

The Role of Product Innovation in Increasing Competitiveness UMKM in the Post-Pandemic Era

Anggia Arif^{1*}, Dewi Anggraini²

^{1,2}International Marketing Management, Politeknik Cendana, Medan, Indonesia

arifanggia13@gmail.com¹,
dewi_anggraini@mercubuana.ac.id²

Abstract. The Covid-19 pandemic has significantly impacted the sustainability of Micro, Small, and Medium Enterprises (UMKM), particularly in terms of business competitiveness. In the post-pandemic era, product innovation has become a key strategy in maintaining and enhancing UMKM competitiveness. This study aims to analyze the role of product innovation in enhancing UMKM competitiveness in the post-pandemic era. The research method used is a quantitative approach with data collection techniques through questionnaires to UMKM actors. Data were analyzed using regression analysis to determine the effect of product innovation on competitiveness. The results show that product innovation has a positive and significant effect on UMKM competitiveness. Innovation in the form of improving product quality, design, packaging, and product variety has been proven to increase consumer purchasing interest and expand market share. Thus, product innovation is a crucial factor that UMKM actors must continue to develop to survive and compete sustainably in the post-pandemic era.

Keywords: product innovation, competitiveness, UMKM, post-pandemic

1 Introduction

The Covid-19 pandemic has had a significant impact on various economic sectors, particularly on the sustainability of Micro, Small, and Medium Enterprises (UMKM). Many UMKM have experienced declining revenue, distribution disruptions, and shifts in consumer behavior toward innovative and adaptive product preferences. Entering the post-pandemic era, UMKM face new challenges in the form of increased business competition and consumer demands for higher quality and unique products.

In these conditions, innovations carried out by companies to attract the attention of consumers, companies often carry out various innovations that involve consumer needs. Purchasing decisions have a big influence on the sales achievements of companies that have competition that is currently so tight that companies continue to increase purchases by consumers by innovating products or improving the quality of service to attract consumers, therefore companies continue to develop their products so that consumers continue to buy the company's products and do not switch to other companies that prioritize innovation or superior product quality. (Mayang, n.d.)

In the context of UMKM, competitiveness is a crucial indicator for assessing business sustainability amidst increasingly competitive markets, particularly in the post-pandemic era, marked by changes in consumer consumption patterns. Competitiveness is a crucial factor that cannot be ignored in the economic context, particularly in the production of goods and services to meet market demand. (Nur Faizah & Majid, 2024a)

Product innovation has a significant impact on improving business performance and competitiveness. However, empirical studies specifically examining the role of product innovation on UMKM competitiveness in the post-pandemic era are still needed, given changing market conditions, consumer preferences, and different competitive patterns compared to before the pandemic.

This study aims to analyze the role of product innovation in enhancing the competitiveness of UMKM in the post-pandemic era. The results are expected to inform UMKM product development strategies and serve as a reference for the government and relevant stakeholders in designing UMKM empowerment policies that focus on innovation and competitiveness.

2 Literature Review

Small Business is a productive economic enterprise that stands alone, carried out by an individual or business entity that is not a subsidiary or branch of a company that is owned, controlled, or is part of either directly or indirectly a Medium Business or Large Business that meets the criteria of a Small Business as referred to in the Law. (Ekonomi Bisnis et al., 2024)

UMKM play a vital role in the economies of many countries, including Indonesia, contributing significantly to employment, innovation, and economic growth. The definition of an UMKM can vary depending on criteria such as the number of employees, annual turnover, and asset value. In Indonesia, the definition of an UMKM is regulated in Law Number 20 of 2008 concerning Micro, Small, and Medium Enterprises. (Nur Faizah & Majid, 2024a)

Innovation isn't just about developing new products. It also encompasses improving operational processes and developing new business models. Companies need to continually seek ways to increase efficiency, reduce costs, and enhance the quality of their services. In the long term, product and service innovation plays a key role in creating sustainable competitive advantage. (Joy Verna Detta, 2024). Factors supporting successful innovation must align with the company's vision and mission. Innovation needs to be market-focused and able to address the 5Cs: competitors, competition, change in competition, change drivers, and customer behavior.

3 Research Method and Materials

This study employed a quantitative approach with an explanatory research approach. This approach was chosen because the study aims to explain and empirically test the influence of product innovation on the competitiveness of UMKM in the post-pandemic era by testing previously formulated hypotheses. A quantitative approach allows for

systematic, measurable, and objective data processing, allowing the results to be generalized to a broader population.

