

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

Dynda Nazwa Prameizuari¹, Arry Widodo², Putu Nina Madiawati³

^{1,2,3}Telkom University, Bandung

ABSTRACT: High rates of technology adoption, internet usage, and the demand for equitable healthcare are driving the rapid digital transformation of healthcare in Indonesia post-pandemic. The most popular telemedicine platform, Halodoc, is expanding as a result of this change, and it is helping to satisfy public needs by introducing comprehensive and practical service innovations. The goal of this research is to find out how E-Loyalty, measured by E-Satisfaction, is influenced by User Experience and E-Service Quality. We used a quantitative approach and used purposive sampling to select 400 respondents. The data was analyzed using SEM-PLS in conjunction with SmartPLS 4. The results demonstrate that E-Loyalty is directly influenced by E-Satisfaction and that User Experience and E-Service Quality both have substantial impacts on E-Loyalty. User Experience, E-Service Quality, and E-Loyalty are all impacted by E-Satisfaction. This suggests that Halodoc should put an emphasis on improving the user experience and the quality of their services in order to boost satisfaction and, in turn, encourage long-term loyalty. The significance of improving Indonesia's digital healthcare services cannot be overstated.

KEYWORDS: User Experience, E-Service Quality, E-Satisfaction E-Loyalty.

I. INTRODUCTION

Despite early “obstacles including data integration, remote access, legislation, and public understanding, telemedicine in Indonesia has expanded swiftly, spurred on by the COVID-19 pandemic. The government sets a legal framework through Minister of Health Decree No. after its usage surged. The post-pandemic digital transformation has prioritized the integration of data, the fair distribution of services, and the improvement of quality through the establishment of a standardized digital health ecosystem (HK.01.07/MENKES/4829/2021). Halodoc can take advantage of this policy to increase its user base and form new partnerships, such as with BPJS, all while staying in line with regulations regarding data security and service quality.

From USD 85 million in 2017 to USD 973 million in 2022, the market value of Indonesia's telemedicine industry is expected to rise sharply due to factors such as digital adoption, infrastructure improvements, and supportive policies (Mulyadita et al., 2025; Ummah, 2022). Innovation, service diversification, and the integration of digital platforms with healthcare facilities are being propelled by investment and competition (Wafula & Wanyee, 2022). While distance, expense, and infrastructure constraints previously limited healthcare access in rural areas, telemedicine has eliminated these barriers, reduced wait times, and improved medical expertise. Since the percentage of unmet need in rural areas is 5.83 percent, which is higher than in urban areas' 4.7 percent, this has the potential to greatly improve access equity, as shown in BPS (2024) data.

The population of Indonesia reached 285 million in February 2025, up 0.8% from the previous year, with 59.5% living in urban areas, according to Data Reportal (2025). With 356 million connections, or 125% of the population, using mobile devices, the number of internet users increased by 8.7% to 212 million, or 74.6%, and the number of social media accounts increased by 2.9% to 143 million, or 50.2%. Online doctor consultations, which saw an increase of 5.5% to 6.77 million users, are a prime example of the promising new frontiers opened up by the widespread use of the internet and other digital technologies. With an average yearly expenditure of USD 19.31 (±IDR 300,000) per user, the market value increased 13.4% to USD 131 million (±IDR 2 trillion) in 2024. This expansion demonstrates the high demand for adaptable and user-friendly digital healthcare services, which have the ability to revolutionize healthcare interactions through digital communication and fill in medical access gaps.

Gen Z and millennials in Indonesia favor practical, tech-based solutions like apps and telemedicine, and 55% of digital healthcare users use the services for general consultations (Katadata, 2024; Rahmasari et al., 2024; Megawati et al., 2024). Approximately 34% use them for one-on-one doctor consultations, 30% for tracking progress after treatment, and 28% for advice on healthy eating. This trend is fueling the expansion of telemedicine platforms that provide convenient and fast services.

With a 54% share, Halodoc is the most popular telemedicine app in Indonesia, according to Katadata (2024). This dominance is a result of its ability to satisfy user needs by providing easily accessible services, such as medication orders and medical

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

consultations. The following apps are ranked by popularity: Alodokter (27%), KlikDokter (5%), LinkSehat (5%), and GrabHealth (4%). These platforms still help people get access to digital healthcare services, even though their share is smaller (Katadata, 2024a).

According to Puspa (2024), Halodoc is one of the best telehealth apps because of its user-centric design and integrated service ecosystem. Its efficiency, attractiveness, and favorable user impressions surpass those of Alodokter (Okabashi Hendrawan et al., 2023). It ranks high among health apps in terms of downloads on both the Google Playstore and the Apple Appstore, with 20 million users (Halodoc, 2025a). Its dominance in the digital healthcare industry has been further solidified by its strong user engagement, which garnered it the Indonesia Most Engaging Brand 2022 award (Marketers, 2022).

Problems with information accuracy and service timeliness, as well as a prescription process that is difficult to understand and navigate, are some of the difficulties Halodoc encounters (Muyarman et al., 2024; Bella et al., 2024). Because of these issues, it may not be as user-friendly as it could be, which could lead to a lower score on the System Usability Scale (SUS) (Bellio, 2024). They have the potential to reduce user satisfaction and good impressions if not addressed. According to Giebel et al. (2023), digital services cannot be effective without trustworthy information, user-friendly navigation, and accessible design.

Providing healthcare services that are fast, safe, and accessible anytime and anywhere has been Halodoc's commitment from the start (Puspa, 2024; Halodoc, 2025a). Its continuous innovation in delivering the best user experience while removing barriers of distance, time, and access makes it a key innovation in Indonesia's technology-based healthcare transformation (Kompasiana, 2025). Customers are more likely to remain loyal over the long run if they have pleasant experiences and are satisfied with the service they receive (Chandra & Tan, 2022; Alnaim et al., 2022). According to Venkatakrishnan et al. (2023), customers become loyal when they have a positive impression of the quality of an electronic service, which leads to increased satisfaction, trust, usage, and recommendations.

E-Satisfaction, which measures happiness based on factors such as data security, usability, speed, and interaction quality, has become more important due to the expansion of telemedicine (Nurida et al., 2024; Prasetyo & Yusran, 2022; Wulandari et al., 2024). Enhancing E-Satisfaction through responsive, secure, user-friendly, and accurate services leads to customer loyalty and recommendations (Venkatakrishnan et al., 2023; Indriastuti et al., 2022). Even more so, according to Khan et al. (2023), E-Satisfaction acts as a mediator between the quality of digital services and customer loyalty.

E-Satisfaction is defined in this study as the result of a pleasant and efficient app experience, according to Nasution and Adiwijaya (2024). This includes features like an easy-to-navigate interface and a streamlined ordering procedure. Satisfaction is increased through positive interactions with an app that is efficient, easy to use, and responsive. Efficiency, privacy protection, and strong system availability are three dimensions of E-Service Quality that Alnaim et al. (2022) identify as influencing E-Satisfaction. This study confirms that satisfaction is achieved when these factors are met. Ashik and Hussain (2024) and Mamakou et al. (2024) point out, user experience and the quality of electronic services are other factors that impact e-satisfaction.

