



# Strategy to Enhance MSME Competitiveness in Maros: Key Factors and Technology's Role

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**Abstract.** This research aims to analyze the influence of Service, Price and Product Innovation on Increasing MSME Sales in Maros Regency, with Digitalization as a moderating variable. Using quantitative methods with approaches Structural Equation Modeling (SEM), data was obtained from 99 respondents who were owners or managers of MSMEs. Validity and reliability testing was carried out first, where the test results showed that this research instrument was valid and reliable. The results of the analysis show that the three independent variables—Service, Price, and Product Innovation—have a significant influence on Increased Sales. Product Innovation has the greatest influence on increasing sales, followed by Service and Price. In addition, digitalization as a moderating variable is proven to strengthen the relationship between the independent variable and increased sales. Digitalization allows MSMEs to provide more responsive services, manage prices more effectively, and promote product innovation more widely. These findings emphasize the importance of implementing digital technology to increase the competitiveness of MSMEs in the era of digitalization.

**Keywords:** Service, Price, Innovation, Digitalization, Increased, MSMEs,

## 1 Introduction

MSMEs (Micro, Small and Medium Enterprises) play an important role in the Indonesian economy, including in Maros Regency. The contribution of MSMEs in creating jobs, reducing poverty and supporting regional economic growth is very significant. However, in recent years, MSMEs in Maros Regency have been faced with various challenges that have affected their sales performance. Along with changing market trends, increasingly fierce competition, and rapid technological developments, many MSMEs in this region are experiencing stagnation, or even a decline in sales. This shows that increasing MSME sales is a crucial issue that requires more attention in various aspects, including service, price, product innovation and use of technology.

This phenomenon raises a big question: how do factors such as service, pricing and product innovation play a role in increasing MSME sales? While various studies have shown the importance of these three factors, there is still a research gap regarding how the role of technology, especially digitalization, can moderate the relationship between these variables and increased sales. In the digital era, information technology

has become an important element that can influence the ability of MSMEs to compete in the market. Digitalization allows MSMEs to improve operational efficiency, expand market reach, and increase interaction with customers, all of which can contribute to increased sales.

Various previous studies have explored the impact of service, price and product innovation on MSME performance [1]. However, the results of these studies often vary, depending on the geographic context and industry sector. Some studies find that high quality service contributes greatly to consumer loyalty, while others emphasize the importance of product innovation in winning market competition. On the other hand, many MSMEs have difficulty finding competitive prices without sacrificing product quality. From this, it is clear that there is a research gap regarding how these three variables interact dynamically in the context of MSMEs in Maros Regency, which have their own characteristics.

In addition, the lack of studies that highlight technological moderation or digitalization in the context of the relationship between these factors and increased sales is a strong reason to conduct this research. Most research still focuses on the direct influence of service, price and product innovation, without considering how the presence of technology can strengthen or even weaken this influence. This gap is what this research aims to fill, taking into account that in the era of digitalization, MSMEs that are able to adopt technology effectively will have a greater competitive advantage compared to those that do not.

The phenomenon of shifting consumer behavior also adds to the relevance of this research. Today's consumers increasingly rely on technology to search for information, shop, and interact with product and service providers. This requires MSMEs to adapt to this trend in order to remain relevant in the eyes of customers. However, many MSMEs in Maros Regency still face limitations in adopting technology optimally. They do not understand how to utilize digital platforms to expand markets, increase service efficiency, and offer competitive prices. This phenomenon shows the urgency of researching the role of digitalization as a moderating factor that can change the way MSMEs increase their sales.

In the context of Maros Regency, MSMEs are often faced with limited access to technology and a lack of understanding of product innovation. Apart from that, most MSMEs still rely on traditional marketing methods and do not fully utilize digital platforms to promote their products [2]. This problem is a challenge that needs to be answered, considering that current technological developments offer many opportunities for MSMEs to innovate and develop. Therefore, this research is very important to provide a deeper understanding of how service, price and product innovation can be pushed further with the help of digitalization to increase MSME sales in Maros Regency.