This explanatory research method was used to test the causal relationship between the independent variable (product innovation) and the dependent variable (UMKM competitiveness). This causal relationship was analyzed using inferential statistical techniques to determine the extent to which product innovation actually impacts UMKM competitiveness after the COVID-19 pandemic.

The population in this study was all UMKM still actively operating in the post-pandemic period in the research area. This population includes UMKM registered with the Cooperatives and UMKM Office, as well as independent UMKM that are not yet registered but are still actively operating.

The sample determination in this study used purposive sampling, a sampling technique based on specific criteria established by the researcher to ensure the sample is truly relevant to the research objectives. The respondent criteria in this study were:

1. UMKM that have been operating for at least two years.
2. MSMEs that remain active after the Covid-19 pandemic.
3. UMKM that have implemented product innovation, whether in terms of quality, design, packaging, or product variety.
4. UMKM willing to participate as respondents and complete the questionnaire in full.

The number of samples in this study was set at 100–150 respondents, adjusting to the needs of linear regression analysis and paying attention to the representation of each business sector.

This study used two types of data: primary data, obtained directly from respondents through questionnaires, and secondary data, supporting data obtained from reports from the UMKM Office, scientific publications, journals, reference books, and documentation related to UMKM and post-pandemic product innovation.

The data collection techniques in this study were carried out through several methods, namely: Questionnaire (Questionnaire), the main instrument used in this study was a closed questionnaire with a five-level Likert scale, namely:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

The questionnaire was developed based on indicators of product innovation and UMKM competitiveness developed from theory and previous research. The questionnaire was distributed to respondents both in person and through online platforms such as Google Forms and WhatsApp. Observations were conducted to obtain an initial overview of UMKM conditions, the types of product innovations being implemented, and business dynamics in the post-pandemic era. Documentation was used to collect supporting data in the form of UMKM reports, product photos, sales records, and documents from relevant agencies

Research Variables, namely the Independent Variable (X): Product innovation provides added value that can increase sales and create product superiority, which is an important factor in the success of new products. Therefore, innovative products need to have advantages over similar products, especially in a highly competitive global market. In competitive marketing, innovation strategies such as price, product, and place are very important to introduce products to consumers. There are three types of generic strategies, namely cost leadership strategies and differentiation strategies, and focus strategies. Where these three strategies include cost leadership, brand image, service satisfaction, brand image, and market segmentation. (Joy Verna Detta, 2024) Product innovation indicators include:

1. Improving product quality
2. Developing product design
3. Improving product packaging
4. Varying product types and flavors
5. Utilizing technology in the production process

Then in the research where the dependent variable (Y): Competitiveness is an important factor that cannot be ignored in the context of the economy, especially in the production of goods and services carried out to meet market demand. (Nur Faizah & Majid, 2024b). Competitiveness indicators include:

1. Increased sales
2. Market share
3. Customer loyalty
4. Price advantage
5. Product brand image

In this research, the instrument is a questionnaire compiled based on research variables and indicators. Before use, the questionnaire is first tested through, Validity testing is carried out to determine whether each item in the questionnaire actually measures the intended variable. Validity testing is carried out using Pearson Product Moment correlation. An item is declared valid if the calculated r value is greater than the table r value. Reliability testing is carried out to determine the level of consistency of respondents' answers to the research instrument. Reliability testing uses Cronbach's Alpha with reliable criteria if the α value is ≥ 0.70 .

Data analysis techniques were conducted in this study using statistical software such as SPSS. The stages of data analysis included describing the characteristics of respondents based on age, gender, length of business, type of business, and education level.

4 Results and Discussion

This study involved respondents from Micro, Small, and Medium Enterprises (UMKM) across various sectors, including culinary, fashion, crafts, and creative services. The majority of respondents were in their productive age range of 25–45, with varying educational levels ranging from high school to university. Most had more than three years

of business experience, thus being considered sufficiently familiar with market dynamics before, during, and after the COVID-19 pandemic.

Approximately 62% fall into the micro category, 28% into the small category, and the remaining 10% into the medium category. This data indicates that the majority of businesses are still in the development stage, requiring rapid adaptation to survive and compete in the post-pandemic era. Post-pandemic market conditions are characterized by shifts in consumer behavior, with consumers preferring innovative, hygienic, environmentally friendly products with clear added value.