According to Bella et al. (2024), digital healthcare services such as Halodoc can measure E-Satisfaction by looking at the ratings given by users in the App Store or Play Store, which reflects the service's performance and the user experience. Ratings like these show how satisfied customers are with a service or product (Winarni et al., 2024) and can teach us something new (Sari et al., 2023). User reviews serve as a barometer of a service's quality.

Both the Play Store (4.8/5 from 465,000 reviews) and the App Store (4.9/5 from 289,000 reviews) give Halodoc good ratings. On the other hand, if the Play Store is 0.2 points off and the App Store is 0.1 points off, it could mean that some users aren't happy with the service or the app because it doesn't live up to their expectations. This could be because of complaints or problems that have an impact on their experience.

Complaints on both the App Store and the Play Store show that users are still not satisfied with the Halodoc app. Attractiveness, which represents users' initial impressions, is the most common issue. Some users have complained about the app crashing often and having ads that won't go away, which has led them to stop using the app. First impressions and user experience, including ease of use, visual appeal, and a pleasant, understandable interface, are encompassed by attractiveness, according to Mamakou et al. (2024), and attractiveness is a subjective perception of appeal that can influence user judgment (Gulati et al., 2024).

The lack of clear and transparent explanations regarding policies regarding balance refunds, prescription cancellations, and cards contributes to user confusion and uncertainty, which in turn leads to complaints about the Halodoc app's user experience and Perspicuity. Mamakou et al. (2024) note that clear apps present simple information, easy-to-follow guidance, and instill user confidence; Amalia et al. (2022) defines perspicuity as the ease with which users understand how a product works, especially on first use."

Users of Halodoc have complained about reliability issues, such as the app's unreliability in time-sensitive situations, unstable payment systems, and lengthy delays in medicine delivery without the ability to change drivers or cancel orders. The capacity of a product to deliver safe control and consistent results is defined by Amalia et al. (2022) as dependability, and by Mamakou et al. (2024), a stable app runs without interruptions or mistakes.

Users have complained about the lack of stimulation on Halodoc, citing things like slow doctor responses, limited notification settings, and rigid consultations. Users may go to competing platforms if they don't receive enough engaging and personalized

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

interactions, say Kushendriawan et al. (2021). According to Mamakou et al. (2024), the emotional experience is the main focus of stimulation, which aims to encourage users to return to the app through engaging in.

II. THEORETICAL REVIEW

UX Honeycomb Theory (Peter Morville)

The UX Honeycomb is an assessment tool that, according to Meuthia et al. (2021), lays out the factors impacting the user experience. These factors include visual design, usability, accessibility, credibility of information, usefulness, and usefulness. This method is useful for developers because it allows them to create an ideal user experience. Coates (2024) expands on this by saying that the UX Honeycomb is a cornerstone of user-centered design for both assessing and creating application designs.

User Experience

In the context of digital products, the term "User Experience" (UX) encompasses not only the actual use of the product but also the user's impressions and feelings regarding its interface, navigation, speed, and overall happiness with the product (Prayunita et al., 2025). UX is an important component of digital business success and a reflection of how well software assists users in reaching their objectives (Putra & Ramadhani, 2023; Nelson et al., 2024). Mamakou et al. (2024) consider UX to be the principal goal of product development, encompassing the complete experience rather than just efficiency or speed, in contrast to Ritonummi and Niininen (2021) who place an emphasis on the integration of functional and emotional aspects.

E-Service Quality

E-Service Quality is a method for evaluating the excellence of web-based services, as stated by Okour et al. (2023). Ashiq and Hussain (2024) see it as customers' evaluation of the quality of e-commerce services, while Mamakou et al. (2024) define it as the efficiency and effectiveness of a website in facilitating transactions. E-Service Quality, in its broadest sense, refers to the digital qualities that affect how users perceive and are satisfied with an E-Service, including both the technical components and the extent to which they are met.

Expectation-Confirmation Theory (ECT)

Expectation-Confirmation Theory (ECT) describes how consumers' satisfaction and intent to continue usage are affected by the comparison between their initial expectations and their actual experiences (Bhatnagar and Rajesh, 2024). Oliver (1980) and Bhattacharjee (2001) built on this theory, which states that confirmation occurs when performance satisfies or surpasses expectations.

E-Satisfaction

According to Easterina and Ong (2024), e-satisfaction is a crucial metric for measuring the success of digital services. It shows how well expectations are met through electronic interactions. An individual experiences satisfaction when their expectations are met or exceeded. This includes factors such as ease of use, speed, reliability of service, and comfort (Dariel Fadli & R. Nurafni, 2021; Prasetyo & Yusran, 2022). Providing excellent service increases happiness and encourages repeat business (Venkatakrishnan et al., 2023).

E-Loyalty

Loyalty is defined as "the persistent decision to continue using or purchasing a preferred good or service in the face of temptation to switch" (Ashiq & Hussain, 2024). It is characterized by a positive commitment to a brand as demonstrated by long-term repeat purchases (Novitasari, 2022). Wiradiredja (2025) states that E-Loyalty includes the attitudes and behaviors of customers when they return to a website or make repeat purchases. Since happy and comfortable consumers are more likely to be loyal, service quality is the most important factor (Rustana, 2024). Loyalty building allows for relationships to flourish over time, which benefits both parties (Arya & Farroz, 2024).

Theoretical Framework

This theoretical framework explains the relationship between the dependent, independent, and control variables



Figure 1 Theoretical Framework

Source: Data processed by the Author (2025)

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

- a) H1: User Experience has a direct positive and significant effect on E-Satisfaction.
- b) H2: E-Service Quality has a direct positive and significant effect on E-Satisfaction.
- c) H3: User Experience has a direct positive and significant effect on E-Loyalty.
- d) H4: E-Service Quality has a direct positive and significant effect on E-Loyalty.
- e) H5: E-Satisfaction has a direct positive and significant effect on E-Loyalty.
- f) H6: User Experience has an indirect positive and significant effect on E-Loyalty through E-Satisfaction.
- g) H7: E-Service Quality has an indirect positive and significant effect on E-Loyalty through E-Satisfaction.

III. RESEARCH METHOD

Using a quantitative approach, this study investigates how digital healthcare services in Indonesia affect E-Loyalty via E-Satisfaction, which in turn affects UX and E-Service Quality. To make sure that the research included participants who were relevant to the topic, specifically Halodoc users, 400 respondents were chosen using a non-probability sampling technique, specifically purposive sampling. An online survey was sent out to all eligible respondents in order to gather their data. Use of a Likert scale to measure UX, E-Service Quality, E-Satisfaction, and E-Loyalty are all encompassed in this research. Validity and reliability tests were conducted on the indicators used to measure each variable. Our data was analyzed using SmartPLS 4, a program that combines Structural Equation Modeling (SEM) with Partial Least Squares (PLS). E-Satisfaction acts as a mediator in the structural equation modeling (SEM-PLS) analysis of the research model's variables, which examined their direct and indirect relationships.

IV. RESULTS

Measurement Model Results (Outer Model)

The relationship between latent variables and their indicators, as well as the contribution of each indicator to the latent construct being measured, can be examined in the measurement model (outer model) (Hair et al., 2021). The following figure displays the results of the measurement model analysis that was carried out in this study using SmartPLS 4.