Given the research gaps and problem phenomena faced by MSMEs in Maros Regency, it is hoped that this research can make a significant contribution both theoretically and practically. Theoretically, this research will enrich the literature on the impact of service, price and product innovation on increasing sales by including

digitalization as a moderating variable. Meanwhile, practically, the results of this research can be a reference for MSMEs in Maros Regency in formulating more effective strategies to increase sales amidst increasingly fierce competition and rapid technological developments.

## 2 Literature Review

In an effort to improve the competitiveness of MSMEs, research on service, price, and product innovation has been widely conducted. High-quality service has a significant influence on customer loyalty in the context of MSMEs[3]. Good service can improve customer experience, which will ultimately have a positive impact on increasing sales. SERVQUAL model to assess service quality, found that quality service has a direct impact on customer satisfaction and repurchase decisions.

### 2.1 Service

In addition to service, price also plays an important role in the competitiveness of MSMEs. Competitive prices can increase consumer desire to make purchases, especially in price-sensitive industries such as MSMEs[4]. However, the main challenge faced by many MSMEs is finding a balance between competitive prices and product quality. In this case, the right pricing strategy can influence consumer decisions without sacrificing significant profit margins[2].

### 2.2 Product Innovation

Product innovation is the third factor that is often mentioned in the literature as the main driver of MSME competitiveness. Innovation is the essence of entrepreneurship, and the introduction of new products or improvements to existing products can create competitive advantages for MSMEs[5]. Product innovation has a significant impact on business performance, especially in the context of small and medium enterprises. Innovation allows MSMEs to meet dynamic customer needs and maintain the relevance of their products in an ever-evolving market[6].

### 2.3 Digitalization

Although there are many studies on service, price, and product innovation, literature that incorporates digitalization as a moderating factor is still limited. Digitalization allows MSMEs to increase their market reach, provide more efficient services, and promote products in a more effective manner. MSMEs that utilize digital technology have a better ability to adapt to changes in consumer behavior and market trends. In addition. Digitalization improves the organization's ability to respond to customer needs more quickly and efficiently, which ultimately improves overall business performance [7].

In the context of MSMEs in Maros Regency, the use of digital technology is still a significant challenge. Many MSMEs still rely on traditional marketing methods and do not fully understand the potential of digitalization to increase sales. This study aims to fill this gap by investigating the role of digitalization as a moderator in the relationship between service, price, product innovation, and sales growth.

### 3 Research Methods

This research uses a quantitative approach with methods Structural Equation Modeling (SEM) to test the relationship between the independent variables (Service, Price and Product Innovation) and the dependent variable (Increase in MSME Sales), with Digitalization as a moderating variable. This research was conducted on MSMEs in Maros Regency with a sample size of 99 respondents who were selected using techniques of purposive sampling. The sample criteria are MSMEs that have been operating for at least 2 years and have used digital technology in their business processes. Data collection was carried out by distributing a 5-point Likert scale-based questionnaire, which measured respondents' perceptions regarding each research variable[8].

Before SEM testing is carried out, the questionnaire data is tested first for validity and reliability. Validity testing is carried out by measuring Kaiser-Meyer-Olkin (KMO), with a value  $> 0.5$  which indicates adequate instrument validity, while the reliability test uses Cronbach's Alpha with results of more than 0.7, indicating that the instrument is reliable. After ensuring validity and reliability, the analysis continues with SEM which consists of two stages: testing measurement model to ensure that the indicators are able to measure variables consistently, and testing structural model to see the relationship between variables, both direct relationships and relationships that are moderated by digitalization.

## 4 Results

### 4.1 Validity and Reliability Test

Before conducting a more detailed analysis of the data collected, it is important to ensure that the instruments used in this research meet the standards of validity and reliability [9]. Validity is key components to ensure that a research instrument can reliably measure what it is supposed to measure. Validity relates to the degree to which the instrument can accurately measure the concept in question, while reliability relates to the consistency of the results obtained from the measurement.

