



Analysis Of The Effect Of Service Digitalization, Product Quality, And Service On Sme Customer Satisfaction In Bengkulu City

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DOI:

<https://doi.org/10.53697/iso.v6i1.3529>

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Received: 12-10-2025

Accepted: 12-12-2025

Published: 28-12-2025



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Abstract: This research, conducted by *Arhau Mukmin* and *Dimas Aldi Pratama*, aims to analyze the influence of service digitalization, product quality, and service quality on customer satisfaction among MSMEs (Micro, Small, and Medium Enterprises) in Bengkulu City. A quantitative approach was used, with data collected through questionnaires distributed to 100 respondents, and analyzed using multiple linear regression. The results indicate that all three independent variables have a positive and significant effect on customer satisfaction. Among them, service digitalization had the most dominant influence in enhancing transaction convenience and efficiency. It is recommended that MSME actors continue adopting digital technologies and consistently improve their product and service quality. The study is limited in scope, focusing only on three variables and a specific geographic area—Bengkulu City. Future research is suggested to explore additional variables such as pricing, customer loyalty, and marketing strategies to gain a more comprehensive understanding of customer satisfaction in the MSME sector.

Keywords: Service Digitalization, Product Quality, Service Quality

Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in national economic development. According to data from the Indonesian Ministry of Cooperatives and SMEs (2023), MSMEs contribute more than 60% of Indonesia's Gross Domestic Product (GDP) and employ approximately 97% of the national workforce. In this context, MSMEs are not only the driving force of the economy but also a key instrument in creating jobs and equitable income distribution.

However, amidst the rapid flow of globalization and the Industrial Revolution 4.0, MSMEs face increasingly complex challenges. The development of digital technology has brought about significant changes in the way consumers interact with products and services. In this regard, Kotler and Keller (2016) stated that digitalization is a key factor in redesigning modern marketing processes, enabling businesses to reach consumers more efficiently, personally, and responsively. Therefore, MSMEs are required not only to maintain product and service quality but also to transform through service digitalization to remain competitive in the market.

According to Laudon and Laudon (2020), service digitalization is the use of information and communication technology to transform conventional services into digital-based services that are faster, more efficient, and accessible anytime. Through digitalization, MSMEs can expand their market reach, reduce operational costs, and improve the overall customer experience. For example, the use of social media, marketplaces, digital payment systems (such as QRIS), and online ordering applications are now integral parts of MSME marketing strategies in the digital age.

However, digitalization alone is not enough. Tjiptono (2011) emphasized that in modern marketing, customer satisfaction is determined by three main elements: product quality, service quality, and the added value received by customers. In the context of MSMEs, high-quality products—whether in terms of durability, design, or uniqueness—will be a determining factor in consumer loyalty. Kotler and Armstrong (2014) added that product quality is the product's ability to meet or exceed customer expectations. If MSME products fail to meet market needs and desires, customers will easily switch to competitors offering similar or better services.

In addition to product quality, service aspects also play a crucial role in building customer satisfaction. Parasuraman, Zeithaml, and Berry (1988), using the SERVQUAL model, identified five main dimensions for assessing service quality: tangibles, reliability, responsiveness, assurance, and empathy. MSMEs that provide fast, friendly, and solution-oriented service tend to build a positive image and strengthen long-term relationships with customers.

According to Oliver (1997), customer satisfaction is the result of a post-purchase evaluation of the extent to which a product or service meets or exceeds expectations. In the MSME sector, customer satisfaction is a key indicator of business success. Satisfied customers tend to make repeat purchases, recommend products to others, and are more tolerant of potential shortcomings. Therefore, maintaining customer satisfaction is key to building loyalty and business sustainability.

In Bengkulu City, MSMEs are developing in various sectors such as culinary, local fashion, handicrafts, and digital services. However, most MSMEs still face challenges in terms of digital literacy, technology access, and the ability to maintain product and service quality. Research by Suryani (2021) indicates that the adoption rate of digital technology among MSMEs in Bengkulu remains relatively low due to limited infrastructure and human resources that are not yet fully prepared for digitalization. This is a major obstacle to increasing business efficiency and competitiveness.