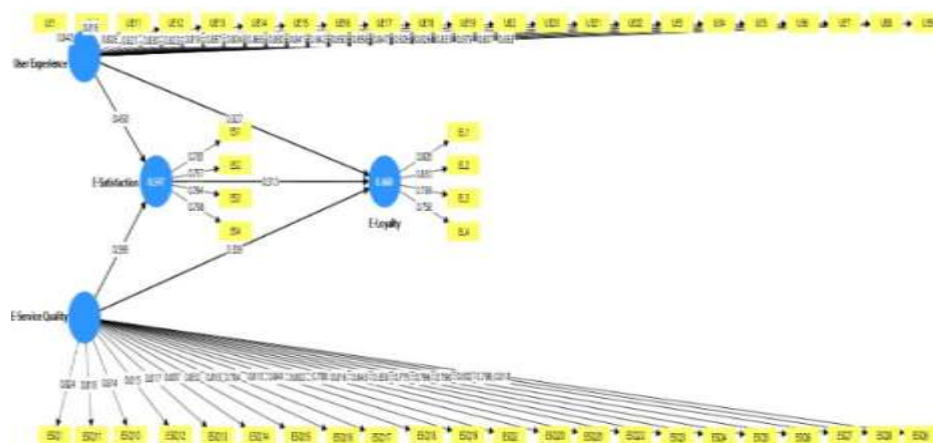


Figure 2. Outer Model

Source: SmartPLS Data Processing Results (2025)

a) Convergent Validity

Indicators' convergent validity is determined by how well "they reflect a construct via strong correlations, as stated by Hair et al. (2021). If the outer loading is greater than 0.7 and the AVE is greater than 0.5, then the indicator is valid according to Ghozali (2023), since it means that the indicator can provide a sufficient explanation of the construct. This is what the convergent validity test came up with:

Table 1. Convergent Validity Test Results

Variable	Indicator	Outer Loading	AVE	Description
	UE 1	0.842		Valid
	UE 2	0.841		Valid
	UE 3	0.847		Valid
	UE4	0.826		Valid
	UE 5	0.826		Valid
	UE 6	0.833		Valid
	UE 7	0.879		Valid

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

User Experience	UE 8	0.807	0.700	Valid
	UE 9	0.853		Valid
	UE 10	0.816		Valid
	UE 11	0.828		Valid
	UE 12	0.821		Valid
	UE 13	0.830		Valid
	UE 14	0.823		Valid
	UE 15	0.819		Valid
	UE 16	0.857		Valid
	UE 17	0.804		Valid
	UE 18	0.868		Valid
	UE 19	0.830		Valid
	UE 20	0.842		Valid
	UE 21	0.850		Valid
	UE 22	0.858		Valid
E-Service Quality	ESQ1	0.824	0.658	Valid
	ESQ 2	0.802		Valid
	ESQ 3	0.838		Valid
	ESQ 4	0.775		Valid
	ESQ 5	0.796		Valid
	ESQ 6	0.798		Valid
	ESQ 7	0.802		Valid
	ESQ 8	0.798		Valid
	ESQ 9	0.818		Valid
	ESQ 10	0.814		Valid
	ESQ 11	0.816		Valid
	ESQ 12	0.815		Valid
	ESQ 13	0.817		Valid
	ESQ 14	0.807		Valid
	ESQ 15	0.832		Valid
	ESQ 16	0.813		Valid
	ESQ 17	0.784		Valid
	ESQ 18	0.810		Valid
	ESQ 19	0.841		Valid
	ESQ 20	0.788		Valid
	ESQ 21	0.816		Valid
	ESQ 22	0.843		Valid
E-Satisfaction	ES 1	0.783	0.613	Valid
	ES 2	0.757		Valid
	ES 3	0.794		Valid
	ES 4	0.798		Valid
E-Loyalty	EL1	0.828	0.646	Valid
	EL2	0.830		Valid
	EL 3	0.798		Valid
	EL 4	0.758		Valid

Source: SmartPLS Data Processing Results (2025)

The 55 statement items included in this study all fulfill the validity criteria, as shown in Table 1. This is supported by outer loading values above 0.7 and AVE values above 0.5. Consequently, we can confidently say that all of the indicators we used are valid and can measure the latent variables we intended.”

b) Discriminant Validity

Table 2. Discriminant Validity Test Results (Cross Loading)

Indicator	E-loyalty	E-Satisfaction	E-Service Quality	User Experience
EL1	0.828	0.591	0.533	0.541
EL2	0.830	0.600	0.599	0.582
EL 3	0.798	0.584	0.531	0.565
EL 4	0.758	0.541	0.514	0.543

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

ES 1	0.549	0.783	0.461	0.520
ES 2	0.522	0.757	0.484	0.493
ES 3	0.626	0.794	0.526	0.533
ES 4	0.554	0.798	0.509	0.517
ESQ 1	0.528	0.522	0.824	0.451
ESQ 10	0.536	0.491	0.814	0.417
ESQ 11	0.537	0.489	0.816	0.391
ESQ 12	0.544	0.480	0.815	0.399
ESQ 13	0.557	0.529	0.817	0.459
ESQ 14	0.501	0.521	0.807	0.426
ESQ 15	0.593	0.555	0.832	0.426
ESQ 16	0.579	0.517	0.813	0.465
ESQ 17	0.524	0.495	0.794	0.405
ESQ 18	0.546	0.506	0.810	0.435
ESQ 19	0.564	0.523	0.841	0.447
ESQ 2	0.544	0.538	0.802	0.460
ESQ 20	0.556	0.485	0.788	0.417
ESQ 21	0.570	0.510	0.816	0.476
ESQ 22	0.587	0.538	0.843	0.444
ESQ 3	0.579	0.559	0.838	0.455
ESQ 4	0.550	0.489	0.775	0.443
ESQ 5	0.544	0.495	0.796	0.378
ESQ 6	0.515	0.510	0.798	0.398
ESQ 7	0.531	0.473	0.802	0.378
ESQ 8	0.559	0.529	0.798	0.432
ESQ 9	0.544	0.527	0.818	0.411
UE 1	0.572	0.537	0.453	0.842
UE 10	0.569	0.542	0.434	0.816
UE 11	0.554	0.540	0.403	0.828
UE 12	0.589	0.538	0.458	0.821
UE 13	0.636	0.598	0.493	0.830
UE 14	0.555	0.554	0.440	0.823
UE 15	0.548	0.531	0.450	0.819
UE 16	0.591	0.570	0.450	0.857
UE 17	0.565	0.539	0.434	0.804
UE 18	0.608	0.578	0.482	0.868
UE 19	0.554	0.496	0.412	0.830
UE 2	0.582	0.574	0.448	0.841
UE 20	0.607	0.554	0.451	0.842
UE 21	0.554	0.542	0.431	0.850
UE 22	0.606	0.579	0.461	0.858
UE 3	0.558	0.524	0.406	0.847
UE 4	0.597	0.565	0.450	0.826
UE 5	0.596	0.556	0.450	0.826
UE 6	0.550	0.509	0.380	0.833
UE 7	0.613	0.581	0.467	0.879
UE 8	0.540	0.546	0.421	0.807
UE 9	0.615	0.558	0.431	0.853

Source: SmartPLS Data Processing Results (2025)

Table 2 confirms the study's discriminant validity by showing that the cross-loading values of the indicators are greater than their correlations with other variables. In addition, when compared to loading values on other variables, the loading values of each indicator are higher. It is in line with the findings of Hair et al. (2021), who asserts that the variables in this study exhibit strong discriminant validity

Table 3 Discriminant Validity (Fornell Larcker Criterion) Test Results

Variable	E-Loyalty	E-Satisfaction	E-Service Quality	User Experience
E-Loyalty	0.804			
E-Satisfaction	0.721	0.783		

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

E-Service Quality	0.678	0.633	0.811	
User Experience	0.694	0.659	0.528	0.837

Source: SmartPLS Data Processing Results (2025)

The values on the main diagonal (in bold) represent the square roots of the AVE for each construct, namely E-Loyalty (0.804), E-Satisfaction (0.783), E-Service Quality (0.811), and User Experience (0.837). Table 3 presents the results of the discriminant validity test using the Fornell-Larcker criterion. According to this criterion, the measurement instrument can be said to have discriminant validity if it can distinguish between the constructs clearly and validly, meaning that the square root of the AVE for each construct is greater than its highest correlation with other constructs.

