"The power of trust: How does consumer trust impact satisfaction and loyalty in Indonesian digital business?"

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THE POWER OF TRUST: HOW DOES CONSUMER TRUST IMPACT SATISFACTION AND LOYALTY IN INDONESIAN DIGITAL BUSINESS?

Abstract

The study aims to explore how consumer satisfaction influences consumer trust and, ultimately, builds strong consumer loyalty in the dynamic world of Indonesian ecommerce. The relevance of this study is determined by how e-commerce businesses can improve customer loyalty by enhancing consumer trust and satisfaction. The study used a quantitative research design and surveyed 230 consumers from Jakarta, Indonesia. The data analysis involved utilizing validation and descriptive statistics in MS Excel and inferential statistics through SmartPLS to draw meaningful conclusions. The results showed a positive, significant, and direct relationship between consumer satisfaction and consumer loyalty. The R2 for consumer loyalty indicates that consumer satisfaction and consumer trust explain 56.6% of the variances in consumer loyalty, whereas consumer satisfaction explains 37.4% of the variances in consumer trust. Furthermore, the findings showed that this relationship is strengthened when consumer trust is included as a mediator, demonstrating a complementary partial mediation indicating that trust enhances consumer loyalty. Thus, the study concludes that consumers are more likely to feel loyal to e-commerce websites when their satisfaction is combined with trust. It provides considerable insights into the determinants of consumer loyalty and emphasizes the importance of establishing trust in e-commerce websites as a critical strategy to enhance customer loyalty. This paper also contributes to the broader literature on consumer behavior and loyalty in the context of digital business, providing new insights and perspectives that can help shape future research in this area.

Keywords

consumer satisfaction, consumer trust, consumer loyalty, digital retail, e-commerce, online shopping, Jakarta

JEL Classification M31, M37

INTRODUCTION

The growth of the information technology industry has significantly affected people's lives in Indonesia and globally. Indonesia is experiencing an increase in internet users yearly and is ranked in the top 10 countries with the most significant internet users globally. Indonesia had 204.7 million internet users in January 2022 (Kemp, 2022). According to Kemp (2022), as of the beginning of 2022, Indonesia had achieved a 73.7% internet penetration rate, indicating a growth of 2.1 million internet users (+1.0%) compared to the previous year. Given Indonesia's escalating number of internet users, there is a potential for more significant economic growth, as businesses can reach a larger audience and provide services online. Individuals, businesses, and the government must work together to harness the potential benefits of the digital economy while addressing the challenges and risks.

The surge in internet users in Indonesia has sparked a significant transformation in consumer behavior, with a pronounced inclination

toward online shopping. As a result, this shift in consumer behavior has opened many opportunities for entrepreneurs and businesses to venture into the digital marketplace and provide their products and services online. E-commerce is proliferating in the Indonesian digital economy. According to Muthiariny (2022), the e-commerce market in Indonesia is projected to experience significant growth to \$82 billion by 2025, driven by increased consumer confidence in online shopping, increased internet saturation, and an increase in the disposable income of the middle class. E-commerce platforms such as Bukalapak, Lazada, Shopee, and Tokopedia have gained significant popularity in Indonesia, providing consumers with a wide range of products and services nationwide. These platforms offer convenience, competitive pricing, and a secure online shopping experience, contributing to their success in the Indonesian market (Muthiariny, 2022).

Online shopping has become increasingly popular among millennials in Jakarta, with a significant percentage actively using e-commerce platforms. Numerous potential consumers may still have reservations about purchasing online due to concerns regarding the safety and quality of products available on e-commerce platforms. One of the ways that e-commerce platforms address these concerns is by providing consumer reviews and ratings of products and services, which can help potential buyers make informed decisions. Building public trust is a crucial challenge for e-commerce service providers in Indonesia. To boost consumer trust, e-commerce platforms must prioritize transparency and security in their operations. This includes providing clear and accurate product descriptions, ensuring secure payment and transaction processes, and offering reliable consumer service and support. Consumer satisfaction is critical in shaping the success and growth of e-commerce platforms in Indonesia. When consumers have a satisfying online shopping experience, they are more inclined to develop loyalty and exhibit repeat behavior by returning to the same online platform for future purchases. To achieve high levels of consumer satisfaction, e-commerce platforms should offer incentives and rewards programs to encourage repeat purchases and foster consumer loyalty.

To succeed in Indonesia's fiercely competitive e-commerce market, platforms like Shopee, Tokopedia, and Lazada must enhance their business operations and prioritize meeting their customers' ever-evolving needs and expectations. Building consumer trust, satisfaction, and loyalty is the key to long-term success and growth. This study provides valuable insights into the pivotal role of consumer behavior and loyalty within the digital business landscape in Indonesia. It offers novel perspectives as a guiding resource for future research endeavors.