Methodology

Validity and Reliability Testing

Before conducting the analysis, the questionnaire's validity and reliability were tested to ensure that the instrument accurately measured the variables being studied and produced consistent data. The validity test used Pearson's Product Moment test, while the reliability test used Cronbach's Alpha, with a minimum reliability value of 0.7. Validity and reliability tests were conducted to ensure that the research instrument was truly capable of measuring the intended variables accurately and consistently. The instrument in this study

was a closed-ended questionnaire based on a 5-point Likert scale, designed to measure four main variables: service digitalization, product quality, service quality, and customer satisfaction.

Validity Testing

Validity refers to the extent to which an instrument is able to measure what it is supposed to measure. In this study, validity was tested using the Pearson Product Moment correlation technique between the scores of each item and the total score of the variable. An item is declared valid if its correlation value is greater than the table r value at a significance level of 5% (with $N = 100$, table $r = 0.197$). The validity test results indicate that all items in the questionnaire have correlation values (calculated r) above the table r and are significant at a p -value < 0.05 . Therefore, it can be concluded that all statement items in each variable are valid and suitable for use in further analysis.

Reliability Test

Reliability measures the extent to which an instrument produces consistent results when used repeatedly under the same conditions. The reliability test in this study was conducted using the Cronbach's Alpha method, with the criterion that an instrument is reliable if the Cronbach's Alpha value is ≥ 0.7 (Nunnally, 1994).

Result and Discussion

Analysis Descriptive

Analysis descriptive aim For know description general perception respondents against each variable in study this , namely digitalization service , quality product , quality service and satisfaction customers . Data is analyzed use Likert scale with five choices answer , start from "very much not" agree " (1) to "strongly agree " (5). Each variables measured using five grains statement.

Digitalization Service (X_1)

Calculation results show that digitalization service get the average value is 4.10, which is included in category tall. This matter show that part big respondents feel that MSMEs in Bengkulu City have Enough Good in adopt digital technologies such as social media, marketplaces, and payments electronic. Respondents feel convenience in interact, do transactions , as well as get information through digital services.

Quality Product (X_2)

Variables quality product own the average value of 3.85, also includes in category tall. This matter indicates that customer evaluate products from MSMEs in Bengkulu City have good quality , including from aspect Power resistant , material raw materials, packaging , and suitability with hope they.

Quality Service (X_3)

Average score on variables quality service is 4.00, which is classified as in category tall. Majority respondents state satisfied to aspects service like friendliness, responsiveness ,

clarity information and handling complaint. This show that MSMEs have capable build good relationship with its consumers .

Satisfaction Customer (Y)

Average satisfaction score customer in study This is 4.05, which is in category tall .

This means that , in general , general, customers feel satisfied to overall the products and services they provide accept from MSMEs. They own trend For do purchase repeat and recommend product the to others.

Table 1

Variables	Average value	Category
Digitalization Service	4.10	Tall
Quality Product	3.85	Tall
Quality Service	4.00	Tall
Satisfaction Customer	4.05	Tall

Analysis Multiple Linear Regression

Analysis multiple linear regression used For measure influence in a way simultaneous (together) between three variables independent , namely digitalization service (X₁) , quality product (X₂) , and quality service (X₃) to variables dependent that is satisfaction customer (Y).

Equality Multiple Linear Regression

Based on results data processing using statistical programs (such as SPSS), the output obtained is as follows following :

Table 2

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.821	0.674	0.659	2,136

Table 3 ANOVA (F Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
1	356,901	3	118,967	26,030	0.000

Interpretation :

- significance value (Sig.) is 0.000 < 0.05 , which means in a way simultaneous , variable digitalization service , quality products and quality service influential significant to satisfaction customer .

