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Investigating the effect of e-service quality on customer loyalty within the online marketplace during the covid-19 pandemic

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A B S T R A C T

This study examines the effect of the quality of e-services provided by e-commerce on customer satisfaction and loyalty during the COVID-19 pandemic. This study used a quantitative approach to involve 118 respondents who traded in online markets. The sampling method used is purposive sampling. The data were analyzed using a structural equation model using the partial least squares technique. Research results indicate that out of the five hypothetical relationships raised by the researcher, one relationship related to remuneration was found to lack a statistically significant positive effect. Besides that, the remaining four hypothetical relationships, including efficiency, confidentiality, accountability, and customer satisfaction, demonstrated positive and statistically significant. The implication of this study highlights the need to cultivate and improve the quality of e-services in the online market, especially in the context of the COVID-19 pandemic. In this way, businesses can provide consumers with a rich shopping experience, enhancing customer satisfaction and laying the foundation for long-term customer loyalty.

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1. Introduction

The rapid and transformative expansion of information and communication technologies in recent decades has reshaped the landscape of economic activities (Limbu et al., 2011). The Internet has become an essential transaction medium, facilitating business-to-consumer (B2C) interactions (Zhu et al., 2020). The easing of geographical barriers and temporal constraints has engendered a notable surge in the adoption of online platforms among economic entities strategically aimed at enhancing their operational efficacy. In addition to expanding and simplifying customer engagement, online platforms also benefit from cost reductions, including savings in advertising costs and physical storefront costs (Wardoyo & Andini, 2017). For example, Indonesia has seen a significant increase in the use of e-commerce. Data from Statista (2020) shows the upward trajectory of e-commerce users, predicting continued growth in the coming years. Notably, the number of users increased from 139 million in 2017 to 154.1 million the following year, showing an increase of 10.8%. Expect to extend this upward trajectory, predicting a user base of 212.2 million by 2023. Concurrently, the anticipated trajectory of e-commerce penetration is upward, projected to reach 75.3% of the entire market populace by 2023.

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In light of the global COVID-19 pandemic that began in 2020 (Aropah et al., 2020; Rosenbaum & Russell-Bennett, 2020), online marketplaces have emerged as a strategic tool to limit the spread of the virus (Almeida, 2020). Transactions made through online platforms provide a way to comply with government social restrictions, thus ensuring safe shopping operations. Improving the quality of e-services in the online marketplace has emerged as a preventive strategy, protecting public health and economic vitality (Kashyap & Raghuvanshi, 2020). This strategic endeavor holds the promise of mitigating the economic obstacles wrought by the pandemic, particularly for micro, small, and medium enterprises (MSMEs) that have borne the brunt of its impact (Rashid & Ratten, 2021; Panzone et al., 2021; Zaazou & Salman Abdou, 2021; Wijaya, 2020).

In contrast, success in e-commerce requires more than just participation; it obliges the seller to commit to providing exemplary service that transcends the boundaries of space and time (Sadeh et al., 2011). The significance of e-service quality in attaining and upholding a competitive edge has garnered heightened attention over two decades of research, with the advent of the digital era redefining the paradigms of interaction and transaction in commerce, as evidenced by Lin et al. (2016). Previous research efforts have explored aspects of service dynamics in e-commerce; however, these investigations often focus on separate entities such as Shopee, Tokopedia and Bukalapak. It is crucial to underscore that the current study possesses a specific and delineated scope, concentrating solely on the quality of e-services extended by online vendors within the contextual landscape of the Indonesian online market. The central thrust of this research centers on a comprehensive and empirical exploration of the intricate theoretical interplay between the service quality dispensed by virtual merchants, the contentment of customers, and the overarching framework of loyalty.