1. LITERATURE REVIEW AND HYPOTHESES

The retail industry has been significantly impacted by the rapid development of the internet, with e-commerce becoming an integral part of it. The ongoing epidemic has further emphasized the critical role of e-commerce in people's lives. However, e-retailers face a considerable challenge in retaining customers, making consumer loyalty a vital factor in online retail. Therefore, online retailers must understand their customers' satisfaction and trust levels. Research has extensively explored the key factors that affect online consumer loyalty and trust, including consumer satisfaction (Jeon et al., 2021; Nguyen et al., 2013; Siagian & Cahyono, 2014). Consumer satisfaction is conceptualized as comparing the rewards or benefits of consuming a product or service and the costs or expenses associated with acquiring it. In contrast, operationally, consumer satisfaction can be measured as an attitude or evaluation of a service or product based on its perceived satisfaction with its various attributes or features (Churchill & Surprenant, 1982). Consumer satisfaction refers to the level of fulfillment or pleasure that a consumer experiences from using a product or service. It assesses whether a service or product meets or surpasses the consumer's expectations and provides a positive experience (Oliver, 1999). Giao (2020) stated that consumer satisfaction is often based on how well a product or service meets the consumer's expectations.

In the realm of marketing, consumer satisfaction refers to the consumer perception of how effectively a product or service fulfills their needs and expectations, considering its usage context. It measures how well a company has delivered on its promise to provide a quality product or service that meets consumer needs and expectations. Consumer satisfaction is not just about product quality, but it involves the overall experience of a consumer in using the product or service and the relationship with the provider (Cengiz, 2010). The satisfaction consumers experience with a product or service determines their intention to repurchase or recommend it to others. Therefore, it is crucial for companies not only to meet but also surpass consumer expectations to cultivate strong consumer loyalty and enhance the chances of repeat business (Yulida et al., 2023). Likewise, when consumers develop trust in an e-commerce website and have a positive experience, they are more inclined to revisit and make repeated purchases. Building trust and satisfaction is crucial for building a solid consumer base in the e-commerce industry (Eid, 2011).

Kotler and Keller (2009) define consumer satisfaction as an individual's level of contentment or dissatisfaction from comparing a product's perceived performance and initial expectations. Consumers will likely feel satisfied if the performance surpasses their expectations. They will likely feel dissatisfied if it falls below their expectations. Lovelock and Wirtz (2011) emphasize that consumer satisfaction is based on the consumer's perceived experience. It evaluates the benefits or attributes of a product or service that meets consumers' sense of comfort in fulfilling consumption needs. The consumer's perception of satisfaction is subjective and is influenced by the expectations and experiences of the product or service. Businesses must focus on satisfying consumers' needs and expectations to create long-term relationships. This is because satisfied consumers demonstrate a higher likelihood of returning to the same company for future purchases and being more inclined to recommend the company to others. Therefore, companies must prioritize consumer satisfaction as a critical business strategy (Siddiqui et al., 2019).

The user interface refers to how users establish communication or engage with an e-commerce

provider (Gummerus et al., 2004). Its quality directly influences customer satisfaction, as Park and Kim (2003) demonstrated. A well-designed user interface can provide users with a positive experience that can contribute significantly to consumer satisfaction. In line with this, Tan et al. (2009) identified fourteen factors that can effectively develop B2C e-commerce websites. In online shopping, consumers browse and select products through an e-commerce website or mobile app, making payments and receiving deliveries without visiting a store. Al-Jahwari et al. (2018) also identified other factors influencing the satisfaction of online shopping consumers, including easy-to-use websites, availability of product information, responsiveness of consumer service, and timely delivery of orders. These factors can create a positive shopping experience for consumers and develop a sense of satisfaction with the overall service.

Mayer et al. (1995) define trust as a psychological state or attitude encompassing optimistic and assured expectations regarding another individual or entity's intentions, behaviors, and decisions. Trust is a belief that someone or something will behave in a certain way or perform as expected based on prior experiences or expectations (Barnes & Winardi, 2003). Trust plays a pivotal role in establishing a successful buyer-seller relationship, essential for businesses to attract and retain consumers. Customers are more inclined to buy a product or service from sellers they believe in and trust, as they expect the company to fulfill its obligations and keep its promises (Nguyen et al., 2013).

Kimery and McCord (2002) mentioned that consumers' tolerance for flaws in online transactions is a measure of their trust in e-commerce based on their high hopes for the online retailer. According to Firdayanti (2012), consumer trust in an online seller's dependability depends on the consumer's past interactions with the seller and whether the vendor lives up to the consumer's expectations. Firdayanti's (2012) definition of trust in e-commerce is similar to Kimery and McCord's (2002) definition, as both emphasize the importance of consumer expectations and experiences in shaping trust. Similarly, Sam and Tahir (2009) argue that trust is an essential factor influencing consumers' online purchase intentions. When consumers trust an online store or seller, they are likelier to repeat purchases and recommend the store to others. This emphasizes how crucial it is to create and preserve consumer trust in e-commerce to increase customer retention and business success.