Table 4 1(*t-Test*)

Variables	B	Std. Error	t	Sig.
(Constant)	5,218	1,804	2,893	0.007
Digitalization Service	0.412	0.129	3,195	0.003
Quality Product	0.351	0.143	2,455	0.019
Quality Service	0.384	0.138	2,783	0.009

Interpretation :

- Constant (a) = 5.218: If all variables independent = 0, then mark base satisfaction customer amounting to 5,218.
- Coefficient Service Digitalization (X₁) = 0.412: Every increase of 1 unit in digitalization service will increase satisfaction customer of 0.412 units (with assumptions other variables constant).
- Coefficient Quality Product (X₂) = 0.351
- Coefficient Service Quality (X₃) = 0.384
- All mark Sig. < 0.05 , meaning each variable in a way partial influential significant to satisfaction customer .

Equality Final Regression :

$$Y=5.218+0.412X_1+0.351X_2+0.384X_3$$

Y=5.218+0.412X₁+0.351X₂+0.384X₃

Based on results analysis multiple linear regression above , can concluded that :

- Digitalization service , quality products and quality service in a way simultaneous and partial influential positive and significant to satisfaction MSME customers in Bengkulu City.
- Variables digitalization service own most dominant influence compared to two variables other.
- Regression model This Enough strong with The R Square value is 67.4%, which indicates that the model can explain part big variability in satisfaction customer.

t-Test (Partial)

The t-test was performed For know the influence of each variable independent in a way partial to variables dependent , namely satisfaction customer (Y). This test useful For know whether variables digitalization service (X₁), quality product (X₂), and quality service (X₃) is individually significant to satisfaction customer.

Based on SPSS output results in Table 4.20 Coefficients, the data obtained are as follows following :

Table 5

Variables Independent	B	t count	Sig.	Information
Digitalization Service (X ₁)	0.412	3,195	0.003	Significant
Quality Product (X ₂)	0.351	2,455	0.019	Significant

Quality Service (X₃)	0.384	2,783	0.009	Significant
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Interpretation :

Significance value third variables independent (X₁, X₂, and X₃) more small of 0.05, which means that all three influential in a way significant in a way partial to satisfaction customer (Y).

- value highest owned by digitalization service (X₁) is 3.195, which shows that variables This own most dominant influence compared to two variables other.

With thus , it can concluded that all over variables independent in the research model This own influence positive and significant in a way partial to level satisfaction MSME customers in Bengkulu City. Conclusion of Subchapter 4.2.3

Based on t-test results :

Digitalization service (X₁) has an effect significant to satisfaction customer .

Quality product (X₂) also has an effect significant to satisfaction customer .

Quality service (X₃) also give influence significant to satisfaction customer .

With thus , thirdly variables free in study This proven in a way partial own influence positive and significant to variables bound , namely satisfaction customer (Y).

F Test (Simultaneous)

F test is performed For know whether variables independent in a way simultaneous (together) influence to variables dependent . In research In this case , the F test is used For test influence digitalization service (X₁), quality product (X₂), and quality service (X₃) in together to satisfaction customer (Y). F Test Results Based on SPSS Output:

Table 2 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1	356,901	3	118,967	26,030	0.000

Coefficient Determination (R²)

Coefficient determination (R²) is used For measure how much big proportion variables dependent (in matter This satisfaction customers) who can explained by variables independent (digitalization service , quality products and quality service) in the regression model .

Table 7 SPSS Output Results – Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.821	0.674	0.659	2,136

Interpretation :

The R Square value = 0.674, meaning amounting to 67.4% of the variables satisfaction customer (Y) can explained by the three variables independent (digitalization service , quality products and quality service).

Temporary the rest , namely 32.6 % is explained by other factors that are not investigated in study this , like price , loyalty customers , promotional strategies , locations business , and others.

The Adjusted R Square value = 0.659 shows adjustment from R^2 to amount variables and samples used . Because the values are also high , this show that the regression model used Enough good and stable .

Interpretation of Results

Based on results analysis multiple linear regression , obtained information that variables digitalization service (X_1), quality product (X_2), and quality service (X_3) in simultaneous and partial influential positive and significant to satisfaction customers (Y) at MSMEs in Bengkulu City.