In previous studies, many have looked at service issues in the context of e-commerce. Karina (2019) reported that the e-service context significantly influence on perceived value and customer satisfaction at the restaurant. Research by Meidita, Suprapto, and Rokhmawati (2016) concluded that service quality includes ease of use, website personalization, design, and assurance. Two of them had no significant effect. Foroudi, Cuomo, and Foroudi (2019) concluded that to increase the long-term engagement intention of consumers, services. Customer-centric value should be emphasized when designing marketing strategies for branded social media sites. The three studies focused on services offered by e-commerce providers such as Shopee, Tokopedia, and Bukalapak. However, this study focuses on the quality of electronic services provided by online stores that sell goods in Indonesian online marketplaces. Henceforth, this study must formulate hypotheses regarding the potential influence of online store service quality on customer satisfaction and loyalty.

The preliminary findings of this study carry substantial significance for the online retailers entrenched within the market landscape. The discerning insights are derived from this research stand poised to serve as a compass, steering these retailers towards enhancing service quality, anchored in empirical revelations. Such strategic refinement holds the potential to foster enduring customer loyalty—an invaluable asset, particularly in the prevailing milieu of the COVID-19 pandemic and its lasting implications. The outcomes of this study are poised to provide actionable guidance to online stores engaged in the virtual marketplace, aiding them in elevating service quality in unity with the research outcomes. This strategic endeavor holds the promise of fortifying customer allegiance to the online store, especially during the continued challenges posed by the coronavirus pandemic.

2. Literature review and hypothesis development

2.1. Efficiency in Customer Satisfaction

According to Dwiyanto in Monoarfa (2012), service efficiency best compares service inputs and outputs. A service is ideally efficient when the service provider can provide service inputs that reduce the community of service users, such as cost and service time. In terms of service output, service providers should also ideally be able to offer a high-quality service product, especially in terms of cost and service time. Input-side efficiency checks how easily the general user can access the offered service system. Public access to services is considered efficient if the public has a guarantee or certainty about the cost of the service (Parasuraman et al., 2005). The concept of efficiency has become the focus of organization and management professionals, and its interpretation varies depending on the perspective used (Monoarfa, 2012). Effective e-procurement is concerned with how online marketplaces and digital stores streamline information search, transactions, and user experience, ultimately driving the consumer system. effective (Sri Restuti, Tengku Firli Musfar, 2014). Increased efficiency can continuously improve consumer satisfaction by speeding up the processing of goods and service transactions with suppliers (Zaman et al., 2016). Thus, the main hypothesis of this study is:

H_1: *Efficiency has a favorable effect on customer satisfaction.*

2.2. Privacy on Customer Satisfaction

One of the most important aspects of customer satisfaction is data protection. Privacy is generally defined as the ability of an individual to obtain, control, and use personal information. Therefore, privacy in an online shop refers to the distribution, acquisition or use of personal information (Kinasih & Albari, 2012). To protect privacy, online stores may develop consumer services through notices, disclosures, and consumer preferences or agreements before shipping products through third parties or carriers. On the other hand, Kinasih & Albari (2012) explain that protecting privacy is important for increasing well-being. This perspective finds validation in the empirical findings of Jin and Park, as highlighted in Kinasih & Albari (2012). Their comprehensive analysis reveals that heightened privacy awareness yields a favorable and constructive impact on the satisfaction of online consumers.

Privacy is an important aspect that can affect consumer satisfaction when making purchases based on electronic systems. It means that the better an online store's online services are, the more satisfied consumers will be (Ahmad & Al-Zu'bi, 2011). In consumer perceptions, a transaction is deemed equitable when it garners the anticipated benefits, safeguards data control, and refrains from unilateral exploitation that could be detrimental to the consumer (Blakesley & Yallop, 2019). This assertion aligns with the findings of Shrawan and Mohit, underlining that customer satisfaction operates as a mediating factor between consumer privacy as facilitated by merchants and subsequent consumer loyalty. Hence, the formulation of the second hypothesis in this study is warranted:

