

The Influence Of Digital Service Quality On Loyalty With Digital Satisfaction As A Mediating Variable Among Generation X In Bandung City On The Bukalapak E-Commerce Platform

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<i>Article Info</i>	<i>Abstract</i>
Received: 2025-01-20 Revised: 2025-03-28 Accepted: 2025-05-28 Keywords: Digital service quality, Digital satisfaction, Customer loyalty, Generation X	<i>This study examines the influence of digital service quality on customer loyalty, with digital satisfaction as a mediating variable, focusing on Generation X users (born 1965–1980) of the Bukalapak e-commerce platform in Bandung, Indonesia. The research was motivated by the surge in e-commerce adoption during the COVID-19 pandemic and Bukalapak's concurrent decline in market share. Using a quantitative explanatory design, data were collected via an online survey of 150 eligible respondents and analyzed through path analysis with SmartPLS 3.2.9. The results demonstrate that digital service quality significantly enhances digital satisfaction ($\beta = 0.782$, $*p^* < 0.001$) and directly impacts loyalty ($\beta = 0.288$, $*p^* = 0.001$). Digital satisfaction further exerts a strong positive effect on loyalty ($\beta = 0.674$, $*p^* < 0.001$) and partially mediates the relationship between service quality and loyalty. These findings contribute to the literature by validating a partial mediation model in the e-commerce context and offer practical insights for platforms targeting Generation X, emphasizing the need for user-centric digital features to foster satisfaction and sustained loyalty.</i>

I. Introduction

The COVID-19 pandemic, which began in Wuhan, China at the end of 2019, brought massive disruptions to social and economic systems around the world. Indonesia recorded its first confirmed case in March 2020 (Lisdayanti, 2020; Brahma, 2020). Following that, the government enforced Large-Scale Social Restrictions (PSBB) based on the Health Quarantine Law No. 6 of 2018, compelling around 80% of the population to stay at home for long stretches (Yuswohady, 2020). This situation triggered a sharp increase in digital activity across various sectors. The rapid shift was supported by Indonesia's solid digital infrastructure, including over 160 million smartphone users (Statista, 2020), and a large population of young people who are generally tech-savvy (McKinsey, 2018).

One of the biggest beneficiaries of this transformation was the e-commerce sector. The value of online consumer goods purchases leapt from USD 9.536 billion in 2019 to USD 30.31 billion in 2021 (Hootsuite, 2021). Platforms like Tokopedia and Shopee grew significantly, both in terms of user engagement and market share. But behind this success story lies a notable exception: Bukalapak. Once ranked as the second-largest e-commerce player in Indonesia, Bukalapak saw its traffic plunge—from 116 million website visits in Q4 2018 to just 34.17 million in Q1 2021, a drop of over 50% (iPrice, 2021). What makes this even more perplexing is that Bukalapak had already invested heavily in platform upgrades and user experience design, making its fall an intriguing case study in customer loyalty.

In the digital landscape, customer loyalty is a cornerstone of long-term success. Foundational theories by Oliver (1992) and Kotler & Keller (2012) argue that loyalty is deeply rooted in consistent customer satisfaction. Recent studies highlight digital service quality (DSQ) as a key factor in achieving that satisfaction—especially when it comes to system efficiency, fulfillment accuracy, privacy safeguards, and responsive service (Parasuraman et al., 2005). In Indonesia, research by Siagian and Cahyono (2014) confirms that website quality strongly influences consumer trust and their willingness to make repeat purchases, reinforcing loyalty over time.

Bukalapak's situation is particularly puzzling when viewed through these theoretical lenses. Despite implementing user-centered design (UCD) principles aimed at improving interface ease and functionality (Khasanah et al., 2019; Sari et al., 2016), the platform still suffered from widespread user dissatisfaction. According to YLKI (2019), Bukalapak accounted for 17.6% of all complaints in the e-commerce sector, with customers frequently raising issues about late deliveries, rigid return policies, and lackluster after-sales service. This disconnect between technical design and service execution suggests a deeper challenge in translating digital capability into real, lasting customer relationships.