**Table 1.** Validity test

Variable	Cronbach's Alpha	SME
Service	0.82	0.76

<b>Price</b>	0.85	0.81
<b>Product Innovation</b>	0.88	0.79
<b>Digitalization</b>	0.81	0.78

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Source: Researcher data processing 2024

Service, Price, Product Innovation, and Digitalization. The data includes Cronbach's Alpha and KMO (Kaiser-Meyer-Olkin) values to measure the reliability and validity of each variable. These results indicate that all variables have good reliability (Cronbach's Alpha above 0.7) and adequate validity (KMO above 0.5).

#### 4.2 Structural Model Testing

After the research instrument is declared valid and reliable through validity and reliability tests, the next stage in this analysis is to test the structural model. This test aims to evaluate the relationship between the independent variables (Service, Price, and Product Innovation) with the dependent variable (Sales Increase), and to see how the moderating role of Digitalization affects the relationship. In testing the structural model, a test is carried out on the path coefficients to measure the strength and significance of the relationship between variables[10]. In addition, several Goodness of Fit (GoF) indicators are used to assess whether the model built has a good fit with the data. The main indicators that are considered include Chi-Square ( $\chi^2$ ), RMSEA, and CFI. After the model is declared fit, further analysis is carried out to evaluate the significance and strength of the relationship between variables.

**Table 2.** Structural Model Testing

<b>Connection</b>	<b>Path Coefficient</b>	<b>T-Value</b>	<b>Significance</b>
Service → Increased Sales	0.35	4.21	Sig.
Price → Increase in Sales	0.27	3.65	Sig.
Product Innovation → Increased Sales	0.42	5.10	Sig.
Digitalization (Moderation) → Service x Increased Sales	0.15	2.10	Sig.
Digitalization (Moderation) → Price x Sales Increase	0.12	1.98	Sig.
Digitalization (Moderation) → Product Innovation x Increased Sales	0.20	2.50	Sig.

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Source: Researcher data processing 2024

Service, Price and Product Innovation has a significant influence on increasing MSME sales. Digitalization as a moderating variable is proven to strengthen the relationship between Service, Price and Product Innovation and Increased Sales. This shows that the use of digital technology by MSMEs is able to increase the effectiveness of these three variables in driving sales.

#### 4.3 Goodness of Fit SEM Model

Before conducting further analysis of the relationship between variables, it is important to ensure that the structural model built has a good fit with the research data. Goodness of Fit (GoF) testing is used to evaluate how well the proposed model fits the empirical data collected. Common GoF indicators used in Structural Equation Modeling (SEM) analysis include Chi-Square ( $\chi^2$ ), Root Mean Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI). The values of these indicators provide an overview of whether the model can describe the relationship between variables accurately and relevantly. A low Chi-Square value, RMSEA below 0.08, and CFI above 0.90 indicate that the tested model has a good fit with the data. After the model is declared fit, further analysis can be carried out to test the significance of the relationship between variables.

**Table 3.** Goodness of Fit SEM Model

Indicator	Mark	Criteria
Chi-Square ( $\chi^2$ )	150.23	Small value, ideally $< 5/\text{dof}$
RMSEA	0.072	Below 0.08
CFI	0.94	Above 0.90

Source: Researcher data processing 2024

This data includes the Chi-Square ( $\chi^2$ ), RMSEA, and CFI values which indicate that this model has a good fit to the data. Chi-Square is in the ideal range, RMSEA is below 0.08, and CFI is above 0.90, indicating that this model is quite appropriate to the data used.

## 5 Discussion

### 5.1 The Effect of Service on Increasing Sales

The SEM test results show that service has a significant influence on increasing sales, with a path coefficient of 0.35 and a t-value of 4.21. This means that the better the service provided by MSMEs, the higher the level of sales that can be achieved. This is in line with literature which states that high quality service increases customer satisfaction and loyalty, which in turn has a positive impact on sales. Consumers tend to return and even recommend products or services from businesses that offer good service[11].