According to Gummerus et al. (2004), the user interface's effectiveness may have a positive impact on trust. Roy et al. (2001) revealed similar findings, indicating that user guidance, interface design, and ease of navigation can considerably influence customer trust. In e-commerce, a consumer's belief and trust in an online company or e-commerce application are crucial to developing and maintaining a loyal consumer base. Belief refers to a person's expectations being met. At the same time, trust is a consumer's confidence in an online seller or store based on previous experiences or the seller's reputation. This trust can translate into consumer loyalty, repurchase intention (Yulida et al., 2023), and recommendations for positive word-of-mouth (Sahira et al., 2023). Therefore, internet businesses and e-commerce applications must prioritize trust to build a successful and long-lasting business.

The literature has researched brand loyalty in detail, and two main dimensions of brand loyalty have been identified: loyal behavior and loyal attitude. According to Jacoby and Chestnut (1978), a solid commitment to a brand can elicit loyalty. This commitment is based on a series of recognized trusts that benefit the brand purchased. When consumers perceive that the brand has the expected characteristics, individuals are more likely to form a favorable opinion of the brand and are loyal to it. Oliver (1999) developed a conceptual framework of loyalty that includes four backgrounds: cognitive, affective, loyalty, and action loyalty. The cognitive background relates to a consumer's beliefs and attitudes toward a brand. while the affective background refers to a consumer's emotional attachment to a particular brand. Loyalty describes a consumer's intention to remain faithful to a brand, while the action loyalty background pertains to the actual behaviors exhibited by a loyal consumer, such as repeat purchases (Yulida et al., 2023). Together, these frameworks illustrate the complex nature of brand loyalty and emphasize the importance of building trust

and meeting consumer expectations to elicit loyalty from consumers.

Many scholars agree that consumer loyalty is a multifaceted concept encompassing behavioral and attitudinal components. Makanyeza and Chikazhe (2017) similarly argue that consumer loyalty combines behavioral and attitudinal dimensions, including repeat purchases, positive word-of-mouth, and emotional attachment to a brand. More recently, Mesquita de Sousa et al. (2020) systematically reviewed the literature on consumer loyalty and found that most studies recognize the multidimensionality of loyalty, incorporating both behavioral and attitudinal aspects. Overall, the literature supports the idea that consumer loyalty is a complex construct that includes both behavioral and attitudinal dimensions and that future research should continue to investigate the various components and antecedents of loyalty.

Siagian and Cahyono (2014) emphasize the value of consumer loyalty in e-commerce, stating that it is a critical outcome of online businesses and signals success in a competitive market environment. Kotler and Keller (2009) defined loyalty as an attitude characterized by trust in the dependability and reliability of a product or service, leading a consumer to continue purchasing from a company despite offers from competitors. This definition underscores the significance of trust in nurturing and maintaining customer loyalty. It emphasizes that trust is a fundamental element in cultivating enduring customer relationships. Overall, customer loyalty, which can be described as an attitudinal and behavioral commitment to a brand or business, is a binding effect of e-commerce.

Consumer satisfaction refers to the feeling of an individual who believes that his expectations have been met or exceeded after making a transaction, whether a product or service is purchased online. According to Moriuchi and Takahashi (2016), satisfaction is a retrospective evaluation of past transactions, explicitly referring to consumer satisfaction in previous purchasing experiences on e-commerce websites. Consumer satisfaction is crucial in establishing and maintaining consumer loyalty as it positively influences consumer confidence and trust.

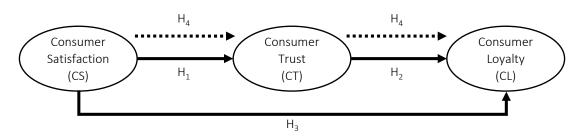


Figure 1. Conceptual model

Madjid (2013) and Chinomona and Sandada (2013) identified a substantial positive correlation between consumer trust and consumer satisfaction, suggesting that satisfied customers are highly likely to trust a product or business. Additionally, Mardatilla et al. (2017) found that satisfaction positively impacts trust in online shopping.

Previous research has consistently indicated a positive correlation between loyalty and trust, with trust tending to strengthen as loyalty develops. Nguyen et al. (2013) and Utami (2015) found that consumer trust positively affects loyalty. In line with previous findings, Leninkumar (2017) found a positive relationship between consumer trust and loyalty. Pratminingsih et al. (2013), Leninkumar (2017), and Romadhan et al. (2019) concluded that consumer satisfaction directly affects consumer loyalty.