This research explores three key questions. First, why didn't Bukalapak's significant investment in user experience design succeed in retaining its customer base? Second, which aspects of digital service quality have the strongest impact on consumer loyalty in Indonesia's e-commerce sector? And third, how can digital platforms better connect their technological innovations with day-to-day operations to build a lasting competitive edge?

To answer these questions, the study adopts a mixed-methods approach. It combines quantitative analysis—looking at web traffic trends and transaction data—with qualitative insights drawn from customer complaints and satisfaction indicators. A special focus is placed on Generation X consumers, those aged 45–54, who, during the pandemic, became one of the most active online shopping demographics (Hootsuite, 2021). Despite their growing presence, this group remains relatively underrepresented in e-commerce research. By looking closely at how technology, service quality, and generational behavior intersect, this study aims to uncover practical insights for platforms navigating Indonesia’s fast-changing digital market.

The research makes two major contributions. Academically, it expands current models of digital service quality by factoring in generational preferences and the specific dynamics of emerging markets. Practically, it provides concrete, evidence-based strategies that digital businesses can use to better align innovation with operational performance in a highly competitive environment.

2. Literature Review

Digital Service Quality (DSQ)

Parasuraman et al. (2005, p. 217) define digital service quality as “the extent to which a website facilitates efficient and effective shopping, purchasing, and delivery of products and services.” Over time, digital service quality has become a critical benchmark for evaluating the performance of online retail platforms. Various scholars have proposed key dimensions to assess how consumers perceive this quality. Parasuraman et al. (2005) introduced seven core dimensions: four that relate directly to the primary online service experience—efficiency, system availability, fulfillment, and privacy—and three that pertain to service recovery, known as E-RecS-QUAL: responsiveness, compensation, and contact.

While the core dimensions focus on a smooth and effective user experience during regular site interactions, the E-RecS-QUAL aspects capture how well a platform responds when service issues arise (Yang & Fang, 2004; Nusair & Kandampully, 2008). Essentially, digital service quality reflects user impressions when everything works as expected, whereas E-RecS-QUAL evaluates how effectively a platform handles service failures.

Digital Satisfaction (DS)

Digital satisfaction refers to users’ emotional responses following their engagement with a digital service system (Laudon & Laudon, 2004). It stems from cognitive evaluations, where the actual user experience meets—or even exceeds—expectations. In e-commerce, digital satisfaction typically manifests through several key aspects: ease of access (user-friendly interfaces and intuitive navigation), service speed (quick load times and checkout processes), information accuracy (clear and trustworthy product details and reviews), transaction security (safe and secure payments and data handling), and comfort of use (a seamless and pleasant overall experience). These components show that satisfaction in digital environments is shaped not only by technical efficiency but also by psychological factors like trust and comfort. The interplay between these functional and emotional

dimensions is what ultimately defines digital satisfaction in online commerce.

Customer Loyalty (CL)

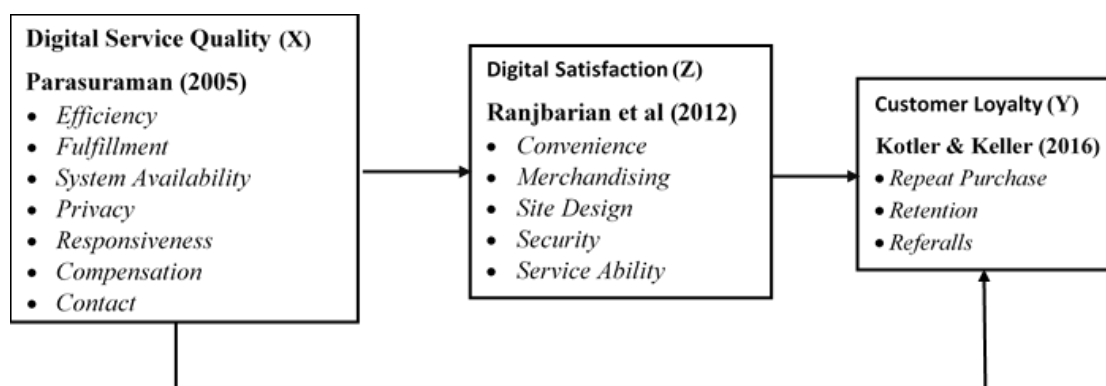
Customer loyalty refers to a user's willingness to continue purchasing from a platform and to recommend it to others (Brake et al., 2020). In the realm of e-commerce, loyalty encompasses two key dimensions: behavioral and attitudinal. Behavioral loyalty is evident in repeated purchases and continued usage, whereas attitudinal loyalty is reflected in more engaged behaviors, such as leaving product reviews, sharing experiences on social media, and actively interacting with the brand across digital platforms. For online services like Bukalapak, loyalty is driven not only by efficient and user-friendly transaction processes but also by the emotional bonds users form with the platform. This dual aspect of loyalty suggests that digital platforms must foster both practical satisfaction and emotional engagement in order to sustain long-term relationships with their customers.

