

The Influence of Algorithm Transparency, Trust, Price Perception, Service Quality, and Ease of Use on Marketplace Consumer Loyalty.

Nurul Aini¹, Khairul Umam²

¹² STAI Miftahul Ulum Tarate Sumenep, Indonesia

Email: nurulaini.jakarta13@gmail.com

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Abstract

This study aims to analyze the influence of algorithm transparency, trust, price perception, service quality, and ease of use on marketplace consumer loyalty in Sumenep Regency. The sampling technique used is non-probability sampling. Respondent criteria were distributed by distributing a Google form to 200 respondents in Sumenep Regency who are active users of leading marketplaces such as Shopee, Tiktok Shop, and Lazada. The analysis technique used SPSS. The results of the study indicate that algorithm transparency, trust, price perception, service quality, and ease of use have a positive and significant effect both partially and simultaneously on marketplace consumer loyalty in Sumenep Regency.

Keywords

Algorithm Transparency, Trust, Price Perception, Service Quality, and Ease of Use of Consumer Loyalty



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INTRODUCTION

Technological advancements have significantly transformed the economy, particularly in the development of marketplaces. The increasing number of marketplace users has driven increasingly fierce competition between platforms. The expanding internet access in Indonesia is the foundation for digital economic growth. Every service provider is competing to introduce technological innovations, promotional programs, and improved service quality to attract and retain customers. The following data from GoodStats.id, based on a survey by the Indonesian Internet Service Providers Association (APJII), shows that regularly accessed marketplaces include Shopee, TikTok Shop, Tokopedia, Lazada, Blibli, Facebook Marketplace, and others.

Based on the above data, Shopee ranks first with 47.5%. Therefore, Shopee is the platform of choice for the public due to key factors such as its ease of use and the numerous promotions offered when shopping online. TikTok Shop comes in second with 33.4%, due to its video and live broadcasts, among other factors. Other platforms

follow suit, including Tokopedia, Lazada, Blibli, Facebook Marketplace, and others. This demonstrates that online shopping habits are not temporary but have become part of people's lifestyles and reflect growing consumer trust in marketplaces.

This situation also occurs in Sumenep Regency, East Java, encompassing both mainland and island regions, which poses a geographical challenge for Sumenep residents, who must meet their needs for goods. Sumenep Regency comprises both mainland and island regions, requiring residents to navigate geographic challenges to obtain goods. The presence of various marketplaces makes it easier for Sumenep residents to obtain a variety of products without having to travel to a major city. Another benefit of marketplaces is that people, particularly MSMEs, are using the internet for marketing and utilizing digital services. This, inadvertently, is shifting the behavior of Sumenep residents toward online shopping. Amidst the geographical challenges faced by Sumenep residents, how can platforms foster consumer loyalty and meet distribution and logistics needs to ensure sustainable marketplace success?

According to GoodStats data from the Ministry of Communication and Digital (Komdigi), 48.4% of respondents make e-commerce transactions at least once a month, and 32.4% less than once a month. A total of 17.2% of respondents make e-commerce transactions at least once a week, and 2.1% even make e-commerce transactions daily, reflecting how e-commerce has transformed Indonesian shopping patterns.

In business competition, consumer loyalty is a strategic asset because loyal consumers tend to make repeat purchases, provide positive reviews, and recommend the marketplace to others. Consumer loyalty not only increases company revenue but also strengthens the marketplace's competitive position amidst the dynamics of the digital industry. A consumer's or user's loyalty to a product or brand will influence their repeat purchases or use, indirectly impacting the company's image, sales, and profits (Putra & Raharjo, 2021). Consumer loyalty significantly impacts the long-term success of marketplace relationships between companies and customers regarding services and products. Therefore, understanding the factors influencing user loyalty is strategic for marketplace managers and local MSMEs marketing their products through digital platforms.

Beyond the convenience offered, marketplaces rely on the use of algorithms. The primary function of consumer algorithms is to compare prices and products with product references, sequence product searches, and evaluate each product sold, thus influencing purchasing decisions. However, the algorithm's working mechanisms are generally invisible to consumers, raising concerns about fairness, data security, and the potential for manipulation of purchasing decisions (Mai & Khalid, 2025; Nugroho

et al., 2024). This lack of transparency can raise doubts about the system's objectivity and undermine consumer trust. Algorithmic transparency, related to data processing mechanisms and recommendation logic, has the potential to be a key factor in building consumer trust and influencing online purchasing decisions (Erwinda & Asrianti, 2025). Therefore, algorithm transparency is a factor that companies and researchers must examine, becoming a crucial topic regarding consumer perceptions of how platforms provide information transparency, fairness, and reassurance in making online purchasing decisions.