Table 4 Heterotrait-Monotrait Ration (HTMT) Test Result

Variable	E-Loyalty	E-Satisfaction	E-Service Quality	User Experience
<i>E-Loyalty</i>				
<i>E-Satisfaction</i>	0.895			
<i>E-Service Quality</i>	0.758	0.719		
<i>User Experience</i>	0.775	0.748	0.539	

Source: SmartPLS Data Processing Results (2025)

Table 4 shows that all variables have Heterotrait-Monotrait Ratio (HTMT) values below 0.90, indicating that discriminant validity is acceptable. When values are lower than this cutoff, it means that the study's variables are distinct from one another, which in turn indicates stronger relationships among them.

c) Reliability

Measurements taken on the same item are subject to reliability testing to ensure they are consistent (Sugiyono, 2022). Each construct's Composite Reliability and Cronbach's Alpha values were evaluated as part of the reliability test. When Cronbach's Alpha is more than 0.6 and Composite Reliability is more than 0.7, we say that a construct is reliable (Ghozali, 2023).

Tabel 5 Uji Reliabilitas (Cronbach's Alpha dan Composite Reliability)

Variable	Composite Reliability	Rule Of Thumb	Cronbach's alpha	Rule Of Thumb	Description
User Experience	0.819	0,7	0.817	0,6	Reliable
E-Service Quality	0.792		0.790		Reliable
E-Satisfaction	0.975		0.975		Reliable
E-Loyalty	0.980		0.980		Reliable

Source: SmartPLS Data Processing Results (2025)

According to Table 5, the study's four variables all have Composite Reliability values greater than 0.7, which means they're very reliable. User Experience (0.819), E-Service Quality (0.792), E-Satisfaction (0.975), and E-Loyalty (0.980) are comprised of these variables. The data in this study show good reliability for measurement purposes, since all variables are considered reliable with values exceeding 0.7.

The reliability results from Cronbach's Alpha show that all variables have values above 0.6. E-Loyalty has the greatest value at 0.980, while E-Service Quality has the lowest at 0.790. However, every single variable in this study is more than the required minimum of 0.6, indicating that they are all valid and reliable indicators of the constructs.

STRUCTURAL MODEL TEST (INNER MODEL)

The purpose of using the inner model, also known as structural model testing, is to investigate the connections between latent variables in order to determine how well the data supports the proposed model and to put the research hypothesis to the test (Hair et al., 2021). In structural model testing, the R-squared, t-statistic, and path coefficients that are obtained through bootstrapping are evaluated. Presented below are the bootstrapping results that were utilized to assess the structural model in this research.

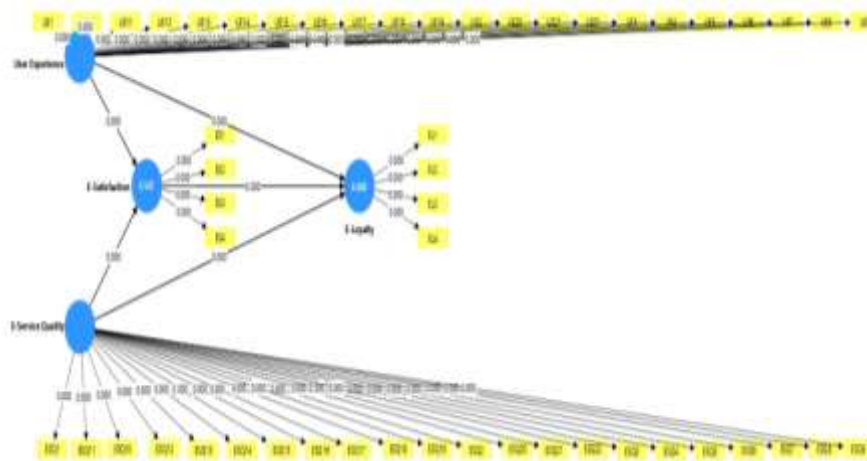


Figure 3 Inner Model
Source: SmartPLS Data Processing Results (2025)

a) R-Square

In statistical models, the coefficient of determination (R^2) is used to assess the degree to which changes in the independent variables can account for changes in the dependent variable (Ghozali, 2023). A high value of R^2 suggests that the independent variables fully account for a significant portion of the variation in the dependent variable (Hair et al., 2021). The following table displays the values of the coefficients of determination in this study .

Table 6. R-Square Values

Variabel	R-Square
E-Loyalty	0.660
E-Satisfaction	0.547

Source: SmartPLS Data Processing Results (2025)

Table 6 shows that E-Loyalty is explained by User Experience, E-Service Quality, and E-Satisfaction to a degree of 0.660 (66%), with other factors accounting for the remaining 34%. User Experience and E-Service Quality account for 54.7% of the variance in E-Satisfaction (R -Square = 0.547), while other variables account for 45.3%. Hair et al. (2021) deems both values to be moderate

b) F-Square

According to Hair et al. (2021), the F-Square is a statistical tool for determining the magnitude of an independent variable's impact on a dependent variable. A small effect is defined as an F-Square value of 0.02, a medium effect as 0.15, and a large effect as 0.35, according to Hair et al. (2021).

Table 7. F-Square Values

Variables	F-Square	Effect
E-Satisfaction=>E-Loyalty	0.128	Low
E-Service Quality=> E-Loyalty	0.163	Medium
E-Service Quality=>E-Satisfaction	0.248	Medium
User Experience=>E-Loyalty	0.171	Medium
User Experience=>E-Satisfaction	0.323	Medium

Source: SmartPLS Data Processing Results (2025)

According to the F^2 test, E-Loyalty is somewhat affected by E-Satisfaction (0.128), which is lower than the contribution of E-Service Quality (0.163) and User Experience (0.171). With a medium effect size of 0.248 and a user experience effect size of 0.323, respectively, E-Service Quality and User Experience both play a significant role in determining E-Satisfaction. Despite E-Satisfaction's small direct effect on E-Loyalty, its mediating role makes the indirect effect significant. After improving E-Satisfaction among Halodoc users, E-Service Quality and User Experience have a greater impact on E-Loyalty.

