



## Role of Product Quality and Payment Security in Shaping Consumer Trust in E-Commerce

### Article History:

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### Abstract

E-commerce platforms continue to face challenges related to consumer trust, particularly concerning product authenticity and payment security. These challenges often result in inconsistent purchasing behaviour, constrained sales growth, and weakened customer loyalty. This study investigates the influence of consumer trust on e-commerce growth using the Jumia platform as a case study, with a specific focus on product quality perception and perceived payment security. A quantitative research approach was adopted using a cross-sectional survey design. Data were collected from 385 Jumia customers through structured questionnaires measured on a five-point Likert scale. Reliability and validity tests confirmed the robustness of the research instrument (Cronbach's alpha = 0.85). Data analysis using SPSS (version 27) employed descriptive statistics and simple linear regression. The findings reveal that product quality perception significantly influences sales volumes, while perceived payment security has a significant effect on customer loyalty. The study concludes that consumer trust is a critical driver of sustainable e-commerce growth and recommends that platforms strengthen product verification processes and payment security systems to enhance consumer confidence..

**Keywords:** consumer trust, e-commerce performance, product quality perception, customer loyalty.

### Introduction

The rapid expansion of electronic commerce (e-commerce) has transformed the global business landscape, redefining how consumers interact with markets and how firms deliver value. E-commerce platforms eliminate geographical barriers and enable consumers to access a wide range of products and services with unprecedented convenience. Despite these advantages, the growth and sustainability of e-commerce platforms depend largely on the level of trust consumers place in them. Unlike traditional retail environments where physical inspection and face-to-face interactions are possible, online transactions are characterized by uncertainty, information asymmetry, and perceived risk.

Consumer trust has therefore emerged as a fundamental determinant of online purchasing behavior. Trust influences not only consumers' initial willingness to transact but also their likelihood of repeat purchases, loyalty, and advocacy. Concerns relating to product quality, counterfeit goods, data privacy, and payment security remain prominent, particularly in emerging e-commerce markets. In Africa, platforms such as Jumia operate within an environment where digital adoption is

growing, but consumer skepticism remains significant. Jumia, one of Africa's leading e-commerce platforms, has invested substantially in logistics infrastructure, vendor management, and secure payment systems. However, persistent concerns regarding product authenticity and transaction safety continue to influence consumer perceptions and behavior. Understanding how trust-related factors shape sales performance and customer loyalty is therefore critical for platform sustainability.

This study examines the role of consumer trust in driving e-commerce growth on the Jumia platform. Specifically, it investigates the effect of product quality perception on sales volumes and the influence of perceived payment security on customer loyalty. By empirically examining these relationships, the study contributes to the growing literature on trust in e-commerce and provides actionable insights for platform operators and policymakers.

### Literature Review

Consumer trust is central to the functioning of e-commerce platforms, serving as the foundation upon which online relationships are built. Trust in an online

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context refers to a consumer’s belief that an e-commerce platform will act reliably, ethically, and competently, without exploiting the consumer’s vulnerability. Prior studies emphasize that trust reduces perceived risk and uncertainty, thereby increasing consumers’ willingness to engage in online transactions.

Product quality perception is a key determinant of consumer decision-making in e-commerce. Because consumers cannot physically inspect products prior to purchase, they rely heavily on online cues such as product descriptions, images, brand reputation, and customer reviews. Accurate product representation and post-purchase satisfaction play a vital role in shaping perceptions of quality and influencing repeat purchase behavior.

Perceived payment security is another critical dimension of consumer trust. Online shoppers are often concerned about financial fraud, identity theft, and data breaches. Secure payment gateways, encryption technologies, and transparent privacy policies significantly enhance consumers’ confidence and willingness to transact. Research consistently shows that platforms perceived as secure enjoy higher customer retention and loyalty.

From a theoretical perspective, the Technology Acceptance Model (TAM) provides a useful framework for understanding consumer behavior in e-commerce environments. TAM posits that perceived usefulness and perceived ease of use influence technology adoption. In online commerce, trust-related factors such as security and reliability complement TAM constructs by shaping consumers’ behavioral intentions and long-term engagement. Empirical studies across both developed and emerging markets consistently demonstrate that trust positively influences purchase intention, sales growth, and customer loyalty. Evidence from platforms such as Jumia highlights the importance of product authenticity, secure payment systems, and positive user experiences in fostering sustainable e-commerce growth.