Madjid (2013) examined the interrelationships among consumer satisfaction, trust, and loyalty, H_4 : revealing that consumer trust acts as a partial mediator, bridging the link between satisfaction and loyalty. Similarly, Leninkumar (2017) discovered that consumer satisfaction indirectly influences loyalty through trust. Additionally, Haron et al. (2020) investigated the role of trust as a moderator in the association between consumer satisfaction and loyalty, finding that trust plays a vital role in both factors. The study further revealed that trust mediates approximately 50% of the relationship between consumer satisfaction and loyalty, highlighting the significance of trust in explaining why satisfied consumers evolve into loyal customers. H_4 :

The study delves into the factors influencing consumer loyalty in online shopping, drawing on previous research highlighting the importance of consumer satisfaction, trust, and loyalty in today's highly competitive e-commerce market. For any business to thrive, building and maintaining customer loyalty is critical. This requires earning consumers' trust, ensuring satisfaction, and consistently delivering high-quality products or services. The study utilizes a conceptual model (Figure 1) that encompasses the constructs of consumer satisfaction, trust, and loyalty, offering a theoretical framework to explore how these factors can enhance e-commerce websites' competitive positioning within Indonesia and beyond. Consequently, the following hypotheses are postulated:

- *H1: Consumer satisfaction positively influences consumer trust in e-commerce websites.*
- *H*₂: Consumer trust positively influences consumer loyalty in e-commerce websites.
- *H*₃: Consumer satisfaction positively influences consumer loyalty in e-commerce websites.
- *H*₄: Consumer satisfaction and consumer loyalty are positively mediated by consumer trust in e-commerce websites.

2. METHODS

The study enrolled individuals residing in Jakarta, Indonesia, who were aged between 17 and 41 and had carried out a transaction on any of the numerous e-commerce platforms, including Shopee, Tokopedia, and Lazada. These three websites accounted for 78% of the most frequently used e-commerce platforms (Muthiariny, 2022). The study used purposive sampling, a non-probability sampling method, to gather the data. Out of the 230 total responses collected, 21 were excluded from the analysis because their standard deviations were below 0.25 (calculated using MS Excel). This indicated a high degree of similarity in the questionnaire responses of these participants. To measure customer satisfaction, the paper utilized a research instrument that included seven questions adapted from previously validated scales by Swasta and Irawan (2000), Leninkumar (2017), and Moriuchi and Takahashi (2016). The instrument exhibited robust internal consistency (Cronbach's alpha) value of 0.909. To assess consumer trust, the paper used six items adapted from McKnight et al. (2002), Jiang et al. (2016), and Hur et al. (2011), with a reported reliability of 0.771. For measuring customer loyalty, ten items were adopted from Jiang et al. (2016), Siddiqui et al. (2019), and Hur et al. (2011), with a reported reliability of 0.904. All items in the research instrument were assessed using a 5-point Likert scale.

3. RESULTS

The study employed Smart-PLS version 3.3 as the chosen statistical analysis tool. This software is widely recognized and utilized in social science research to evaluate the proposed structural model and analyze the collected data. The analysis encompassed three primary steps. The first step involved conducting a descriptive analysis to gather basic information about the demographic profiles of the respondents. In the second step, the paper evaluated the reliability and validity of the measurement model by examining factors such as factor loadings, convergent validity, discriminant validity, and measure reliability. The third step entailed assessing the proposed structural model by analyzing the direct and indirect effects of the variables on consumer loyalty and investigating the mediating role of consumer trust between consumer satisfaction and loyalty. The paper utilized Smart-PLS to analyze the structural model and determine the significance of the paths within the model (Hair et al., 2014).

Table 1 presents the demographic information of the study participants, including gender, age, employment status, income, percentage of monthly payments spent on online shopping, highest online product prices purchased, maximum prices willing to pay, and e-commerce website preference. The data analysis indicates that the sample comprised approximately equal proportions of male and female respondents. Furthermore, most respondents were adults, with 61.7% employed in the private sector and falling within the age range of 25 to 32. Additionally, 54.8% of respondents reported spending less than 10% of their monthly income online shopping. Furthermore, 47% of the respondents reported purchasing products for less than one million rupiahs. In comparison, 83.9% were willing to spend between five to ten million rupiahs on the item available online. Lastly, 72.2% of respondents preferred Shopee as their online e-commerce website or application.