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

c) Q-Square Predictive Relevance (Q^2)

As stated by Hair et al. (2021), the reflective measurement model of endogenous constructs makes use of Q-Square to reliably forecast indicator data. If the Q-Square value is more than 0, then the data is predictively relevant, whereas if it is less than 0, then the data is not predictively relevant (Hair et al., 2021)..

Table 8. Q-Square (Q^2)

Variable	SSO	SSE	$Q^2(=1-SSE/SSO)$
E-Satisfaction	1600.000	1071.399	0.418
E-Loyalty	1600.000	9312.128	0.330

Source: SmartPLS Data Processing Results (2025)

Based on the table above, the Q-Square values for E-Satisfaction and E-Loyalty are 0.418 and 0.330, respectively. These values meet the criterion of Q-Square > 0 , indicating relevant predictive results.

Hypothesis Testing

Path coefficients, t-statistics, p-values, and sample means are some of the statistical tools used to evaluate the significance of the relationships between constructs and to evaluate the results of hypothesis testing in the structural model. A significant effect of the variable is indicated when the p-value is smaller than the significance level.

a) Direct Effect

An independent variable has a direct effect on a dependent variable if and only if no intermediate (mediating) variable is present. Here are the outcomes of the Direct Effect hypothesis tests:

Table 9. Direct Effect Results

Hypothesis		Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Description
H1	User => E-Satisfaction	0.450	0.448	0.047	9.509	0.000	Accepted
H2	E-Service Quality => E-Satisfaction	0.395	0.398	0.055	7.186	0.000	Accepted
H3	User Experience => E-Loyalty	0.466	0.465	0.037	12.510	0.000	Accepted
H4	E-Service Quality => E-Loyalty	0.432	0.432	0.033	12.937	0.000	Accepted
H5	E-Satisfaction => E-Loyalty	0.310	0.308	0.058	5.322	0.000	Accepted

Source: SmartPLS Data Processing Results (2025)

Based on the table above, “all hypotheses proposed in this study are supported and accepted.

a. Effect of User Experience on E-Satisfaction

The first hypothesis (H1) examines the effect of User Experience on E-Satisfaction. The test results show a T-Statistic value of 9.509 and a P-Value of 0.000. Since the T-Statistic (9.509) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H1 is accepted. This indicates that User Experience has a positive and significant effect on E-Satisfaction.

b. Effect of E-Service Quality on E-Satisfaction

The second hypothesis (H2) examines the effect of E-Service Quality on E-Satisfaction. The test results show a T-Statistic value of 7.186 and a P-Value of 0.000. Since the T-Statistic (7.186) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H2 is accepted. This indicates that E-Service Quality has a positive and significant effect on E-Satisfaction.

c. Effect of User Experience on E-Loyalty

The third hypothesis (H3) examines the effect of User Experience on E-Loyalty. The test results show a T-Statistic value of 12.510 and a P-Value of 0.000. Since the T-Statistic (12.510) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H3 is accepted. This indicates that User Experience has a positive and significant effect on E-Loyalty.

d. Effect of E-Service Quality on E-Loyalty

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

The fourth hypothesis (H4) examines the effect of E-Service Quality on E-Loyalty. The test results show a T-Statistic value of 12.937 and a P-Value of 0.000. Since the T-Statistic (12.937) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H4 is accepted. This indicates that E-Service Quality has a positive and significant effect on E-Loyalty.

e. Effect of E-Satisfaction on E-Loyalty

The fifth hypothesis (H5) examines the effect of E-Satisfaction on E-Loyalty. The test results show a T-Statistic value of 5.322 and a P-Value of 0.000. Since the T-Statistic (5.322) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H5 is accepted. This indicates that E-Satisfaction has a positive and significant effect on E-Loyalty.

b) Indirect Effect

The Indirect Effect aims to determine whether the relationship between independent and dependent variables is influenced by a mediating variable. This study focuses on “E-Satisfaction as the mediating variable affecting these relationships. The hypothesis testing for the Indirect Effect is explained as follows:

Tabel 10 Hasil Indirect Effect

Hipotesis		Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Description
H6	User Experience=> E-Satisfaction=> E-Loyalty	1.139	0.138	0.031	4.543	0.000	Accepted
H7	E-Service Quality=> E-Satisfaction=>E-Loyalty	0.122	0.122	0.026	4.640	0.000	Accepted

Source: SmartPLS Data Processing Results (2025)

Based on the table above, all hypotheses proposed in this study are supported and accepted:

a. User Experience on E-Loyalty through E-Satisfaction

The sixth hypothesis (H6) examines the effect of User Experience on E-Loyalty through E-Satisfaction. The test results show a T-Statistic value of 4.543 and a P-Value of 0.000. Since the T-Statistic (4.543) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H6 is accepted. This indicates that User Experience has a positive and significant effect on E-Loyalty through E-Satisfaction.

b. E-Service Quality on E-Loyalty through E-Satisfaction

The seventh hypothesis (H7) examines the effect of E-Service Quality on E-Loyalty through E-Satisfaction. The test results show a T-Statistic value of 4.640 and a P-Value of 0.000. Since the T-Statistic (4.640) is greater than the t-value (1.96) and the P-Value (0.000) is less than 0.05, H7 is accepted. This indicates that E-Service Quality has a positive and significant effect on E-Loyalty through E-Satisfaction.”

CONCLUSIONS

Based on the findings of this study on the “effect of User Experience and E-Service Quality on E-Loyalty through E-Satisfaction in the Halodoc application in Indonesia, the following conclusions can be drawn as answers to the research questions:

1. User Experience has a direct positive and significant effect on E-Satisfaction.
2. E-Service Quality has a direct positive and significant effect on E-Satisfaction.
3. User Experience has a direct positive and significant effect on E-Loyalty.
4. E-Service Quality has a direct positive and significant effect on E-Loyalty.
5. E-Satisfaction has a direct positive and significant effect on E-Loyalty.
6. User Experience has an indirect positive and significant effect on E-Loyalty through E-Satisfaction.
7. E-Service Quality has an indirect positive and significant effect on E-Loyalty through E-Satisfaction.

The study reveals that the strongest effect is from E-Service Quality on E-Loyalty, while the weakest is from E-Satisfaction on E-Loyalty. This indicates that although user satisfaction still contributes to increased loyalty, its effect is relatively lower compared to other variables, namely User Experience and E-Service Quality. Therefore, improving E-Service Quality should be the top priority in efforts to build Halodoc user loyalty, while enhancing user satisfaction remains important as a supporting factor to sustain and develop user loyalty over time.

THEORETICAL ASPECTS

1. This study examines the influence of User Experience and E-Service Quality on E-Loyalty with E-Satisfaction as a mediating variable. Given the limited research exploring the mediating role of E-Satisfaction in this relationship, this study helps fill that

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

- gap. Thus, it provides a new perspective in understanding the relationship among User Experience, E-Service Quality, E-Satisfaction, and E-Loyalty, and can serve as a foundation for developing a more comprehensive research model in the future.
2. Since the research object focuses solely on Halodoc users in Indonesia, the results may not be generalizable to other digital healthcare platforms or different country contexts. Therefore, future studies are recommended to compare Halodoc with other telemedicine platforms or conduct the research in different countries.
 3. The quantitative approach used in this study relies solely on respondents' perceptions through questionnaires, without in-depth exploration such as interviews that could provide richer insights into user experiences. Hence, future research could adopt a mixed-methods approach by adding interviews or case studies to yield deeper and more realistic depictions of user experiences.
 4. This research model does not yet include other external factors, such as trust and perceived value, which may also influence E-Satisfaction and E-Loyalty. Therefore, future studies are encouraged to expand the model by incorporating these variables."