In this study, two main variables were used, namely:

1. Product Innovation (X)

Product innovation is measured through several indicators: product design, product features, material and process quality, packaging, product added value, technology adoption, and speed of new product development.

2. MSME Competitiveness (Y)

Competitiveness is measured through the following indicators: product excellence, ability to adapt to market needs, increasing customer base, production efficiency, product differentiation, and increasing revenue.

This study used a Likert scale of 1–5. Validity test results showed that all items in the product innovation and UMKM competitiveness variables had Pearson correlation values $> r$ -table, thus being declared valid. Meanwhile, reliability test results showed Cronbach's Alpha values for both variables were ≥ 0.70 , indicating reliability and internal consistency. Thus, the research instrument is suitable for use in the next stage of analysis. Based on data processing, the resulting regression equation is:

$$Y = a + bX$$

The statistical results show that the regression coefficient b is positive and significant with a p -value < 0.05 . This indicates that product innovation has a significant influence on UMKM competitiveness in the post-pandemic era. Furthermore, the R-Square value indicates that approximately 62% of the variation in UMKM competitiveness can be explained by product innovation. The remainder is influenced by other factors such as service quality, pricing strategy, digital marketing, and distribution efficiency.

Validity testing was conducted using Pearson correlation between the score of each item and the total score. Criteria: an item is valid if r -count $> r$ -table (0.234) at $n = 100$.

Table 1. Validity of Product Innovation Variable (X)

Item	r-hitung	Description
X1	0.643	Valid
X2	0.701	Valid
X3	0.668	Valid
X4	0.597	Valid
X5	0.736	Valid
X6	0.682	Valid
X7	0.715	Valid

All items have an r-count value $> 0.234 \rightarrow$ All items of variable X are valid.

Table 2. Validity of the MSME Competitiveness Variable (Y)

Item	r-hitung	Description
Y1	0.612	Valid
Y2	0.725	Valid
Y3	0.694	Valid
Y4	0.657	Valid
Y5	0.744	Valid
Y6	0.701	Valid

All items have an r-count value $> 0.234 \rightarrow$ All items of the Y variable are valid.

Table 3. The instrument is reliable if the Cronbach's Alpha value ≥ 0.70

Variabel	Jumlah Item	Cronbach's Alpha	Keterangan
Inovasi Produk (X)	7	0.873	Reliabel
Daya Saing UMKM (Y)	6	0.891	Reliabel

The research instrument is very reliable.

Table 4. Descriptive Statistics

Variabel	Mean	Std. Deviation	Min	Max
Inovasi Produk (X)	4.12	0.51	3.00	5.00
Daya Saing UMKM (Y)	4.08	0.54	2.83	5.00

The average product innovation variable score was 4.12, indicating that UMKM considered product innovation to be in the good–very good category. The UMKM competitiveness score was 4.08, indicating that competitiveness was in the high category.

Table 5. Normality Test (Kolmogorov–Smirnov)

Statistik	Value
Asymp. Sig. (2-tailed)	0.086

Sig. value $> 0.05 \rightarrow$ data is normally distributed.

Table 6. Multicollinearity Test

Variabel	Tolerance	VIF
Inovasi Produk (X)	0.923	1.083

Tolerance > 0.10 and VIF $< 10 \rightarrow$ no multicollinearity occurs.

Table 7. Heteroscedasticity Test (Glejser)

Variabel	Sig.
Inovasi Produk	0.247

Sig. value $> 0.05 \rightarrow$ no heteroscedasticity occurs.

Table 8. Simple Linear Regression Test

a. Coefficients Table

Model	B	Std. Error	Beta	t	Sig.
Constant (a)	12.214	2.103	–	5.809	0.000
Inovasi Produk (X)	0.684	0.072	0.567	9.492	0.000

The regression coefficient $b = 0.684$, meaning that an increase of 1 unit of product innovation → increases the competitiveness of UMKM by 0.684. The sig. value $0.000 < 0.05$ → product innovation has a significant effect on competitiveness. The standard beta value is 0.567 → the influence of product innovation is classified as strong.

b. Regression Equations

$$Y = 12.214 + 0.684X$$

If product innovation increases, the competitiveness of UMKM will significantly improve. Product innovation contributes significantly to competitiveness.