H_2: *Privacy has a positive effect on customer satisfaction.*

2.3. Compensation on Customer Satisfaction

Umar (2007) provides an encompassing definition of compensation, encompassing a wide spectrum of employee remuneration. This encompassing definition encompasses wages, salaries, incentives, bonuses, benefits, insurance, and other pertinent perks directly disbursed by the employing organization. As Hasibuan (2016) elucidated, wages constitute financial or material compensation, whether in the form of monetary value or indirect goods, provided to employees in recognition of services rendered provided to the company. In the specific context of the impact of compensation on consumer satisfaction, Wen-Hsien (2010) emphasizes the urgency of compensating dissatisfied customers through compensation measures to minimize the inconvenience to consumers. This approach contributes to an improved customer experience, providing a sense of comfort to the online store's customers, and leaving a lasting impression of increased satisfaction, even if it occurs for a short period.

As Kim (2007) pointed out, the pursuit of service recovery, which is so important in all service sectors, emphasizes the importance of improvement actions after service interruptions. Empirical observations emphasize compensation and skilful problem-solving as dominant strategies adopted by e-commerce providers, reflecting their relevance in handling customer complaints goods (Lin et al., 2016). Significantly, compensation has emerged as a pivotal factor influencing the augmentation of unconfirmed customer service within the online retail milieu. Moreover, compensation assumes the role of a variable that exerts both a direct impact on consumer loyalty and an indirect, mediated influence on consumer satisfaction (Ratnawati et al., 2020). Considering this discourse, the formulation of the third hypothesis in this study is warranted.

H_3: *Remuneration has a positive impact on customer satisfaction.*

2.4. Responsibility for Customer Satisfaction

Responsiveness embodies a strategic commitment to furnishing timely and pertinent assistance to consumers through effective communication and providing lucid information (Parasuraman et al., 2005). The complex relationship between responsiveness and customer satisfaction in online shopping has become increasingly important due to their inherently positive correlation. Responsiveness is a catalytic force poised to improve customer satisfaction and enhance the purchase journey. An organization or online retailer's effort to serve consumers optimally is more than simply establishing a store's reputation; it encapsulates how the online entity interacts with consumers, shaping their experience through multifaceted interactions (Afrinda, Edy, & Kholid, 2015).

When an online shop responds to complaints, suggestions or requests submitted by consumers immediately and in the best way, a positive response will also be shown by consumers towards the online shop and the feedback that the company gets can be felt when the consumer either consumes the product again or even many new consumers may get recommendations from consumers who have used the product before (Sharma et al., 2020).

The inclination of an online shop to extend proactive assistance, coupled with swift and responsive service, encompassing elements such as attentive consumer engagement and expeditious transaction processing, engenders a positive influence on prospective customer satisfaction (Shandy, Hatane, & Ritzky, 2014). This proposition gains added credence from the discoveries elucidated in the investigation conducted by Afrinda, Edy, & Kholid (2015), which accentuates the remarkable influence of responsibility,

harmoniously intertwined with dimensions such as reliability, assurance, and empathy. Responsibility emerges as a pivotal determinant shaping the attainment of post-purchase contentment within the online shopping landscape. Successful execution of this dimension entails adeptly orchestrating swiftness in delivery, complemented by astute strategies to enhance the shopping encounter through rapid and effective propositions that cultivate constructive and indelible interactions (Sharma et al., 2020). It embodies a foundational tenet of responsive retail, fostering a seamless and memorable engagement between the online shop and its clientele.

H_4: *Customer loyalty is influenced favorably by customer pleasure.*

2.5. Customer Satisfaction on Customer Loyalty

The advent of technological advances, breaking the barriers of space and time, has fundamentally reshaped the competitive landscape in commodity trading from seller to buyer. With more and more manufacturers trying to satisfy the needs and wants of consumers, the field of competition is getting fiercer, forcing all businesses and sellers to prioritize customer satisfaction. as the primary goal. Satisfaction, in essence, corresponds to the emotion the customer feels – whether happy or disappointed – resulting from a comparison between product perceptions and initial expectations (Kotler, 1997). The relationship between consumer purchases and their respective satisfaction levels is based on the association between product performance and expectations. Meeting these expectations evokes satisfaction, while deviations lead to feelings of inadequacy and dissatisfaction (Schiffman & Kanuk, 2007). This highlights the deep relationship between consumer satisfaction and post-purchase evaluation, where product performance is evaluated against established standards and decisions are made based on these assessments (Shady, Hatane & Ritzky, 2014).