Theoretical Framework and Hypothesis Development

The Relationship Between Digital Service Quality and Loyalty through Digital Satisfaction

Kotler and Keller (2012) describe loyalty as “a commitment to rebuy or re-patronize a preferred product or service,” emphasizing that customer satisfaction is a central precursor to loyalty—especially within digital environments. When users are satisfied with their digital experiences, they are more inclined to return for future purchases and remain actively engaged with the platform.

Tjiptono (2012) further notes that digital satisfaction is shaped by various factors, with high-quality customer service playing a particularly influential role. Superior digital service not only meets functional needs but also builds trust and emotional connection—both of which are vital for cultivating lasting loyalty. This perspective positions digital satisfaction as a critical intermediary between service quality and customer loyalty, underscoring the need for platforms to continuously enhance their service delivery in an increasingly competitive digital landscape.



Hypotheses

Based on the theoretical framework presented above, the research hypotheses for this study are as follows:

H1: Digital service quality has a positive effect on customer loyalty in the e-commerce industry.

H2: Digital service quality has a positive effect on digital satisfaction in the e-commerce industry.

H3: Digital satisfaction has a positive effect on customer loyalty in the e-commerce industry.

H4: Digital service quality positively affects customer loyalty in the e-commerce industry through digital satisfaction (mediation effect).

3. Methodology

This study employs a quantitative explanatory research design to explore the causal relationships between digital service quality, digital satisfaction, and customer loyalty in the e-commerce sector. The research focuses on Generation X consumers in Bandung who have previously made purchases through Bukalapak. Data were gathered through a structured questionnaire disseminated via Google Forms, utilizing a five-point Likert scale to capture participants' perceptions.

A purposive sampling method was used to ensure respondents met predefined criteria, with a minimum sample size of 185 determined by the standard guideline of five respondents per indicator, for a total of 37 indicators. The analysis combined descriptive and inferential statistical methods. Structural Equation Modeling (SEM) was performed using the Partial Least Squares (PLS) technique via SmartPLS software to evaluate both the measurement and structural models, including assessments of reliability, validity, and the significance of proposed relationships.

Validity and Reliability

To ensure the robustness of the measurement instrument, rigorous validity and reliability tests were conducted. The validity test utilized the Pearson Product-Moment correlation method, applying a critical r-value threshold of 0.30 to determine item relevance and accuracy. All questionnaire items measuring the constructs of digital service quality, digital satisfaction, and customer loyalty exceeded this critical value, signifying strong correlations between each item and its respective latent variable. This indicates that the items were well-designed and effectively captured the dimensions they were intended to measure, thus affirming their construct validity. Such results underscore the methodological soundness of the instrument, particularly in reflecting consumer perceptions within the dynamic e-commerce context of Bukalapak's user base in Bandung.