Table 1. Descriptive analysis

Demographic profile	Frequency	%
Gen		
Male	108	47%
Female	122	53%
Total	230	100%
Ag	ge	
17-24 years old	68	29.6%
25-32 years old	143	62.2%
33-41 years old	19	8.3%
Total	230	100%
Occup	ation	
Lecturer	2	0.9%
Housewife	8	3.5%
Private employee	142	61.7%
SOE employee	3	1.3%
Student	43	18.7%
Government employee	12	5.2%
Unemployed	1	0.4%
Entrepreneur	19	8.3%
Total	230	100%
Most expensive pr	oducts purchased	
< Rp 1 million	108	47%
Rp 1–2 million	43	18.7%
Rp 2–3 million	34	14.8%
> Rp 3 million	45	19.6%
Total	230	100%
Types of e-comm	nerce platforms	
Shopee	166	72.2%
Tokopedia	46	20%
Lazada	18	7.8%
Total	230	100%
Percentage of mon	thly income spen	t
< 10%	126	54.8%
11%-20%	82	35.7%
21%-30%	13	5.7%
> 31%	9	3.9%
Total	230	100%

Evaluating the measurement model in a structural equations approach is essential to ensure the constructs' validity, reliability, and collinearity. This study employed Cronbach's alpha coefficients and composite reliability ≥ 0.7 , which denotes excel-

Latant constructs	Internal c	onsistency	Convergent validity	Collinearity
Latent constructs	Cronbach's alpha	Composite reliability	AVE	VIF
Cut-off values	> 0.70	> 0.70	> 0.50	≤ 3.3
Customer loyalty	0.904	0.921	0.566	-
Customer satisfaction	0.909	0.928	0.647	1.596
Customer trust	0.771	0.853	0.593	1.596

Table 2.	Reliability.	validity.	and c	ollinearity	of the	latent variables
	nenaonicy,	vanarcy,	una c	omnearrey		

lent reliability. Values ≥ 0.50 confirmed the constructs' convergent and divergent validity (Hair et al., 2014). The collinearity analysis was performed using the VIF (Variance Inflation Factor) to evaluate the relationships among the measured latent variables; VIF values indicate non-collinearity between the measured latent variables, as reported in Table 2.

The constructs' validity, reliability, and collinearity are detailed in Table 2. The findings demonstrate that all constructs have strong reliability coefficients, with composite reliability values over 0.7 and Cronbach's alpha values above 0.7. Additionally, the convergent and divergent validity of the constructs is confirmed with values above 0.5. The collinearity analysis using VIF shows no collinearity between the measured latent variables. The internal consistency of the indicators is also analyzed.

Henseler et al. (2016) suggest that in addition to the Fornell-Larcker criterion (Table 3), the heterotrait-monotrait ratio (HTMT) should be employed with a 0.85 threshold to assess discriminant validity. Utilizing the criterion stated, the examination of the results presented in Table 3 reveals that all correlations are within the threshold of 0.85 for discriminant validity. Therefore, the three constructs measure distinct aspects of the phenomenon under study.

To achieve a higher level of internal consistency and convergent validity, three items (CL8, CT2, CT3) were removed (Table 4). The measurement model was acceptable since it satisfied all the criteria once the elements were removed. Except for item CT1, which has a factor loading of 0.681, all remaining items displayed a factor loading \geq 0.70. The results for Cronbach's alpha, composite reliability, and AVE are all above the necessary cut-off, so it was kept. These findings imply that the measurement model's constructs are valid and reliable, with no collinearity issues.

The cut-off points for the different tests are met, indicating the constructs' validity, reliability, and collinearity. The information obtained from Tables 2, 3, and 4 provides evidence of such validity of the measurement model.

Hair et al. (2014) recommend evaluating the structural model's predictive capabilities, relationships between constructs, and other relevant criteria. However, assessing the structural model for collinearity is essential before proceeding with this analysis. Based on the information provided in Table 4, the collinearity values are well below the recommended cut-off of ≤ 3.3 . Hair et al. (2014) further elaborated that the critical criteria for evaluating the structural model in PLS-SEM include the significance of the path coefficients, R² values, effect sizes (f^2), and predictive relevance (Q^2). These factors will provide valuable insights into the relationships and predictive capabilities of the model.

The R^2 value of 0.566 for the latent variable of consumer loyalty suggests that consumer satisfaction and trust account for 56.6% of the variances in

Constructs	Fornell-Larcker Criterion (FLC)			Heterotra	it-Monotrait Rat	io (HTMT)
Constructs	CL	CS	СТ	CL	CS	СТ
CL	0.752					
CS	0.705	0.804		0.772		
CT	0.638	0.611	0.77	0.741	0.72	

 Table 3. Discriminant validity

Note: CS – consumer satisfaction; CL – consumer loyalty; CT – consumer trust.