The ramifications of customer satisfaction have far-reaching and profound effects on customer retention. Improving service quality, leading to customer satisfaction, becomes synonymous with perceived product excellence, effectively forming loyalty levels (Mardikawati, 2013). In e-commerce, customer satisfaction is related to e-satisfaction - the satisfaction derived from Internet purchases and is closely related to security, confidentiality, trust, rewards, and accountability (Shrawan & Mohit, 2018). At the same time, the findings of Yam, Marco, and Dele (2011) indicate that avoiding fraudulent activity, meeting expectations, and strong security measures are important indicators of satisfaction that promote future customer loyalty. Based on these premises, the fifth hypothesis of this study posits:

H_5: *Customer satisfaction has a positive influence on customer loyalty.*

2.6. Consumer Loyalty

Consumer loyalty is a solid foundation for maintaining business vitality, especially in relentless business competition. This is a key factor in winning in the context of fierce competition in the market. According to Chiu Ying Yam et al., loyalty is defined as the subjective ability with which a customer will engage in future online purchases. It represents a fusion of deep trust and recognition for the products or services offered by online establishments, resulting in unwavering customer loyalty to continue to transact with online/ virtual platforms. As Fandy (2003) clearly shows, customer loyalty is characterized by the emotional connection that binds customers to a brand, store, or supplier, punctuated by a tendency to support customers deeply. Colour manifests through consistent repeat purchases. This loyalty includes the ability to repurchase or change service agreements periodically or, conversely, the ability of customers to switch to alternative brands or service providers. Empirical studies have consistently revealed the significant impact of key determinants – value, service quality and satisfaction – on customer loyalty (Mardikawati, 2013). Together, these aspects not only foster loyalty but also strengthen the foundation for long-term patronage and engagement, symbolizing the strong link between customer loyalty and long-term business success.

3. Materials and methods

This study uses a quantitative method, specifically applying a quantitative descriptive method with an explanatory focus. The explanatory design attempts to elucidate the complex relationship between endogenous (X) and exogenous (Y) variables. Primary data is collected by administering a questionnaire, which is the main source of information collection. The sampling method used is non-probabilistic, characterized by the selective inclusion of respondents based on the researcher's judgment, as elaborated by Sudaryono (2019). This method was selected based on practical considerations, seeking to optimize efficiency in terms of time, effort and financial resources. Therefore, the survey is conducted using convenience sampling, in which respondents are conveniently selected from locations near the researcher.

The team consists of participants who trade on the online market. The age range of the respondents spanned from 17 to 50 years old and encompassed individuals who had engaged in purchases within the specified online marketplace. Subsequent data analysis used structural equation modelling, specifically the efficient exploitation of the partial least squares (SEM-PLS) technique.

Renowned for its ability to elucidate complex relationships within the framework of multifaceted variables, SEM-PLS is a powerful analytical method deployed to elucidate complex dynamics inherent in systems being checked.

Table 1
Characteristics of Respondents.

	Respondents Characteristic	Nominal	Percentage
Gender	Male	19	16.1%
	Female	99	83.9%
Age	17-20 years	21	17.8%
	21-25 years	49	41.5%
	26-30 years	11	9.3%
	31-35 years	5	4.2%
	> 35 years	32	27.1%
Employment	Civil Servant/ Police-Military	5	4%
	Professional	10	8%
	Entrepreneur	29	25%
	Private employees	19	16%
	Students / students	39	33%
	Housewives	13	11%
	Teachers	3	3%
Income / month	1 million	51	43.2%
	1-5 million	45	38.1%
	6-10 million	12	10.2%
	> 10 million	10	8.5%
Products Purchased	Fashion	37	31%
	Cosmetics	32	27%
	Home appliances	17	14%
	Necessities	6	5%
	Electronics	6	5%
	Books/magazines	18	15%
	Random	2	2%

4. **Results**

Embedded within the SEM-PLS framework, the method includes two separate assessments: the external model (measurement model) and the internal model (structural model).