The importance of service in increasing sales is also related to the aspect of consumer trust. In the MSME environment, trust is greatly influenced by consumers' experiences with the services they receive, especially in terms of friendliness, speed and quality of interaction. When MSMEs are able to provide services that meet or exceed expectations, consumers feel appreciated, which increases the likelihood of repeat purchases. Therefore, good service must be the main focus for MSMEs in strengthening their customer [12,13].

Apart from that, responsive and quality service is also a differentiator in an increasingly competitive market. In the context of Maros Regency, where MSMEs compete with other businesses that may offer similar products, better service can be the key to attracting and retaining customers. This implies that MSMEs need to invest in staff training to ensure that they are able to provide the best service that consumers can receive.

### 5.2 The Effect of Price on Increased Sales

The path coefficient of 0.27 with a t-value of 3.65 shows that price also has a significant effect on increasing sales. This shows that setting the right price can directly influence the sales volume of MSMEs. Competitive prices, but still reflect the value of the product or service offered, are the key for consumers to make purchases. Consumers tend to be more sensitive to price, especially in the MSME market where price competition can be one of the main determining factors.

Prices that are too high can cause a decrease in consumer buying interest, especially if they are not accompanied by an increase in perceived value ([14]. On the other hand, prices that are too low can also give rise to negative perceptions of product quality, and can reduce profit margins for MSMEs. Therefore, pricing must be done carefully, paying attention to the balance between consumer purchasing power and the desired profit margin. This means that MSMEs must better understand their market segments and set prices in line with consumer expectations and preferences.

In the context of digitalization, information about prices has become increasingly accessible to consumers via various online platforms. Consumers can now easily compare prices of various similar products on the market. Therefore, MSMEs must be

more strategic in setting prices, for example by offering special discounts, bundling packages, or other incentives that can increase product attractiveness and increase sales.

### 5.3 The Effect of Product Innovation on Increasing Sales

Product innovation shows the most significant influence on increasing sales, with a path coefficient of 0.42 and a t-value of 5.10. These results emphasize the importance of innovation in developing new products or improving existing products so that they remain relevant to market needs. Consumers tend to be more interested in products that are unique, high quality, or offer higher added value compared to conventional products. Therefore, innovation is an important strategy for MSMEs to win competition in the market.

In the MSME environment, product innovation does not always mean developing complex technology, but can take the form of improvements in design, packaging, or adding attractive features. For example, innovation in environmentally friendly product packaging or adding new functional features can attract consumer interest and increase sales. With continuous innovation, MSMEs can build competitive advantages that are difficult for competitors to imitate.

Product innovation is also very relevant in the digital era, where consumer preferences often change rapidly. Modern consumers prefer products that follow the latest trends, both in terms of features and style. MSMEs that are able to innovate quickly will be better able to adapt their products to these changing preferences, thereby attracting new market segments and increasing sales sustainably (Herman, Saleh, et al., 2024).

### 5.4 The Moderating Role of Digitalization on Service Relationships and Increased Sales

Digitalization as a moderating variable shows a significant influence on the relationship between Service and Increased Sales, with a coefficient of 0.15 and a t-value of 2.10. This suggests that the application of digital technology, such as the use of online platforms for communication or service management, strengthens the impact of service on sales. Through digitalization, MSMEs can increase the speed and efficiency of services, as well as expand customer reach through digital platforms.

In the context of services, digitalization allows MSMEs to improve customer experience, for example by providing a fast response system via chat applications or social media. With digital technology, service can be provided more responsively, even outside working hours, which helps increase customer satisfaction. Apart from that, digitalization also helps MSMEs monitor customer preferences and behavior, so they can adjust services in a more personal and timely manner[15].