Latent variable CODE		Indicators	Ou	ter load	ing	VIE
		Description	CL CS		СТ	VIF
	CL1	l intend to continue to transact using e-commerce.	0.779	-		2.36
	CL10	Shopping through e-commerce is better than shopping in person.	0.708			1.958
	CL2	I will always choose to use e-commerce in the purchase of my needs.	0.769			2.412
	CL3	I intend to make more purchases through e-commerce.	0.774			2.318
Consumer	CL4	I will still choose the new services offered by e-commerce.	0.786			2.12
Loyalty	CL5	I recommend e-commerce to those who need my advice.	0.801			2.403
(CL)	CL6	I say positive things about e-commerce to others.	0.7			2.268
	CL7	I will give a positive review of e-commerce on the internet.	0.722			2.336
	CL8	I have no intention of switching to a service provider other than e-commerce.*	0.682			1.779
	CL9	I chose e-commerce as my first choice in shopping.	0.727			2.14
	CS1	Based on my experience shopping using e-commerce, I am delighted with the products and services.		0.769		2.146
	CS2	I am satisfied shopping through e-commerce.		0.826	-	2.73
Consumer	CS3	Overall, the e-commerce I chose provides excellent service.		0.827		2.499
Satisfaction (CS)	CSV			0.775		2.026
	CS5	I will refer friends and relatives to use e-commerce.		0.77		1.959
	CS6	Overall, I am satisfied with the decision to use e-commerce in shopping.		0.843		2.626
	CS7	My choice to use e-commerce was the right choice.		0.815		2.286
	CT1	The e-commerce I choose always acts honestly in every transaction.			0.681	1.316
	CT2	My online transactions are always safe using e-commerce.*			0.654	1.515
Consumer Trust					0.624	1.503
(CT)	CT4	Shopping on e-commerce was able to meet my needs.			0.736	1.25
	CT5	The information contained in e-commerce is very detailed.			0.815	2.344
	CT6	The product information contained in e-commerce is complete.			0.839	2.458

Table 4. Indicator analysis, discriminant validity, and collinearity

Note: * removed from the analysis.

consumer loyalty. This level of explanatory power is considered moderate. As Chin (2010) suggested, a value exceeding the 33% threshold indicates good explanatory power.

Cross-validation, employing Q^2 values, is a crucial technique for evaluating the predictive relevance of the variable internal to the model in a structural equation model. Initially proposed by Chin (2010), this approach utilizes blindfolding, wherein a portion of the data is systematically excluded from predicting the missing values based on the remaining data. A Q^2 value of 0.313, which surpasses zero, suggests a moderate to good predictive power regarding the endogenous latent variable of consumer loyalty. This demonstrates the model's robustness and its capacity to effectively predict the impact of consumer satisfaction and trust on consumer loyalty.

The effect size (f^2) is a significant structural equation modeling (SEM) metric for evaluating the significant relationship between exogenous and

endogenous variables (Hair et al., 2014). Precisely, it measures the amount of variance in an endogenous variable that can be described by an exogenous variable while accounting for the effects of other external variables in the model. 0.15 or higher f^2 effect size is reflected as a medium and 0.35 or higher effect size is deemed significant (Mandagie & Rana, 2023). In the current study, the f^2 effect size for the consumer satisfaction construct is determined to be 0.365, indicating a large effect size. Also, the consumer trust construct's f^2 effect size is calculated as 0.158, representing a medium effect size. These results indicate that both consumer satisfaction and trust play significant roles in influencing consumer loyalty (Table 5).

The findings for the structural path model, depicted in Figure 2, are summarized in Table 6. The results revealed that consumer satisfaction positively affects consumer trust (H_1 : $\beta = 0.611$, t = 12.971, p< 0.000); H_1 is supported. The results also revealed that consumer trust positively affects consumer loyalty (H_2 : $\beta = 0.331$, t = 5.742, p < 0.000); there-

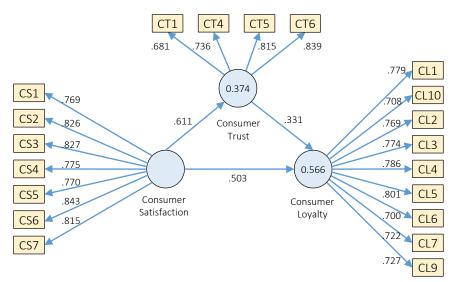


Figure 2. Structural model output (SEM-PLS)

Table 5. Results	(summarized)
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Labort construct	D ²	o'	f^2		
Latent construct	R-	Q-	Consumer satisfaction	Consumer trust	
Canaumar lavaltu	0.566	0.313	0.365	0.158	
Consumer loyalty	Medium	Predictive relevance	Large effect	Medium effect	

Table 6. Structural path model

Ulweatheese	Structural Paths	Path Coefficient	Bootst	rapping	Result
Hypotheses	eses Structural Paths Path Coefficient	t-value	<i>p-</i> value	Result	
H ₁	$CS \to CT$	0.611**	12.971	0.000	Supported
H ₂	$CT \rightarrow CL$	0.331**	5.742	0.000	Supported
H ₃	$CS \rightarrow CL$	0.503**	9.159	0.000	Supported

Note: ** t-value is significant at p < 0.05. CS – consumer satisfaction; CL – consumer loyalty; CT – consumer trust.

fore, H_2 is supported. Finally, the results revealed that consumer satisfaction positively affects consumer loyalty (H_3 : $\beta = 0.503$, t = 9.159, p < 0.000); hence H_3 is supported.