## Methodology

This study adopts a quantitative research approach using a cross-sectional survey design to examine the impact of consumer trust on e-commerce growth on the Jumia platform. The target population consists of Jumia customers, from which a sample size of 385 respondents was determined using Cochran’s formula. Data were collected through structured questionnaires measured on a five-point Likert scale. Content validity and reliability tests were conducted, yielding a Cronbach’s alpha value of 0.85. Data analysis was carried out using SPSS version 27, employing descriptive statistics and simple linear regression analysis.

## DATA ANALYSIS

### Test of hypotheses

**H<sub>01</sub>:** Product quality perception has no significant effect on sales volumes of jumia platform

Table1. Linear Regression Analysis between product quality perception and affect sales volumes

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	B	T	F(df)	Sig
Constant	.471 <sub>a</sub>	.221	.220	19.796	10.535	116.910 (1)	.000 <sub>b</sub>
Product quality perception				.984	10.812		

a. Dependent variables: sales volumes

b. Predictors (constant), product quality perception

Based on table 1, it was established that product quality perception has a significant effect on sales volumes. R = 0.471, shows that product quality perception has a moderate positive relationship with sales volumes. Also, R-Square- R<sup>2</sup> which shows how much of the variance for the dependent variable has been accounted for by the independent variable, is 0.221 (22.1%). This holds that 22.1% of the total variability in sales volumes can be traced to product quality perception, implying that other factors not captured by the model probably accounts for the remaining 77.9%.

F-statistic with the value of 116.910 is gotten from the division of Mean Square Regression by Mean Square Residual and confirms the generality of the regression model. Based on hypothesis test, the result showed that the independent variable (product quality perception) had significant effect on the dependent variable (sales volumes) as shown by F (1, n) = 116.910 p < 0.05 = 0.000. The predictor variable was further tested for reliability by t-value of 10.812 and standardized beta coefficient (β = 0.984) showed that the product quality perception has a strong positive impact on sales volumes.

The regression model for this hypothesis is expressed as:

$$Y = \alpha_0 + \beta_1 X + \mu,$$

Where Y represents sales volumes, X represents product quality perception, and α<sub>0</sub> (constant) and β<sub>1</sub> (regression coefficient) are given as:

$$Y = 19.796 + 0.984X.$$

This analysis revealed that product quality perception accounts for sales volumes that every one unit increase in the former leads to a 0.984 unit increase in the latter.

According to the findings, null hypothesis (H<sub>0</sub>) which posited that product quality perception has no impact on sales volumes is rejected. Therefore, the alternative hypothesis, according to which product quality perception has a significant impact on sales volumes, is accepted.

### Test of Hypothesis two

**H<sub>02</sub>:** Payment perceived security have no significant effect on customer loyalty of jumia platform

Table 2. Linear Regression Analysis between payment perceived security and customer loyalty

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	B	T	F(df)	Sig
Constant	.473 <sup>a</sup>	.224	.2222	19.009	9.814	118.511 (1)	.000 <sup>b</sup>
Payment perceived security				1.012	10.886		

a. Dependent variables: customer loyalty

b. Predictors (constant), payment perceived security

As established in table 2, this study found out that payment perceived security significantly affects customer loyalty. R = 0.473 revealed a moderate significant positive relationship between payment perceived security and customer loyalty. Also, the R-Square (R<sup>2</sup> = 0.224) indicates that the variation in customer loyalty due to payment perceived security accounts for 22.4%, while the rest 77.6% of the variability that may influence customer loyalty has not been captured by the model.

The F= 118.511, shows the overall importance of different independent variables in the regression model. This value along with the p of 0.000 (p < 0.05) further confirms that the model is statistically significant. The findings indicated that the equalized beta coefficient (β = 1.012; p < 0.05) for customer loyalty was positive and statistically significant which showed that the study's payment perceived security positively determined customer loyalty, and the rate of change of customer loyalty for each unit change in payment perceived security was 1.012 units of change. The t-value of 10.886 supports the significance of the independent variable for the explanation of the dependent variable as well.

The regression model for this hypothesis is expressed as:

$$Y = \alpha_0 + \beta_1 X + \mu,$$

Where Y represents customer loyalty, X represents payment perceived security, and α<sub>0</sub> (constant) and β<sub>1</sub> (regression coefficient) are given as:

$$Y = 19.009 + 1.012X.$$

The null hypothesis (H<sub>0</sub>), which posited that payment perceived security does not significantly impact customer loyalty, is rejected. Alternative hypothesis, which state that payment perceived security has a positive and significant relationship with customer loyalty is accepted.