Following the validation process, a reliability test was administered using Cronbach's Alpha, which measures the internal consistency of the questionnaire items. A

commonly accepted threshold for Cronbach's Alpha is 0.70, above which an instrument is considered to possess acceptable reliability. The analysis revealed exceptionally high reliability coefficients across all variables, with scores of 0.974 for digital service quality, 0.975 for digital satisfaction, and 0.966 for customer loyalty. These values not only demonstrate consistency within each construct but also highlight the instrument's robustness in producing stable and dependable results. This high level of internal consistency provides confidence that the survey responses accurately represent the underlying constructs being measured, allowing for reliable interpretation of the relationships among digital service quality, satisfaction, and loyalty in the broader research model.

No	Butir Pernyataan	Skor Jawaban Responden						Skor Total
			5	4	3	2	1	
Efficiency	The website is easy to find and access	F	28	70	71	10	6	659
		%	15,14%	37,84%	38,38%	5,41%	3,24%	
	The website is easy to use	F	30	93	47	3	12	681
		%	16,22%	50,27%	25,41%	1,62%	6,49%	
	It is not difficult to find products on the website	F	40	69	60	13	3	685
		%	21,62%	37,30%	32,43%	7,03%	1,62%	
Total Score and Average								2025
Fullfilment	The website is honest in every offer it provides	F	46	61	60	17	1	689
		%	24,86%	32,97%	32,43%	9,19%	0,54%	
	The website is honest in every offer it provides	F	34	67	65	7	12	659
		%	18,38%	36,22%	35,14%	3,78%	6,49%	
Total Score and Average								1384
System Availability	The system accurately processes user requests	F	33	45	59	36	12	606
		%	17,84%	24,32%	31,89%	19,46%	6,49%	
	Maintenance or errors rarely occur on the website	F	25	68	57	23	12	626
		%	13,51%	36,76%	30,81%	12,43%	6,49%	
Total Score and Average								1232
Privacy	The website protects personal user information	F	33	50	55	32	15	609
		%	17,84%	27,03%	29,73%	17,30%	8,11%	
	The website secures transaction data	F	37	57	74	7	10	659
		%	20,00%	30,81%	40,00%	3,78%	5,41%	
Total Score and Average								1265
responsiveness	Provides help or guidance during shopping issues	F	47	61	58	12	7	684
		%	25,41%	32,97%	31,35%	6,49%	3,78%	
	Responds promptly to complaints and feedback	F	35	91	41	10	8	690
		%	18,92%	49,19%	22,16%	5,41%	4,32%	
	Provides appropriate solutions to issues	F	47	71	45	12	10	688
		%	25,41%	38,38%	24,32%	6,49%	5,41%	
Total Score and Average								681
Compensation	Provides return/refund/exchange facilities	F	30	96	39	10	10	681
		%	16,22%	51,89%	21,08%	5,41%	5,41%	
Total Score and Average								681
Contact	Provides contact info to assist users	F	45	85	30	9	16	689
		%	24,32%	45,95%	16,22%	4,86%	8,65%	
	Offers accessible online customer service	F	50	43	62	22	8	660
		%	27,03%	23,24%	33,51%	11,89%	4,32%	
Total Skor dan Rata-rata								
Total Skor dan Rata-rata								9965