Digitalization also allows for improvements in handling complaints or feedback from customers, which is usually an important part of good service. Customers who are

satisfied with the way their complaints are handled tend to be more loyal and can increase sales. Therefore, digitalization makes an important contribution in ensuring that the services provided by MSMEs can run more effectively and efficiently.

### **5.5 The Moderating Role of Digitalization on the Relationship between Prices and Increased Sales**

SEM test results show that Digitalization also moderates the relationship between Price and Increased Sales with a coefficient of 0.12 and t-value of 1.98, which shows significance at a lower level of moderation compared to service. Digitalization has had an impact on the way MSMEs communicate the prices of their products to customers. The use of digital technology enables price transparency, as well as allowing MSMEs to offer real-time price adjustments or provide special offers via digital platforms.

Digital technology also allows MSMEs to manage price promotions more effectively, such as through online advertising campaigns, e-commerce or application-based loyalty programs. Through this strategy, MSMEs can provide incentives in the form of discounts or special promotions that can increase consumer interest and encourage transactions. Digitalization makes it easier for MSMEs to convey price information to a wider audience and faster than conventional marketing methods [16].

The influence of digitalization in pricing strategies also helps MSMEs to monitor competitors' prices through online platforms and adjust their strategies according to market dynamics. In an increasingly competitive market, the ability to adjust prices quickly, according to market conditions and consumer preferences, is becoming an important competitive advantage.

### **5.6 The Moderating Role of Digitalization on the Relationship between Product Innovation and Increased Sales**

The influence of digitalization on the relationship between product innovation and increased sales is also significant, with a path coefficient of 0.20 and a t-value of 2.50. This shows that digitalization can strengthen the influence of product innovation on sales, especially through the way innovation is promoted or disseminated to consumers. Through digital platforms, MSMEs can easily market new products or innovative features that have been developed to a wider range of consumers, even outside the local area.

Digitalization makes it easier for MSMEs to conduct market research and identify emerging consumer trends. By understanding these trends, MSMEs can develop products that better suit consumer preferences and market these innovations more effectively. Apart from that, digital platforms also provide opportunities for MSMEs to carry out technology-based innovations, such as providing additional application-based services or conducting online sales, all of which can increase product attractiveness and increase sales [17,18]

In addition, the use of social media and e-commerce allows product innovation to be responded to more quickly by consumers. Direct feedback from customers can be utilized by MSMEs to make product improvements or adjustments more quickly, so that the product innovations developed are truly relevant to market needs. In this context, digitalization plays an important role in accelerating the innovation and marketing cycle of new products that can increase sales.

## 6 Conclusion

Based on the results of Structural Equation Modeling (SEM) analysis, this research concludes that the variables Service, Price and Product Innovation have a significant influence on increasing MSME sales in Maros Regency. Product Innovation has the strongest influence compared to the other two variables, indicating that MSMEs that continue to innovate in product or feature development tend to achieve higher sales increases. Quality service has also been proven to play an important role in increasing customer satisfaction, which ultimately drives loyalty and sales. Meanwhile, the right pricing strategy can help MSMEs attract more consumers, although it must be done carefully to remain competitive without sacrificing profit margins.

Apart from that, the Digitalization variable as a moderating variable also shows an important role in strengthening the relationship between the independent variables (Service, Price and Product Innovation) and Increased Sales. Digitalization can strengthen the impact of services by enabling MSMEs to provide more responsive and efficient services through the use of digital platforms. Digitalization also helps MSMEs in pricing strategies and product innovation, by making it easier to communicate prices, promotions and disseminate information about product innovation to consumers more widely and quickly.

Overall, this research emphasizes the importance for MSMEs in Maros Regency to continue to improve service quality, set competitive prices, and carry out product innovation on an ongoing basis. The use of digital technology is proven to be a key factor that can strengthen the impact of these three variables on increasing sales. Thus, adopting digitalization in MSME operations is an important strategy that must be prioritized to maintain competitiveness and expand the market.

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