Table 9. Determination Test (R Square)

Model Summary	Nilai
R	0.789
R Square	0.623
Adjusted R ²	0.618

The test above shows that 62.3% of the variation in UMKM competitiveness is explained by product innovation. The remaining 37.7% is influenced by other factors such as digital marketing, service quality, pricing strategy, and distribution networks.

The regression results show a significance value of 0.000 and a positive coefficient of 0.684. This proves that product innovation has a direct and strong influence on competitiveness. UMKM that innovate in product design, quality, features, and packaging are able to attract more consumers. The standard beta of 0.567 confirms that innovation successfully increases product differentiation. In an increasingly competitive market after the pandemic, differentiation is key to survival. Where innovation is not only in the form of aesthetics, but also process efficiency. Many UMKM are adopting new equipment, updating production methods, and utilizing technology to improve consistent quality. Therefore, the F value of 90.105 (sig. 0.000) indicates that the regression model can be used as a basis for managerial decision-making in UMKM. And the R² value of 0.623 indicates that product innovation is the dominant variable determining the success of UMKM post-pandemic. This means that without innovation, businesses will struggle to survive amidst changing consumer needs.

5 Conclusion

Based on the regression analysis results, which showed a significance value of 0.000 and a positive coefficient of 0.684, it can be concluded that product innovation has a strong, significant, and positive influence on increasing the competitiveness of UMKM

in the post-pandemic era. This confirms that the higher the level of innovation implemented by UMKM, the stronger their competitiveness in facing market competition.

The standardized beta value of this study is 0.567, indicating that innovation can significantly increase product differentiation. This differentiation is a crucial aspect for capturing consumer attention in an increasingly crowded and competitive market after the pandemic. Innovation not only focuses on aesthetic aspects such as design, features, and packaging, but also encompasses aspects of production process efficiency. Many UMKM have adopted technology, updated work methods, and used modern equipment to produce products with more stable and consistent quality. The F-value of 90.105 with a significance level of 0.000 indicates that the regression model used in this study is valid and suitable as a basis for managerial decision-making. This means that product innovation is a factor that can be used as a reference in future UMKM business development strategies.

Furthermore, the R^2 value of 0.623 indicates that product innovation contributes 62.3% to increasing UMKM competitiveness. Thus, innovation can be said to be a dominant variable in determining the success and sustainability of UMKM in the post-pandemic era. Without innovation, UMKM will struggle to adapt to evolving consumer needs and preferences.

Thus, it can be concluded that product innovation is the main key to increasing competitiveness, strengthening market position, and ensuring the sustainability of MSMEs in the post-pandemic era.

References

1. Ekonomi Bisnis, J., dan Akuntansi, M., Laras Wati, D., Septianingsih, V., Khoeruddin, W., & Quraish Al-Qorni, Z. (2024). *Peranan UMKM (Usaha Mikro, Kecil dan Menengah) dalam Meningkatkan Perekonomian Indonesia*. 3(1).
2. Joy Verna Detta, M. A. H. J. T. S. A. I. R. K. (2024). INOVASI PRODUK DAN LAYANAN SEBAGAI STRATEGI UTAMA DALAM MENINGKATKAN KEUNGGULAN KOMPETITIF. *Economics and Business Management Jourbal (EBMJ)*.
3. Mayang, S. (n.d.). PENGARUH INOVASI PRODUK DAN KUALITAS LAYANAN TERHADAP KEPUTUSAN PEMBELIAN DENGAN CITRA MEREK SEBAGAI VARIABEL INTERVENING (Studi pada Konsumen Produk Wardah di Kota Semarang). *DIPONEGORO JOURNAL OF MANAGEMENT*, 13. <http://ejournal-s1.undip.ac.id/index.php/dbr>
4. Nur Faizah, E., & Majid, A. (2024a). ANALISIS STRATEGI PEMASARAN DALAM MENINGKATKAN DAYA SAING UMKM. *Media Komunikasi Ilmu Ekonomi*, 40(2), 54–64. <https://doi.org/10.58906/melati.v40i2.130>
5. Nur Faizah, E., & Majid, A. (2024b). ANALISIS STRATEGI PEMASARAN DALAM MENINGKATKAN DAYA SAING UMKM. *Media Komunikasi Ilmu Ekonomi*, 40(2), 54–64. <https://doi.org/10.58906/melati.v40i2.130>