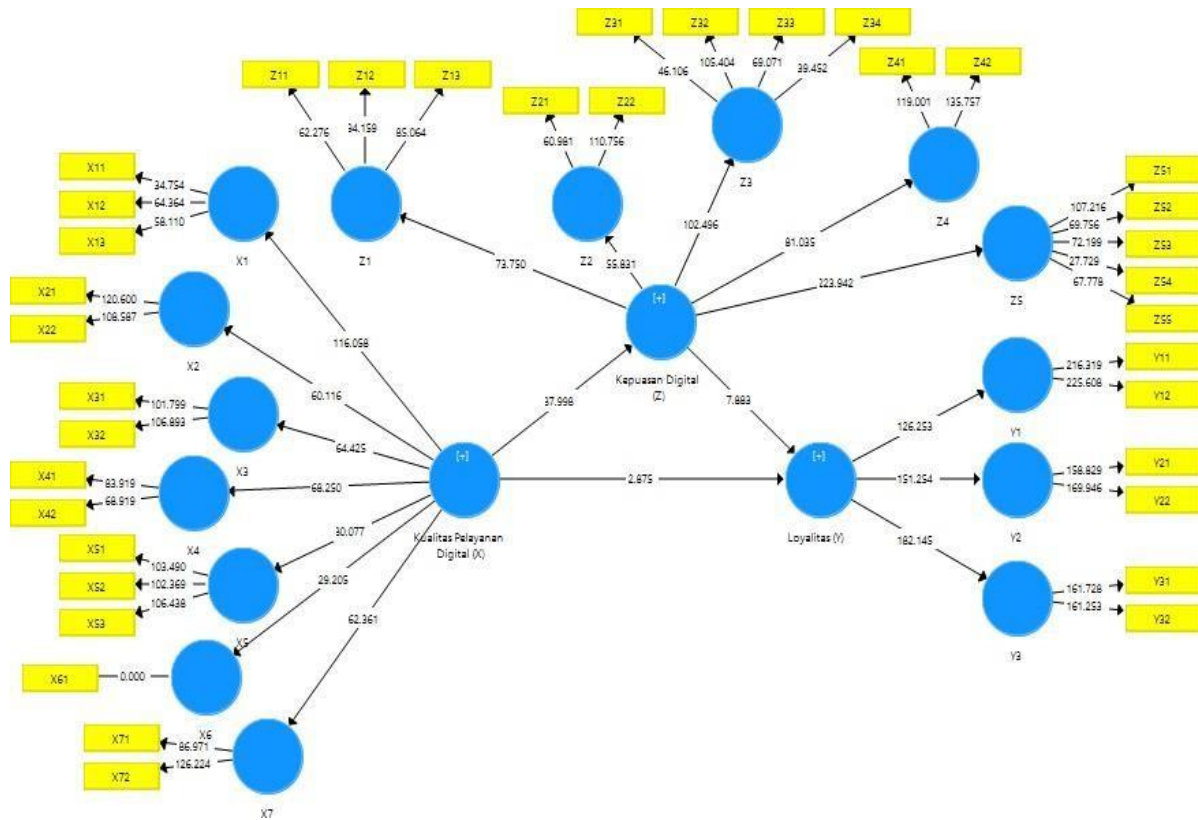
These findings confirm that the instrument is both valid and reliable for further analysis.

The descriptive statistical analysis of the Digital Service Quality variable (X) yielded a total score of 9,965, resulting in a mean score of 3.59 on a 5-point Likert scale. This average falls within the “high” category based on the established interpretive threshold of 3.40 to 4.20, indicating that respondents—primarily Generation X consumers who had previously engaged in online shopping via Bukalapak—generally perceived the digital service quality positively. The findings suggest that, despite Bukalapak’s overall decline in market performance, the platform still managed to maintain a strong level of perceived service quality among this particular user demographic.

Digital service quality, as measured in this study, incorporates a comprehensive set of dimensions essential to the user experience in online retail: efficiency, fulfillment, system availability, privacy, responsiveness, compensation, and contact. Each of these dimensions contributed meaningfully to the overall score, illustrating a well-rounded performance across both technical functionalities and customer relationship aspects. Efficiency received particularly favorable ratings, indicating that users found the platform intuitive, with streamlined access to products and services. This is an important insight, as ease of use is often a primary factor influencing users’ digital satisfaction and their continued engagement with an e-commerce platform.

In addition to efficiency, the dimensions of fulfillment and system availability also registered high scores. These results suggest that users largely trust Bukalapak to fulfill its delivery promises and that the platform is generally reliable during transactions. Users experienced minimal disruptions or technical failures, reflecting positively on the platform’s backend infrastructure. Meanwhile, the relational dimensions—such as responsiveness and contact—also showed promising results, indicating that users felt adequately supported in the event of service issues. Collectively, these findings provide valuable evidence that Bukalapak’s digital service offerings were perceived favorably, especially among Generation X consumers, and that any challenges to customer loyalty may stem from factors beyond basic service quality alone.