3.1. Mediation analysis

The results of a mediation analysis investigated the mediating role of consumer trust on the relationship between consumer satisfaction and consumer loyalty. The results in Table 7 suggest that the total effect of consumer satisfaction on consumer loyalty was significant, indicating that consumer satisfaction has a direct effect on consumer loyalty (H_4 : β = 0.706, t = 19.959, p < 0.000). However, after including the mediating variable of consumer trust in the analysis, the impact of consumer satisfaction on consumer loyalty remained significant, indicating a total effect that consumer satisfaction has (both direct and indirect) on consumer loyalty through consumer trust ($\beta = 0.504$, t = 9.159, p < 0.000). The indirect effect of consumer satisfaction on consumer loyalty through consumer trust was significant, indicating that consumer trust partially mediates the relationship between consumer satisfaction and consumer loyalty ($\beta = 0.202$, t = 5.556, p < 0.000). This means that the effect of consumer satisfaction on consumer loyalty is partially explained by the impact of consumer satisfaction on consumer trust, which influences consumer loyalty.

The model depicted in Figure 2 demonstrates substantial explanatory power, particularly regarding the mediation model, which exhibits complementary partial mediation. This underscores the significance of consumer trust as a mediator between consumer satisfaction and the formation of consumer loyalty among e-commerce consumers.

Direct Relationship	Direct Effect	Direct Effect (95% Cl)	t-value	Significance (p < 0.05)	Condition
$CS \rightarrow CL$	0.504	(0.407 – 0.589)	9.159	0.000	Significant
$CT \rightarrow CL$	0.330	(0.234 - 0.423)	5.742	0.000	Significant
Mediation	Indirect Effect	Indirect Effect (95% Cl)	t-value	Significance (p < 0.05)	Condition
CS→CT→CL	0.202	(0.144 - 0.264)	5.556	0.000	Complementary (Partial Mediation)
Total Eff = Direct Effect +		Total Effect (95% CI)	t-value	Significance (p < 0.05)	Condition
CS ightarrow CL	0.706	(0.638 – 0.756)	19.959	0.000	Significant

Table 7. Mediation analysis

Note: CS – consumer satisfaction; CL – consumer loyalty; CT – consumer trust.

4. DISCUSSION

The study sought to investigate whether trust was a mediating factor in the relationship between satisfaction and loyalty. The proposed model successfully accounted for 56.6% of the variance in loyalty and 37.4% in trust, demonstrating good reliability and validity. The findings revealed that consumer satisfaction significantly impacted both trust and loyalty, and the test results supported all hypotheses. Overall, this study provides valuable insights into the factors influencing customer loyalty in the e-commerce sector, offering promising avenues for further exploration.

Primarily, consumer satisfaction positively influences consumer trust in e-commerce websites (*H*₁: $\beta = 0.611$, t = 12.971, p < 0.000); H₁ is supported. These results supported the findings of Moriuchi and Takahashi (2016), Chinomona and Sandada (2013), and Mardatilla et al. (2017). The findings imply that more consumers are satisfied with the e-commerce experience; they would trust and return to that platform more frequently. Therefore, management should prioritize building and maintaining trust with their customers, with consumer satisfaction being an essential precursor to trust-building efforts. E-commerce website managers must demonstrate their commitment to customers by providing high-quality products and services, delivering on promises, and being transparent in business practices. Customers must be led to believe that the company will not behave opportunistically for its interest. Customers who perceive a company as untrustworthy will likely switch their allegiance to a competitor. Therefore, e-commerce websites must satisfy their customers by building and maintaining trust with them to

create a loyal customer base that is essential for the business's long-term success.

This study's second finding is that trust positively impacts customer loyalty in e-commerce websites (H_2 : $\beta = 0.331$, t = 5.742, p < 0.000), which supports H_2 . This result is consistent with Nguyen et al. (2013), Utami (2015), and Leninkumar (2017). While customer satisfaction is crucial for providing a positive experience, it is insufficient for creating customer loyalty. Trust is also essential for building and maintaining customer loyalty. In order to accomplish this objective, e-commerce managers need to ensure that they provide high-quality products and services that not only meet but also surpass customer expectations in terms of quality, functionality, and reliability. Additionally, they should fulfill their promises to customers, such as timely delivery, accurate product descriptions, and warranty/guarantee obligations. Openness and transparency in business practices, such as pricing, shipping, and returns policies, are crucial in avoiding misunderstandings or surprises that may undermine trust.

