 2021), which found a weaker influence of innovation based marketing, can be explained by differences in digital infrastructure readiness and ecosystem support. The contribution of this study lies in its holistic approach, which combines product and marketing innovation, while also highlighting the growing MSME segment. This segment has often been overlooked in previous studies.

The Role of SME Competitiveness in Local Economic Growth

The findings of this study provide strong empirical evidence that SME competitiveness makes a significant contribution to local economic growth, particularly through job creation and increased community income. These results support Schumpeter's (1934) classic theory of creative destruction, in which innovation is the primary driver of economic growth, and reinforce the findings of Sharma, Garg, and Gupta (2020), which show the role of MSME innovation in driving economic growth in developing countries.

However, these results differ from the findings of Angeles et al. (2022), which highlight the limited contribution of MSMEs to economic growth in Mexico. This difference can be explained by the uniqueness of the SME ecosystem in West Java, which is more supported by local value chains, growing creative industry activities, and pro-SME local government policies. The micro-macro approach in this study successfully links company-level analysis with regional economic indicators, demonstrating the relationship between SME innovation and competitiveness.

CONCLUSION

This study confirms the strategic relationship between product innovation, innovation-based marketing, SME competitiveness, and local economic growth in West Java Province. The main findings indicate that combining product innovation with adaptive marketing strategies can significantly enhance the competitive advantage of SMEs, ultimately contributing to regional economic growth through job creation, increased productivity, and local economic circulation. This demonstrates that enhancing innovation capacity at the SME level is a crucial catalyst for regional economic development, particularly when supported by a conducive business ecosystem and progressive digitalization.

Theoretically, the results of this study enrich the literature on the creative economy and resource-based entrepreneurship (Resource Based View) by showing that the competitive advantage of MSMEs can be formed through a combination of internal resources (product innovation) and external strategies (innovation-based marketing). This study also reinforces Schumpeterian growth theory, in which the innovation process becomes the driving force of economic growth through creative destruction that is, the creation of new value that replaces the old system. In addition, these findings deepen our understanding of the mediating role of competitiveness in linking innovation with economic outcomes at the local level.

From a practical perspective, this research provides a strong empirical basis for local governments and SME support institutions to design programmes that focus more on increasing innovation capacity, marketing digitalisation, and strengthening networks between business actors. For SME actors, these results serve as a guide in strategically allocating resources both in product development and in the application of technology and creativity-based marketing strategies to expand markets.

However, this study has several limitations. The geographical focus, which is limited to West Java, may not fully represent the conditions of MSMEs throughout Indonesia. In addition, the limited sector coverage of creative industries, agribusiness, and services may limit the generalisation of findings to other sectors such as manufacturing, wholesale trade, or technology. The cross-sectional nature of the data also limits the assessment of the long-term impact of innovation on local economic growth.

For future research, it is recommended to use a longitudinal design to capture changes in the relationship between variables over time and the sustainable impact of innovation on economic growth. Subsequent researchers should also expand the scope of the study to include other provinces with different financial characteristics, such as Central Java, North Sumatra, or East Kalimantan, to compare the dynamics of innovation ecosystems across regions. In addition, moderating and mediating variables, such as government policy support, digital literacy, or access to financing, should be considered to deepen the understanding of the factors that strengthen the relationship between variables. Research is also recommended to explore non-creative and technology-based sectors, such as small manufacturing or environmentally friendly

industries, to identify the most relevant forms of innovation in each context. With the development of research in this direction, empirical and theoretical contributions to the literature on innovation and local economic growth are expected to be more comprehensive, contextual, and applicable.

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