PRACTICAL ASPECTS

According to the research, Halodoc should focus on enhancing E-Service Quality as their main strategy to build user loyalty, since this factor is the most influential. Improvements are necessary to improve the loading speed of the website so that users are satisfied, even though Halodoc generally has good E-Service Quality when it comes to facilitating user consultations and medication purchases.

Despite the fact that E-Satisfaction has the least impact on E-Loyalty, it is important to maintain and improve this aspect as a supporting factor because of the ongoing role it plays in shaping loyalty. Accordingly, Halodoc has to prioritize efficiency improvements so that app users think the service is really responsive. Halodoc delivers a solid UX across the board, but the interface could use some work to make it more interesting and increase user happiness (especially considering how poorly it did in this category compared to others).

REFERENCES

- 1) Aini, K., & Adlina, H. (2023). The Effect Of E-Service Quality And Perceived Value On Customer Satisfaction On The Use Of The Halodoc Application In Medan City. *Journal of Economics and Business (JECOMBI)*, 3(03), 108–114. <https://doi.org/10.58471/jecombi.v3i03.52>
- 2) Alnaim, A. F., Sobaih, A. E. E., & Elshaer, I. A. (2022). Measuring the Mediating Roles of E-Trust and E-Satisfaction in the Relationship between E-Service Quality and E-Loyalty: A Structural Modeling Approach. *Mathematics*, 10(13). <https://doi.org/10.3390/math10132328>
- 3) Amalia, D., Cahyono, D., Septiani, V., & Kristiawan, M. (2022). UX test in the academic information system of vocational higher education. *JPGI*. https://www.ueq-online.org/?utm_source=chatgpt.com
- 4) Arya, M. A., & Farroz. (2024). PENGARUH DIMENSI LAYANAN M-WALLET TERHADAP E-LOYALTY MENGGUNAKAN SATISFACTION SEBAGAI VARIABEL INTERVENING PADA APLIKASI PEMBAYARAN M-WALET GOPAY. <https://openlibrary.telkomuniversity.ac.id/home/catalog/id/211006/slug/pengaruh-dimensi-layanan-m-wallet-terhadap-e-loyalty-menggunakan-satisfaction-sebagai-variabel-intervening-pada-aplikasi-pembayaran-m-walet-gopay-dalam-bentuk-buku-karya-ilmiah.html>
- 5) Ashiq, R., & Hussain, A. (2024). Exploring the effects of e-service quality and e-trust on consumers' e-satisfaction and e-loyalty: insights from online shoppers in Pakistan. *Journal of Electronic Business & Digital Economics*, 3(2), 117–141. <https://doi.org/10.1108/jebde-09-2023-0019>
- 6) Bella, N. A., Mutiah, N., & Rahmayuda, S. (2024). Analisis Kepuasan Pengguna Aplikasi Jenius Menggunakan Metode End User Computing Satisfaction dan Importance Performance Analysis. *Jurnal Teknologi Sistem Informasi dan Aplikasi*, 7(3), 951–962. <https://doi.org/10.32493/jtsi.v7i3.40802>
- 7) Bellio, J. (2024). News and Updates enEN arrow_drop_down x Save Time and Frustration Save Time and Frustration Register for free System Usability Scale (SUS) Practical Guide for 2025. <https://blog.uxtweak.com/system-usability-scale/>
- 8) BPS. (2024). <https://www.bps.go.id/id/statistics-table/2/MTQwMyMy/persentase-unmet-need-pelayanan-kesehatan-menurut-klasifikasi-desa.html>
- 9) Center, P. R. (2024). No Title. <https://www.kompas.com/tren/read/2024/10/29/130000565/gen-z-dan-milenial-kelahiran-tahun-berapa-saja-?page=all>
- 10) Chandra, A., & Tan, P. H. P. (2022). Analysis of Factors Affecting E-Loyalty With E-Trust and E-Satisfaction as Mediation Variables on Halodoc Application Users in Indonesia. *Quantitative Economics and Management Studies*, 3(6), 983–997. <https://doi.org/10.35877/454ri.qems1272>
- 11) Coates, P. (2024). Optimising Visual User Interfaces to Reduce Cognitive Fatigue and Enhance Mental Well-being. September, 0–15.
- 12) Dariel Fadli, M., & R. Nurafni, R. (2021). Consumer Loyalty Through Customer Satisfaction in E-Commerce. *e-Proceeding of Management*, 8(5), 6120–6136