4.1. Measurement model

Convergence validity consists of measuring a set of indicators that describe the latent variables themselves. Measured by calculating external stress and AVE root (extracted average) values. External load values are valid if the value of each index is 0.7 or greater. AVE greater than 0.5 (Yamin & Kurniawan, 2011). Convergence validity results are shown in Table 2.

Table 2
Result of Validity and Reliability Construct

Variable	Indicator	Loading Factor	AVE
Efficient (IE)	E1	0.949	0.913
	E2	0.883	
Privacy (IP)	P1	0.884	0.922
	P2	0.871	
Compensation (IK)	K1	0.968	0.960
	K2	0.954	
Responsive (IR)	R1	0.872	0.910
	R2	0.835	
Customer Satisfaction (IKP)	KP1	0.918	0.935
	KP2	0.935	
Customer Loyalty (ILP)	LP1	0.918	0.917
	LP2	0.856	
	LP3	0.887	

Table 2 indicates that all indicators associated with each variable exhibit load factor values exceeding 0.7, coupled with AVE values surpassing the 0.5 threshold. These discerned outcomes collectively underscore the attainment of convergent validity across all measured dimensions. Subsequently, the reliability of the construct was subjected to examination. If both Composite Reliability

and Cronbach Alpha values surpass 0.70, their reliability is deemed satisfactory. It is noteworthy to reference the perspective posited by Yamin and Kurniawan (2011), wherein Cronbach Alpha, while below the 0.70 benchmark, can still be deemed reliable if the composite value's confidence level exceeds 0.70. Notably, the findings gleaned from this investigation distinctly corroborate the reliability of all indicators, as meticulously detailed in the presentation of Table 3.

Table 3
Result of Construct Reliability

Latent Variable	Composite Reliability	Cronbach Alpha
Efficiency	0.913	0.818
Privacy	0.922	0.874
Compensation	0.96	0.918
responsiveness	0.91	0.854
Customer Satisfaction	0.935	0.896
Customer Loyalty	0.917	0.867

4.2. Structural Model

The evaluation of the structural framework unfolds across two distinct phases. In the initial phase, the assessment centers on scrutinizing the significance of the interrelationships among variables, substantiated by the path coefficient, which signifies the intensity of the linkages between these variables. A decisive criterion is applied, wherein a t-statistic value exceeding 1.96 and a corresponding P-value of less than 0.05 underpin the acceptance of a one-sided hypothesis. In the present study, the empirical results indicate that the significance of the relationships between the variables aligns with this criterion. Specifically, for the variable IKP, the t-statistic value is 0.713, with a corresponding P-value of 0.476, suggesting a statistically insignificant connection. However, it's noteworthy that four hypotheses have been validated based on their respective details. These entail the relationships IE → IKP (T-score 1.999, P-value 0.046), IP → IKP (T-score 2.297, P-value 0.022), IR → ICP (T-score 2.060, P-value 0.040), and IKP → ILP, where the t-score is notably elevated at 10.829 and the p-value is imperatively low at 0.000. A comprehensive summary of these outcomes is meticulously presented in Table 4 below.