Another factor is price perception. Consumers' perceived price, commensurate with the benefits or value received, can increase their satisfaction (Nuha & Rakhmawati, 2025). Marketplace users consider product pricing, including shipping costs, promotions, and even product quality, to determine whether the price is perceived as fair and competitive. Therefore, price perception, distribution, and logistics costs, significantly influence consumer loyalty in Sumenep Regency, given its geographical characteristics, which include both mainland and island regions.

Geographically, Sumenep Regency is an island and island region, making service quality crucial for timely delivery. However, to achieve marketplace success in long-term sales and consumer loyalty, sellers need to focus on service quality by maintaining authentic, durable products from the factory, and ensuring product integrity during shipping (Soetiyono & Alexander, 2025). Therefore, the marketplace's ability to provide good and consistent service quality is crucial to maintaining consumer loyalty and satisfaction in Sumenep Regency.

Another factor is user-friendliness. According to Wardani et al. (2025), user-friendliness influences purchasing decisions. The challenge for marketplaces is to provide convenience for their users, given that the people of Sumenep Regency have diverse characteristics, ages, and even literacy levels, such as easy-to-implement transactions and easy-to-understand navigation, which influence their continued use of online shopping platforms.

The development of the digital economy, geographic conditions, and regional characteristics in Sumenep Regency have fostered diverse perceptions compared to urban areas, particularly regarding consumer loyalty. Numerous studies in Indonesia have focused on the influence of service quality, price, trust, or ease of use on loyalty. However, algorithm transparency is still rare in Indonesia. For example, research by Soetiyono and Alexander (2025) found that service quality, product quality, and price

have a positive and significant impact on loyalty through customer satisfaction. Therefore, this study has novel value because it examines the mechanisms and answers how algorithm transparency, digital trust, price perception, service quality, and ease of use influence consumer loyalty in Sumenep Regency.

METHODS

This research uses explanatory quantitative methods to examine the relationship between algorithm transparency, trust, price, service quality, and user friendliness on consumer loyalty. Data analysis used SPSS version 1.0.

Research Location and Time

This research was conducted in Sumenep Regency, with respondents who were active users of marketplaces such as Shopee, TikTokShop, Tokopedia, and Lazada. Data collection took place from April to June 2026.

Research Subjects and Population

This research population consisted of active marketplace users in Sumenep Regency who had made at least two online purchases in the past month. The sample was determined using a purposive sampling technique, with 150 respondents aged 18–50 years old and actively using marketplaces for personal or business needs.

FINDINGS AND DISCUSSION

Hypothesis Testing

t-Test

The t-test was conducted by comparing the calculated t-value (t-calculated) with the critical t-value (t-table) at a significance level of 0.05.

Table 5. t-Test Results

Variables	t-table	t-calculated	Significance	Conclusion
Algorithm Transparency → Consumer Loyalty	1.972	1.988	.009	Significant Effect
Trust → Consumer Loyalty	1.972	1.982	.048	Significant Effect
Price Perception → Consumer Loyalty	1.972	2.083	.049	Significant Effect
Service Quality → Consumer	1.972	2.411	.039	Significant

Loyalty				Effect
User Convenience → Consumer Loyalty	1.972	2.048	.017	Significant Effect

Source: Processed data, 2026.

Based on the results presented in Table 5, the findings of the t-test are as follows:

a) The calculated t-value for **Algorithm Transparency** is 1.988, which is greater than the critical t-value of 1.972 ($1.988 > 1.972$), and the significance value of 0.009 is lower than 0.05 ($0.009 < 0.05$). Therefore, it can be concluded that **algorithm transparency has a positive and significant effect on consumer loyalty**.

b) The calculated t-value for **Trust** is 1.982, which exceeds the critical t-value of 1.972 ($1.982 > 1.972$), and the significance value of 0.048 is below 0.05 ($0.048 < 0.05$). Thus, **trust has a positive and significant effect on consumer loyalty**.

c) The calculated t-value for **Price Perception** is 2.083, which is greater than the critical t-value of 1.972 ($2.083 > 1.972$), and the significance value of 0.049 is lower than 0.05 ($0.049 < 0.05$). Therefore, **price perception has a positive and significant effect on consumer loyalty**.

d) The calculated t-value for **Service Quality** is 2.411, which is greater than the critical t-value of 1.972 ($2.411 > 1.972$), and the significance value of 0.039 is less than 0.05 ($0.039 < 0.05$). Hence, **service quality has a positive and significant effect on consumer loyalty**.

e) The calculated t-value for **User Convenience** is 2.048, which exceeds the critical t-value of 1.972 ($2.048 > 1.972$), and the significance value of 0.017 is lower than 0.05 ($0.017 < 0.05$). Therefore, **user convenience has a positive and significant effect on consumer loyalty**.