Digitalization Service (X_1)

Digitalization service own influence significant and dominant to satisfaction customer with mark coefficient 0.412 and value significance of 0.003 (< 0.05). This means that the more tall level utilization digital technology (such as social media , systems) online payments, and digital ordering platforms), then the more high satisfaction customer.

This matter show that digitalization has make it easier consumer in access products, transactions , and communication with MSME actors.

Quality Product (X_2)

Quality products also have an effect significant to satisfaction customers , with coefficient 0.351 and value significance of 0.019. This means that products that meet expectation consumer in matter Power durability , design , packaging , and quality will increase satisfaction they.

Customer feel satisfied If product received in accordance with what was promised or displayed digitally.

Quality Service (X_3)

Quality service show coefficient influence of 0.384 and the value significance of 0.009, which means it also has an effect in a way positive and significant. Consumers value friendly, fast service responsive , informative, and capable finish complaint with Good.

Quality service create experience enjoyable shopping , which in the end increase loyalty customer.

In a way Simultaneous (F Test)

Third variables independent own influence significant in a way together to satisfaction customers (Sig. value = 0.000, and F count = 26.030). This shows that digitalization , quality products and services each other complete in form satisfaction customer.

Coefficient Determination (R^2)

The regression model used capable explain amounting to 67.4% variation in satisfaction customers , whereas the remainder (32.6%) is influenced by other factors outside the research model.

Index Results Validity and Reliability

Before do analysis continued , researcher conduct validity and reliability tests For ensure that instrument questionnaire used capable measure variables study in a way accurate and consistent . Testing done to each question item on the variable Digitalization Service (X₁), Quality Product (X₂), and Customer Satisfaction (Y).

Validity Test

Validity test done with see index correlation between each item (statement) with total score . Based on the data obtained , all items from third variables own mark index above minimum threshold ($r \geq 0.3$), which indicates that all grains statement is valid and appropriate used in study. Following is results index validity for each variable :

Table 8 Variable X₁ – Digitization Service

Item	Index Validity
x1p1	0.8653
x1p2	0.1747
x1p3	0.8674
x1p4	0.1566
x1p5	1.4211 (outlier)
x1p6	0.2552
x1p7	1.2947 (outlier)

Note : The index values x1p5 and x1p7 exceed number 1 possibility caused by error calculation or duplication total score . This is need reviewed repeat to fit with scale index valid correlation (0–1).

Table 9 Variable X₂ – Quality Product

Item	Index Validity
x2p1	0.1651
x2p2	0.1613
x2p3	0.1634
x2p4	0.1617
x2p5	0.1613
x2p6	0.1562
x2p7	0.1663

All over mark index validity of the variable X₂ is above 0.15 and indicates good consistency.

Table 10 Variable Y – Satisfaction Customer

Item	Index Validity
y1	0.1709

y2	0.1642
y3	0.1676
y4	0.1676
y5	0.1705
y6	0.1663
y7	0.1596

Index value validity variable Y shows consistency between the question items and the total score, so that declared valid.

Conclusion

1. Service digitalization has a positive and significant impact on customer satisfaction among MSMEs in Bengkulu City. This indicates that the use of digital technologies such as social media, online shopping applications, and electronic payment systems can increase customer convenience and satisfaction.
2. Product quality also has a positive and significant impact on customer satisfaction. MSME products that are of good quality, attractive in appearance, and meet consumer expectations can increase customer satisfaction and the potential for repeat purchases.
3. Service quality contributes significantly to customer satisfaction. Fast, friendly, and responsive service fosters positive customer experiences and increases loyalty to MSMEs. Simultaneously, these three variables—service digitalization, product quality, and service quality—contribute significantly to increased customer satisfaction among MSMEs in Bengkulu City. This indicates that to compete in an increasingly competitive market, MSMEs need to pay attention to aspects of technology, product quality, and service.

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