Table 4
Result of Inner Model

Hypothesis	Original Sample	Sample Mean	STDEV	T Statistics	P Values	Conclusion
IE → IKP	0.212	0.221	0.106	1.999	0.046	Accepted
IP → IKP	0.304	0.287	0.132	2.297	0.022	Accepted
IK → IKP	0.088	0.094	0.124	0.713	0.476	Rejected
IR → IKP	0.291	0.298	0.141	2.06	0.04	Accepted
IKP → ILP	0.673	0.68	0.062	10.829	0.000	Accepted

Following the analytical stages, the subsequent phase thoroughly assesses the structural model`s integrity. This comprehensive evaluation involves meticulously scrutinizing the model's relevance, as gauged using the R-squared (R2) test. This examination delves into the innate dynamics governing the model's internal interrelationships. The R2 test is pivotal in this endeavor, as it strives to establish parity amongst latent variables within the model. The derived R2 value is symbolic of the degree to which exogenous variables within the model contribute to explaining endogenous variables, thereby offering insights into the model's explanatory capacity. The comprehensive results of this pivotal evaluation are briefly outlined in Table 5 below, furnishing a conclusive depiction of the model's overarching structural attributes.

Table 5
Result of Coefficient Determination (R Square)

	R Square (R^2)	R Square Adjusted
Customer Satisfaction	0.540	0.520
Customer Loyalty	0.452	0.447

5. Discussion

5.1. The effect of Efficiency on customer satisfaction

The initial hypothesis test (H1) findings reveal that perceived efficiency positively influences customer satisfaction within the online market. Our analysis underscores that customers hold a positive appreciation for the efficiency of online shopping. This aligns harmoniously with the outcomes elucidated by Karina (2019), whose research indicates a positive effect of efficiency on consumers' perceived value during shopping on Shopee. A proficient online marketplace service engenders enduring implications

for a business's sales and overall success. Parasuraman, Zeithaml and Malhotra (2005) concluded that this efficiency variable is related to the customer's ability to visit the website, find the desired product and information, and leave without much effort.

5.2. The effect of privacy on customer satisfaction

The results of the second hypothesis (H2) test indicate that perceived privacy positively impacts customer satisfaction. This is consistent with the study of Kinasih and Albari (2012). Research shows that the more online customers perceive privacy better, the higher the customer satisfaction level. On the other hand, Kinasih and Albari (2012) explain that to increase the perceived value of privacy, online stores must maintain and enhance the consumer privacy to achieve customer satisfaction. Online stores pay special attention to customer privacy because respecting customer privacy means that the online store properly manages the relationship between sellers and buyers, including respecting the client's private privacy.

5.3. The effect of compensation on customer satisfaction

The results of the third hypothesis test (H3) show that perceived benefits have no positive impact on customer satisfaction. This indicates that customers do not view rewards as fulfilling their purchase satisfaction. This can happen because compensation variables are automatically attached to online websites. The online store offers compensation in the form of refunds for damaged or not-as-ordered items and returns of items damaged or not according to order specifications. Due to this inherent compensation scheme, online stores must pay compensation. If the online store does not provide compensation, the online store is subject to penalties from the online marketplace provider. Furthermore, to be compensated for damaged or incorrectly received goods, the consumer must first report or verify if they are damaged or incorrect and not what they ordered. Refund or replacement claims need a greater commitment of work. Upon lodging a report, the subsequent logistical process involves the engagement of the courier service responsible for the original delivery, which would then facilitate the retrieval of the goods. Consequently, it is pertinent to acknowledge that not all consumers are inclined to embark on this endeavor, often opting to procure new or explore alternative online marketplaces.

5.4. The effect of responsibility on customer satisfaction

According to the study of the fourth hypothesis (H4), taking responsibility has a beneficial effect on customer satisfaction. These outcomes resonate with the assertion that online merchants manifest a notable penchant for expeditious responsiveness. The variable of responsibility assumes a pivotal position within e-service quality, serving as a linchpin between sellers and consumers, particularly in an online context. Notably, this manifests in the heightened accountability of sellers and instils a heightened sense of consumer trust in their chosen online retail venue. This aligns with the perspectives posited by Parasuraman, Zeithaml, and Malhotra (2005), who elucidate that the accountability of sellers to address and resolve issues promptly serves as an instrumental tool in restoring and elevating the quality of online services.