F-Test

The F-test was conducted by comparing the calculated F-value (F-calculated) with the critical F-value (F-table) at a significance level of 0.05.

Table 6. F-Test Results

Variables	F-table	F-calculated	Significance	Conclusion
Algorithm Transparency, Trust, Price Perception, Service Quality, User Convenience → Consumer Loyalty	2.15	22.453	0.000	Significant Effect

Source: Processed data, 2026.

Based on the results presented in Table 6, the calculated F-value of 22.453 is greater than the critical F-value of 2.15 ($22.453 > 2.15$), and the significance value of 0.000 is lower than 0.05 ($0.000 < 0.05$). Therefore, it can be concluded that **Algorithm Transparency, Trust, Price Perception, Service Quality, and User Convenience simultaneously and significantly influence Consumer Loyalty.**

Coefficient of Determination

The following are the results of the coefficient of determination test.

Table 7. Coefficient of Determination Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605 ^a	.367	.350	3.325

a. Predictors: (Constant), Total_x5, Total_x1, Total_x2, Total_x3, Total_x4

Source: Processed data, 2026.

Based on the results presented in Table 7, the coefficient of determination test shows an **R Square value of 0.367**. This indicates that **Algorithm Transparency, Trust, Price Perception, Service Quality, and User Convenience simultaneously explain 36.7% of the variation in Consumer Loyalty**, while the remaining **63.3% is explained by other variables that were not included in this study.**

Discussion

The results of hypothesis one indicate that algorithm transparency has a positive and significant effect on consumer loyalty. Consistent with Uncertainty Reduction Theory, clear information disclosure helps consumers mitigate uncertainty before making decisions in Indonesian marketplaces. This finding aligns with (Yulianingsih & Rohayani, 2025) findings that it can increase marketing effectiveness towards customer loyalty.

Furthermore, the results of hypothesis two demonstrate that trust has a positive and significant effect on consumer loyalty. To increase consumer loyalty through trust, consumers can be assured of product or service quality, fulfill company promises to consumers, and feel secure when transacting on a platform. This trust is a factor in continued marketplace use. This finding aligns with (Dewi et al., 2023) who argue that trust is a key factor in consumers' continued platform use, thus fostering consumer loyalty.

The results of hypothesis three demonstrate that price perception has a positive and significant effect on consumer loyalty. Higher consumer loyalty is influenced by prices that align with consumer expectations and are reasonable for the benefits

consumers receive. This finding aligns with (Soetiyono & Alexander, 2025) who found that competitive prices can increase customer loyalty to a marketplace.

The fourth hypothesis confirms that service quality has a positive and significant effect on consumer loyalty. This is in line with Expectation Confirmation Theory (ECT), which states that building long-term consumer loyalty using a marketplace requires service that exceeds expectations. This finding also aligns with (Taufik et al., 2024) that the higher the quality of service provided, the greater the consumer's loyalty.

The fifth hypothesis demonstrates that user-friendliness has a positive and significant effect on consumer loyalty. Consistent with the Technology Acceptance Model (TAM), a user-friendly platform system leads to higher levels of consistent use of the marketplace. This finding aligns with (Ismi & Abdilla, 2023) that ease of use is a crucial factor in building consumer loyalty.

Theoretically, this study reinforces perceptions of consumer loyalty based on Uncertainty Reduction Theory and the Technology Acceptance Model (TAM) related to marketplaces. Managing a marketplace requires developing strategies to increase consumer loyalty, such as increasing the transparency of recommendation and promotion systems, strengthening transaction security and personal data protection, implementing competitive and transparent pricing, improving customer service quality, and refining application design for ease of use, thereby enhancing the platform's long-term reputation. The study found that algorithm transparency, trust, price perception, service quality, and ease of use have a positive and significant impact on marketplace consumer loyalty.

CONCLUSION

Based on the results of multiple linear regression analysis, the study concluded that algorithm transparency, trust, price perception, service quality, and ease of use have a positive effect both partially and simultaneously on marketplace consumer loyalty in Sumenep Regency. The higher the level of algorithm transparency, consumer trust, positive price perception, good service quality, and ease of use of the application, the higher the loyalty of marketplace consumers in Sumenep Regency. Therefore, marketplaces need to manage these five factors in an integrated manner as a strategy to retain customers, increase repeat purchases, encourage word-of-mouth recommendations, and create sustainable competitive advantage.

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