### Discussion of findings

The findings demonstrated that product quality perception significantly affects sales volumes, as reflected in the moderate positive relationship (R = 0.471) and the strong standardized beta coefficient (β = 0.984). Similarly, the analysis revealed that payment perceived security has a significant effect on customer loyalty, with an R-value of 0.473 and a β-value of 1.012, indicating a strong influence.

The first finding, which established a significant effect of product quality perception on sales volumes, aligns with existing literature. Priscila et al. (2025) concur that consumers heavily rely on perceived product quality when making online purchases, significantly influencing brand preference and repeat sales. Similarly, the findings resonate with Yum and Kim (2024), who emphasized that a positive perception of product quality fosters customer trust, ultimately enhancing sales performance. Siti et al. (2024) further support this argument, asserting that product quality remains a fundamental driver of consumer purchase behavior in highly competitive online marketplaces. Anay (2024) corroborates these assertions by highlighting that customers often associate superior product quality with brand credibility, which in turn boosts sales volumes. Additionally, the study's findings agree with Babirye et al. (2024), who established that product descriptions, customer reviews, and quality perceptions play a pivotal role in influencing consumer purchase decisions, reinforcing the significance of product quality perception in driving sales.

The second finding, which demonstrated that payment perceived security significantly affects customer loyalty. The finding resonates with Gupta et al. (2023) that trust in secure online payment systems is a critical determinant of customer retention and continued patronage. Similarly, the study's findings align with those of Iroanwusi et al. (2024), who established that perceived payment security enhances consumer confidence, thereby fostering long-term loyalty to e-commerce platforms. Janel et al. (2024) reinforce this perspective, arguing that concerns about payment security strongly influence online shopping behaviors, with higher perceived security leading to greater customer retention. Li et al. (2025) further support this position by emphasizing that the implementation of secure payment measures, such as encryption and multi-factor authentication, strengthens consumer trust and commitment to digital marketplaces. Moreover, Muruako et al. (2025) lend credence to these findings by demonstrating that platforms with robust payment security frameworks experience significantly higher levels of customer loyalty, reinforcing the study's conclusion that secure transactions play a crucial role in sustaining consumer trust and engagement.

### Implication of the findings

The practical implications suggest that consumer trust plays a pivotal role in fostering e-commerce growth. The findings indicate that secure payment systems, product authenticity, and reliable service delivery are key drivers of trust, which in turn enhances customer retention and purchase frequency. Therefore, Jumia should continuously invest in cybersecurity measures, implement strict product verification processes, and optimize its dispute resolution systems to maintain consumer confidence. Strengthening these aspects will not only improve user experience but also position Jumia as a trusted marketplace in Nigeria's growing e-commerce sector.

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The economic implications highlight that trust-driven consumer behavior significantly impacts digital commerce expansion, business sustainability, and economic development. Platforms that prioritize trust experience higher transaction volumes, attract more vendors, and contribute to job creation within the digital economy. By reinforcing trust through effective policies, seamless logistics, and transparent transactions, Jumia can accelerate market participation, support entrepreneurial growth, and enhance Nigeria's e-commerce ecosystem.

The theoretical implications align with the Technology Acceptance Model (TAM), reinforcing that perceived security, reliability, and ease of use shape consumer behavior in online transactions. The study confirms that trust serves as a mediator between technology adoption and e-commerce growth, demonstrating that consumers are more likely to engage with platforms that ensure secure, seamless, and transparent shopping experiences. This extends the TAM framework within the e-commerce domain, emphasizing the need for businesses to integrate trust-enhancing mechanisms in digital platforms.

The findings provide actionable insights for e-commerce businesses, policymakers, and researchers. By prioritizing trust-building strategies, enhancing security measures, and improving vendor accountability, Jumia and similar platforms can create a resilient and competitive digital marketplace. The study also offers a foundation for future research on consumer trust dynamics and technological innovations in online retailing.

### Conclusion and Recommendations

The study concludes that consumer trust is a critical driver of e-commerce growth on the Jumia platform. Product quality perception significantly influences sales volumes, while perceived payment security has a strong effect on customer loyalty. These findings underscore the importance of trust-building mechanisms in online marketplaces.

It is recommended that Jumia strengthen product verification processes, ensure accurate product descriptions, and enhance customer review systems to improve quality perception. Additionally, investments in advanced payment security technologies and transparent data protection policies are essential for fostering long-term customer loyalty.

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