5.5. The effect of customer loyalty on customer pleasure

The outcomes from examining the fifth hypothesis (H5) unveil a substantial and meaningful discovery: customer satisfaction undeniably wields a significant impact on customer loyalty within online markets. The data analysis underscores customers connect deeply with an online store when the anticipated service value is effectively realized. A salient indicator of customer loyalty surfaces when an individual opts for a specific online store as their primary choice and further advocates for it within their social circle, spanning family and friends. Notably, the findings presented in the study by Meidita, Suprapto, and Rokhmawati (2016) also accentuate the pivotal role played by customer satisfaction in nurturing customer retention. This historical correlation between customer satisfaction and the quality of e-services proffered by online stores resonates strongly. This unity extends to the research undertaken by Foroudi, Cuomo, and Foroudi (2019), wherein the augmentation of customer value, encompassing functional, social, and experiential facets, precipitates an augmentation in customer satisfaction and loyalty. This augmentation, in turn, holds the potential to catalyze and fortify relationships between sellers and buyers, perpetuating consumers' steadfast intent for ongoing interaction.

6. Conclusion and research implication

The comprehensive evaluation of electronic service quality, encompassing its constituents of efficiency, privacy, compensation, and responsibility, culminates in nuanced conclusions of substantial import. While the compensation variable does not unveil a significant positive impact, it is pivotal to expound upon its intrinsic nature as an inherent facet of online platforms, readily affording compensatory mechanisms like refunds or product replacements to rectify instances of damaged or inappropriate orders. Conversely, the trichotomy of efficiency, privacy, and responsibility emerges as distinctive vanguards in shaping consumer perceptions and behaviors. Foremost, efficiency is an influential force, exerting a robustly positive sway on both customer satisfaction and retention. Its pivotal role in streamlining user experiences, facilitating seamless product discovery, and providing access to

pertinent information imparts a heightened sense of satisfaction and enduring patronage. Secondly, the correlation between data protection and customer contentment is unequivocally evident, underscoring the non-negotiable significance of safeguarding consumer privacy. The deliberate safeguarding of confidential information precipitates a discernible uptick in both customer satisfaction and loyalty, unveiling the substantive role of privacy as a cornerstone of lasting customer relationships.

Lastly, the attribute of responsibility emerges as a salient influence, eliciting a significant positive effect on customer satisfaction and loyalty. Within the unique landscape of virtual commerce, where in-person interactions are absent, online establishments' expeditious and adept responsiveness proves paramount. Timely conflict resolution, adept troubleshooting, and the facilitation of seamless returns engender a perception of reliability, amplifying customer satisfaction and cementing loyalty. In culmination, this study casts a comprehensive and illuminating gaze upon the intricate dynamics of electronic service quality, elucidating the pronounced impacts of efficiency, privacy, and responsibility on customer satisfaction and loyalty within the digital marketplace. The discernments herein offer a guiding beacon to enterprises seeking to optimize their e-service paradigms, ultimately fostering enduring and mutually beneficial customer relationships within the ever-evolving e-commerce milieu.

E-service quality is one of the invisible (intangible) activities. The activity is only done through the website if the buyer makes a transaction when buying goods. By implication, the model theory developed in this study strengthens theoretical concepts and provides empirical support for previous research. Then, based on the results of hypothesis testing, the results and analysis in this study provide managerial implications that all e-service quality variables have a very important role in providing online-based customer service in the online marketplace.

It is proven that of the six variables tested on online sellers, it is known that customer satisfaction and customer loyalty can be obtained if consumers when making transactions, get what they expect, such as efficient transactions, guaranteed consumer privacy, both personal data and the goods they buy, get compensation when the goods they buy are not as what they expected. Sellers are responsive in responding to consumers. This shows that the e-services provided by online sellers have met consumers' expectations. Along with the increase in online shopping, it is hoped that the sellers will maintain and improve services that are oriented towards good performance, with the hope that in the long-term, consumers will be loyal to the seller.

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