- 13) Data Reportal. (2025). <https://datareportal.com/reports/digital-2025-indonesia>
- 14) Easterina, B. S., & Ong, L. (2024). INTERNATIONAL JOURNAL OF BUSINESS STUDIES ipmi The Impact of e-Service Quality on e-Satisfaction and Loyalty in BTN Mobile: In the Evidence of BTN Mobile Banking Users in JABODETABEK. *International Journal of Business Studies*, 8(1), 85–95. <https://doi.org/10.59141/jrssem.v3i8.62>
- 15) Ghozali. (2023). Partial Least Squares Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 4.0. Yoga Pratama.
- 16) Giebel, G. D., Speckemeier, C., Abels, C., Plescher, F., Borchers, K., Wasem, J., Blase, N., & Neusser, S. (2023). Problems and Barriers Related to the Use of Digital Health Applications: Scoping Review. *Journal of Medical Internet Research*, 25, 1–16. <https://doi.org/10.2196/43808>
- 17) Gulati, A., Martínez-García, M., Fernández, D., Lozano, M. A., Lepri, B., & Oliver, N. (2024). What is beautiful is still good: the attractiveness halo effect in the era of beauty filters. In *Royal Society Open Science* (Vol. 11, Nomor 11). The Royal Society. <https://doi.org/10.1098/rsos.240882>
- 18) Hair, F. J. J., Black, W. C., Babin, B. J., Anderson, R. E., Black, W. C., & Anderson, R. E. (2021). *Multivariate Data Analysis*. Cengage. <https://doi.org/10.1002/9781119409137.ch4>
- 19) Halodoc. (2025a). https://www.halodoc.com/?gad_source=1&gclid=Cj0KCQjw1um-BhDtARIsABjU5x6S51NNrLFY3Hfrdx12Ylu5ck-N_k90fBsCuar_7nH8AHTpb_9BC0oaAs8bEALw_wcB
- 20) Halodoc. (2025b). No Title. https://www.halodoc.com/media/lima-tahun-berinovasi-halodoc-terus-fokus-jawab-tantangan-kesehatan-di-indonesia?srsltid=AfmBOopFBepu96ixm67TrDHMu0IdEBC95TxTmEjXCwf11vkMdvSSkb-B&utm_source=chatgpt.com
- 21) Indriastuti, H., Putri, A. N. O. D., Robiansyah, R., & Anwar, H. (2022). The Effect of E-Service Quality and E-Trust on Customer Loyalty and Mediating Customer Satisfaction of Internet Banking Users. *Jurnal Manajemen dan Kewirausahaan*, 10(1), 24–34. <https://doi.org/10.26905/jmdk.v10i1.7533>
- 22) Isnaini, R. (2022). Analisis Kepuasan Pengguna Aplikasi Halodoc Di masa Pandemi Dengan Menggunakan Model End User Computing Satisfaction. https://repository.uinjkt.ac.id/dspace/bitstream/123456789/65068/1/RAHMATUL_ISNAINI-FST.pdf
- 23) Isya, P. N. (2022). UI UX Case Study : Improving medicine purchase experience at Toko Kesehatan — Halodoc.
- 24) Juliana, Jayanto, I., Wulansari, M., Santoso, M. H., & Apriyono, T. (2023). *Applied Theory- ECT 2*.pdf.
- 25) Katadata. (2024a). <https://katadata.co.id/digital/startup/6790b1597feec/gen-z-dan-milenial-mulai-sadar-kesehatan-aplikasi-halodoc-paling-banyak-dipakai>
- 26) Katadata. (2024b). <https://katadata.co.id/digital/startup/6790b1597feec/gen-z-dan-milenial-mulai-sadar-kesehatan-aplikasi-halodoc-paling-banyak-dipakai>
- 27) Kemenkes RI. (2021). Keputusan Menteri Kesehatan Republik Indonesia tentang pedoman pelayanan kesehatan melalui telemedicine pada masa Covid-19. Menkes/4829/2021, 2019, 1–22. https://infeksiemerging.kemkes.go.id/document/kmk-no-hk-01-07-menkes-4829-2021-tentang-pedoman-pelayanan-kesehatan-melalui-telemedicine-masa-pandemi-covid-19/view?utm_source=chatgpt.com
- 28) Kementerian Kesehatan RI. (2024). CETAK BIRU STRATEGI TRANSFORMASI DIGITAL KESEHATAN. 6.
- 29) Khan, F. N., Arshad, M. U., & Munir, M. (2023). Impact of e-service quality on e-loyalty of online banking customers in Pakistan during the Covid-19 pandemic: mediating role of e-satisfaction. *Future Business Journal*, 9(1), 1–12. <https://doi.org/10.1186/s43093-023-00201-8>
- 30) Kompasiana. (2025). No Title.
- 31) Kushendriawan, M. A., Santoso, H. B., Putra, P. O. H., & Schrepp, M. (2021). Evaluating User Experience of a Mobile Health Application ‘Halodoc’ using User Experience Questionnaire and Usability Testing. *Jurnal Sistem Informasi*, 17(1), 58–71. <https://doi.org/10.21609/jsi.v17i1.1063>
- 32) Mamakou, X. J., Zaharias, P., & Milesi, M. (2024). Measuring customer satisfaction in electronic commerce: the impact of e-service quality and user experience. *International Journal of Quality and Reliability Management*, 41(3), 915–943. <https://doi.org/10.1108/IJQRM-07-2021-0215>
- 33) Marketers. (2025). No Title. https://mix.co.id/indonesia-most-engaged-brand/halodoc-indonesia-most-engaging-brand-2022-health-care-apps-category/?utm_source=chatgpt.com
- 34) Megawati, S., Machmud, A., & Alfarizi, M. (2024). Telemedicine and transformative health access for millennials-Gen Z: PLS-SEM based behavioral exploration. *Technology in Society*, 79(September), 102714. <https://doi.org/10.1016/j.techsoc.2024.102714>
- 35) Meuthia, R. F., Ferdawati, F., & Gustati, G. (2021). Analisis User Experience Pada Aplikasi E-Kelurahan Menggunakan Model UX Honeycomb. *Jurnal Akuntansi Keuangan dan Bisnis*, 14(2), 342–351. <https://doi.org/10.35143/jakb.v14i2.5167>
- 36) Morville, P., & Sullenger, P. (2010). Ambient Findability: Libraries, Serials, and the Internet of Things. *Serials Librarian*, 58(1–4), 33–38. <https://doi.org/10.1080/03615261003622999>

E-Loyalty Strategies for Digital Healthcare Applications: A Case Study of Halodoc Users in Indonesia