Path Coefficient Analysis



To test the structural relationships between constructs, we analyzed the path coefficients, t-statistics, and p-values obtained through the bootstrapping procedure in SmartPLS. A hypothesis is supported if the t-statistic exceeds 1.96 and the p-value is below 0.05 (5% significance level).

Hypothesis	Pathway	Original Sample (β)	t-Statistic	p-value	Conclusion
H1	Digital Service Quality → Customer Loyalty	0.265	2.875	0.004	Supported
H2	Digital Satisfaction → Customer Loyalty	0.689	7.883	0.000	Supported
H3	Digital Service Quality → Digital Satisfaction	0.938	87.998	0.000	Supported

H1: Digital service quality has a significant and positive influence on customer loyalty among Generation X consumers in the e-commerce industry, with a coefficient of 0.265 ($t = 2.875$; $p = 0.004$). This indicates that higher levels of perceived digital service quality are associated with increased customer loyalty, though the effect is moderate in magnitude.

H2: Digital satisfaction significantly affects customer loyalty, with a strong path coefficient

of 0.689 ($t = 7.883$; $p < 0.001$). This suggests that when consumers experience higher satisfaction with digital services, their loyalty towards the platform or brand increases substantially.

H3: Digital service quality has a very strong and significant effect on digital satisfaction, as evidenced by a path coefficient of 0.938 ($t = 87.998$; $p < 0.001$). This implies that improvements in digital service quality almost directly and powerfully translate into higher satisfaction levels among users.

These findings provide empirical support for the conceptual model proposed in this study. Digital service quality not only impacts customer loyalty directly, but also exerts an even stronger indirect influence through digital satisfaction.

H4: digital service quality has a positive effect on customer loyalty in the e-commerce industry through digital satisfaction. To test this indirect relationship, a hypothesis test was conducted using the bootstrapping method via SmartPLS software. The results showed a path coefficient (Original Sample) of 0.646, a t-statistic of 7.811, and a p-value of 0.000. The positive coefficient indicates that better digital service quality is associated with increased customer loyalty, mediated by higher digital satisfaction. The t-statistic value exceeds the critical threshold of 1.96, and the p-value is below the 5% significance level, confirming the statistical significance of the relationship. Therefore, the null hypothesis ($H_{0.4}$) is rejected, and the alternative hypothesis ($H_{1.4}$) is accepted. This finding confirms that digital satisfaction significantly mediates the positive relationship between digital service quality and customer loyalty among Generation X consumers in the e-commerce industry in Bandung.

	Original Sample (O)	t-Statistik	p-value	Kesimpulan
Digital satisfaction on the relationship between digital service quality and loyalty among Generation X in the city of Bandung within the e-commerce industry.	0,646	7,811	0,000	Tolak $H_{0.4}$

4. Conclusion

This study highlights the important role digital service quality plays in fostering customer loyalty among Generation X e-commerce users in Bandung, Indonesia. The results show that digital service quality influences customer loyalty in two ways: directly, by enhancing loyalty, and indirectly, through its effect on digital satisfaction. Essentially, the research reveals that digital satisfaction acts as a full mediator between service quality and loyalty. This suggests that simply improving the technical aspects of a service isn't enough—those improvements need to translate into satisfying user experiences for lasting customer loyalty. Among the different elements of digital service quality, security

features and system responsiveness stand out as key factors for this group, likely due to Generation X's concerns about online security and preference for smooth, efficient transactions. The study also underscores the importance of dependable customer support and easy-to-use interfaces for meeting the needs of older digital users. These findings offer valuable insights for e-commerce platforms aiming to strengthen their market position with the often-overlooked Generation X demographic, which remains economically significant. The study not only supports existing service quality frameworks but also extends them to older consumer groups in emerging markets, offering practical advice for businesses looking to improve customer retention strategies. For future research, it would be interesting to explore how cultural factors and levels of technological literacy affect the relationships between digital service quality, satisfaction, and loyalty across different demographic groups.

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