The third finding of the study shows that consumer satisfaction positively impacts consumer loyalty in e-commerce websites, which is supported by the significant correlation between the variables (H_3 : $\beta = 0.503$, t = 9.159, p < 0.000). The results align with Pratminingsih et al. (2013) and Romadhan et al. (2019). To enhance customer loyalty, e-commerce managers should prioritize customer satisfaction as a critical focus. This can be achieved by delivering products and/or services that meet or even exceed customer expectations. Additionally, promptly tackling inquiries and concerns can improve customer satisfaction by providing exceptional customer service. Offering incentives such as free shipping, hassle-free returns, and exchanges can also play a vital role in fostering customer loyalty. Moreover, implementing a loyalty program, personalizing the customer experience, using customer feedback to improve products and services, and maintaining transparency in business practices are some strategies that can build customer trust. E-commerce managers should also show appreciation for customers by providing exclusive discounts, early access to sales, and personalized promotions to maintain their loyalty.

Finally, consumer satisfaction and loyalty are positively mediated by consumer trust in e-commerce websites (H_4 : $\beta = 0.706$, t = 19.959, p < 0.000; therefore, H₄ is supported. This outcome confirms the findings by Haron et al. (2020), Madjid (2013), and Leninkumar (2017), suggesting that customer trust is crucial in mediating the association between consumer satisfaction and consumer loyalty. By understanding the relationship between consumer satisfaction, trust, and loyalty, e-commerce website operators can allocate their marketing resources more effectively and develop targeted strategies to enhance customer satisfaction and trust. For instance, e-commerce managers can enhance customer satisfaction by implementing strategies such as providing high-quality products, delivering exceptional customer service, and facilitating seamless transactions. They can also work on building trust with their customers by being transparent about their business practices, protecting customer data, and addressing customer complaints and concerns promptly. By doing so, e-commerce website operators can create a loyal customer base and ultimately achieve their business objectives.

Acknowledging the limitations is crucial to ensure an accurate interpretation of the findings. Firstly, the data collection was restricted to the top three e-commerce websites utilized in Jakarta, which may restrict the generalizability of the results to other e-commerce businesses. Secondly, the study solely included participants from the Jakarta metropolitan area, thereby limiting the applicability of the findings to other regions. Thirdly, the cross-sectional design employed in the study impedes the establishment of causal relationships between variables. A longitudinal study would have been more suitable for determining causal links. Fourthly, the study lacked an experimental approach, which limited control over the impact of extraneous variables. Lastly, the study did not consider influential factors on customer loyalty, such as price perception, corporate image, and switching costs. Future research should incorporate these variables to enhance the research model.

CONCLUSION

This study investigated the factors influencing online consumer loyalty and trust in Indonesian e-commerce businesses. The paper used a survey approach and created a theoretical framework to examine the effects of consumer satisfaction, consumer trust, and consumer loyalty. The framework provided valuable insights for exploratory research, showing that the model could explain 56.6% of the variance in consumer loyalty and 37.4% in consumer trust. The findings revealed that consumer satisfaction directly impacts consumer loyalty, and trust partially mediates the association between consumer satisfaction and loyalty.

The research findings offer valuable insights for e-commerce website operators in Jakarta as it guides how to develop effective strategies that create and maintain customer loyalty. The results of this study hold significant implications for e-commerce website operators not only in Jakarta, Indonesia, but also beyond. By comprehending the importance of consumer satisfaction and trust in fostering customer loyalty, e-commerce website operators can allocate their marketing resources more effectively and develop targeted strategies to enhance customer satisfaction and trust. Ultimately, this understanding can contribute to establishing a loyal customer base, which is essential for the sustained success of any business.

AUTHOR CONTRIBUTIONS

Conceptualization: Hadi Kurniadi, Junaid Ali Saeed Rana. Data curation: Hadi Kurniadi, Junaid Ali Saeed Rana. Formal analysis: Hadi Kurniadi, Junaid Ali Saeed Rana. Funding acquisition: Junaid Ali Saeed Rana. Investigation: Hadi Kurniadi, Junaid Ali Saeed Rana. Methodology: Hadi Kurniadi, Junaid Ali Saeed Rana. Project administration: Hadi Kurniadi, Junaid Ali Saeed Rana. Resources: Hadi Kurniadi, Junaid Ali Saeed Rana. Software: Hadi Kurniadi, Junaid Ali Saeed Rana. Supervision: Junaid Ali Saeed Rana. Validation: Hadi Kurniadi, Junaid Ali Saeed Rana. Visualization: Junaid Ali Saeed Rana. Writing – original draft: Hadi Kurniadi, Junaid Ali Saeed Rana.

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