- 37) Muryarman, B., maulida akmalia, S., Jong Su, L., Jery Nolasco, J., & Widayanti, R. (2024). Evaluasi Tingkat Usability Aplikasi Halodoc Menggunakan Pengukuran System Usability Scale. *Nusantara Journal of Multidisciplinary Science*, 1(12), 778–785. <https://jurnal.intekom.id/index.php/njms>
- 38) Nasution, S. P., & Adiwijaya, K. (2024). The Influence of User Experience and E-Service Quality on Customer Loyalty Through Customer Satisfaction Mediation (Study on Mobile Coffee Shop Applications in Indonesia). *EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi dan Bisnis*, 12(3), 3243–3258. <https://doi.org/10.37676/ekombis.v12i3.6323>
- 39) Nelson, Musthafa, A. E., Rumagit, R. Y., & Pratama, G. D. (2024). Comparison of user interface and user experience between Bukalapak and Blibli in mobile application. *Procedia Computer Science*, 245(C), 429–440. <https://doi.org/10.1016/j.procs.2024.10.269>
- 40) Novitasari, Wi. (2025). Pengaruh Citra Merek, Harga, Kualitas Layanan Digital dan Iklan Terhadap Loyalitas Pelanggan Pemutar Musik Spotify Melalui Keputusan Pembelian Sebagai Variabel Mediasi. <https://openlibrary.telkomuniversity.ac.id/home/catalog/id/231945/slug/pengaruh-citra-merek-harga-kualitas-layanan-digital-dan-iklan-terhadap-loyalitas-pelanggan-pemutar-musik-spotify-melalui-keputusan-pembelian-sebagai-variabel-mediiasi-dalam-bentuk-buku>
- 41) Nurida, A., Chalidyanto, D., & Qomaruddin, M. B. (2024). Analysis of factors affecting telemedicine use satisfaction: A literature review. *African journal of reproductive health*, 28(10), 460–463. <https://doi.org/10.29063/ajrh2024/v28i10s.47>
- 42) Okabashi Hendrawan, N., Muhammad, E., Jonemaro, A., & Ananta, M. T. (2023). Analisis Perbandingan Pengalaman Pengguna pada Aplikasi Halodoc dan Alodokter menggunakan User Experience Questionnaire (UEQ). *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer*, 7(3), 1030–1038. <http://j-ptiik.ub.ac.id>
- 43) Okour, M. K., Chong, C. W., Okour, S. A., & Abdelfattah, F. (2023). The mediating role of perceived value on electronic service quality and customer satisfaction: Evidence from Malaysia. *Innovative Marketing*, 19(4), 26–39. [https://doi.org/10.21511/im.19\(4\).2023.03](https://doi.org/10.21511/im.19(4).2023.03)
- 44) Prasetyo, A. N., & Yusran, H. L. (2022). Pengaruh E-Service Quality Dan E-Trust Terhadap Repurchase Intention Melalui E-Satisfaction Pada Pengguna E-Commerce. *Ijd-Demos*, 4(1), 137–151. <https://doi.org/10.37950/ijd.v4i1.193>
- 45) Pratama, A. A., & Mutiara, A. B. (2021). Software Quality Analysis for Halodoc Application using ISO 25010:2011. *International Journal of Advanced Computer Science and Applications*, 12(8), 383–392. <https://doi.org/10.14569/IJACSA.2021.0120844>
- 46) Prayunita, D. A., Makky, M. Al, Firdaus, Y., & Wibowo, A. (2025). EXPERIENCE , AND SALES PROMOTION ON IMPULSIVE BUYING. 10(1), 711–719.
- 47) Purwati, M., Pradhanawati, A., & Hidayat, W. (2022). Pengaruh E-Service Quality Terhadap E-Loyalty dengan E-Satisfaction sebagai Variabel Intervening (Studi pada Pengguna E-Commerce Bukalapak). *Jurnal Ilmu Administrasi Bisnis*, 11(2), 310–320. <https://doi.org/10.14710/jiab.2022.34754>
- 48) Pushparaja, V., Yusoff, R. C. M., Maarop, N., Shariff, S. A., & Zainuddin, N. M. (2021). User Experience Factors that Influence Users' Satisfaction of Using Digital Library. *Open International Journal of Informatics (OIJI)*, 9(3), 28–36. <https://doi.org/https://doi.org/10.11113/oiji2021.9nSpecial%20Issue%201.165>
- 49) Puspa, A. W. (2024). No Title. *Bisnis Techno*. <https://teknologi.bisnis.com/read/20240216/266/1741417/halodoc-punya-20-juta-pengguna-aktif-bulanan-hadirkan-layanan-mental-health>
- 50) Putra, I. N. T. A., & Ramadhani, F. H. S. (2023). Analisa Website Sistem Akademik Institut Bisnis Danteknologi Menggunakan Metode Ueq (User Experience Questionnaire). https://www.academia.edu/123607853/Analisa_Website_Sistem_Akademik_Institut_Bisnis_Dan_Teknologi_Menggunakan_Metode_Ueq_User_Experience_Questionnaire_#loswp-work-container
- 51) Putri, C. A., & Ginting, P. (2021). The Influence of E-Service Quality and Relational Marketing on E-Satisfaction in Using Mobile Banking through User Experience at Bank Syariah Mandiri Medan Petisah Branch Office. *International Journal of Research and Review*, 8(8), 587–596. <https://doi.org/10.52403/ijrr.20210878>
- 52) Rahmasari, S. P., Darmeinis, D., Putri, N., Talitha, D. H., Islamiah, D. N., Rohim, B., Prasetyo, R. D., & Herawati, W. (2024). Menjelajahi Kesehatan Fisik Dan Mental di Era Gen Z Exploring Physical and Mental Health in the Gen Z Era Universitas Panca Sakti Bekasi , Indonesia prevalensi obesitas , gangguan metabolisme , dan masalah kesehatan lainnya . Namun , di sisi juga menunjuk. 2. <https://pbsi-upr.id/index.php/Faedah/article/view/1178/1015>
- 53) Ricard, A. O., Winoto, H., Tecolu, M., Kristen, U., & Wacana, K. (2025). Pengaruh E-Trust dan E-Service Quality terhadap E-Loyalty dengan E- Satisfaction sebagai Variabel Intervening (Studi pada Pengguna Klikdokter). 5, 5601–5622. <https://doi.org/https://doi.org/10.31004/innovative.v5i1.18072>
- 54) Ritonummi, S., & Niininen, O. (2021). User experience of an e-commerce website: A case study. *Contemporary Issues in Digital Marketing*, 61–71. <https://doi.org/10.4324/9781003093909-8>
- 55) Rustana, A. P. (2024). Peran E-Satisfaction sebagai Variabel Intervening dalam Pengaruh E-TailQ terhadap E-loyalty: Studi pada Pengguna Aplikasi Pegadaian Digital Service di Kota Bandung.

<https://openlibrary.telkomuniversity.ac.id/home/catalog/id/211592/slug/peran-e-satisfaction-sebagai-variabel-intervening-dalam-pengaruh-e-tailq-terhadap-e-loyalty-studi-pada-pengguna-aplikasi-pegadaian-digital-service-di-kota-bandung-dalam-bentuk-buku-kar>

- 56) Sari, Y. E., Savitri, C., & Faddila, S. P. (2023). Pengaruh Online Customer Review Dan Rating Terhadap Kepuasan Konsumen Pada Aplikasi Pt. Bfi Finance Indonesia Tbk Cabang Karawang. *Journal of Economic, Bussines and Accounting (COSTING)*, 7(1), 2064–2079. <https://doi.org/10.31539/costing.v7i1.7389>
- 57) Subagja, A. R., Fidiyanti, F., & Sutrisno, T. (2024). The Influence of Electronic Service Quality, Transaction Costs and Experience Value on Online Satisfaction and Loyalty of Halodoc Application Users. *Co-Value Jurnal Ekonomi Koperasi dan kewirausahaan*, 14(8), 1239–1251. <https://doi.org/10.59188/covalue.v14i8.4071>
- 58) Sugiyono. (2022). *Metode Penelitian Kuantitatif Kualitatif Dan R&D*. D. Bandung Alfabeta.
<https://www.scribd.com/document/691644831/Metode-Penelitian-2022-SUGIYONO>
- 59) Tofure, I. R., Erwada, B. A. De, & Ukratalo, A. M. (2025). *Telemedicine Sebagai Media Konsultasi Layanan Kesehatan Bagi Masyarakat di Wilayah Pesisir*. 2016.
- 60) Venkatakrishnan, J., Alagiriswamy, R., & Parayitam, S. (2023). Web design and trust as moderators in the relationship between e-service quality, customer satisfaction and customer loyalty. *TQM Journal*, 35(8), 2455–2484.
<https://doi.org/10.1108/TQM-10-2022-0298>
- 61) Winarni, R., Yolandita Angga Reza, M. A. M., & Muchsam, Y. (2024). *Jurnal Pijar Studi Manajemen dan Bisnis Pengaruh Ulasan Dan Rating Terhadap Peringkat Penjual Di*. 3(1), 223–233.
- 62) Wiradiredja, D. K. A. (2025). Pengaruh Efficiency, Privacy Protection Dan System Availability Terhadap E-Loyalty Yang Dimediasi Oleh E-Satisfaction Dan E-Trust Pada Aplikasi Disney+ Di Jakarta.
<https://openlibrary.telkomuniversity.ac.id/home/catalog/id/232120/slug/pengaruh-efficiency-privacy-protection-dan-system-availability-terhadap-e-loyalty-yang-dimediasi-oleh-e-satisfaction-dan-e-trust-pada-aplikasi-disney-di-jakarta-dalam-bentuk-buku-karya>
- 63) Wulandari, S., Rahmawita Munzir, M., Evriyan Rozanda, N., Sistem Informasi, Z., dan Teknologi, S., Islam Negeri Sultan Syarif Kasim Riau Jalan Soebrantas NoKm, U. H., Baru, S., & Pekanbaru, K. (2024). Pengaruh Kepuasan Pengguna Aplikasi Mobile Halodoc Menggunakan Metode End User Computing Satisfaction (EUCS) dan DeLone and McLean Influence of User Satisfaction of the Halodoc Mobile Application Using the End User Computing Satisfaction (EUCS) and DeLone. *SISTEMASI : Jurnal Sistem Informasi*, 13(2), 740–756. <https://doi.org/https://repository.uin-suska.ac.id/80027/>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.