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Research Article

The Influence of E-service Quality, User Interface, and User Experience on Customer Loyalty Mediated by Payment Methods on Generation Z Market Place Customers in Medan City

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Abstract:

Research to test what causes Generation Z currently really likes online shopping in Medan. This study uses a quantitative approach with the variables E-service Quality, user interface, and user experience. Data analysis uses the PLS-SEM hypothesis test with a sample of around 350 people. The results of the study indicate that E-Service Quality, User interface, and User experience have a positive and significant effect on customer loyalty in generation Z of Lazada Market Place customers in Medan City. Payment methods have a positive and significant effect on customer loyalty in generation Z of Lazada Market Place customers in Medan City. while E-Service Quality does not have a positive and significant effect on payment methods in generation Z of Lazada Market Place customers in Medan City. Likewise, User interface does not affect payment methods in generation Z of Lazada Market Place customers in Medan City. Furthermore, User experience has a positive and significant effect on payment methods in generation Z of Lazada Market Place customers in Medan City. However, E-Service Quality does not affect Customer Loyalty mediated by payment methods in generation Z of Lazada Market Place customers in Medan City. Furthermore, User interface does not affect Customer Loyalty mediated by payment methods in generation Z of Lazada Market Place customers in Medan City. However, User experience has a positive and significant effect on Customer Loyalty mediated by payment methods for Generation Z customers of the Lazada Market Place in Medan City.

1. Introduction

The rapid and global development of technology and internet networks has brought significant changes to society. Entrepreneurs are also competing to get consumers in online media, such as e-commerce. With the advancement of technology in this era of globalization, every company strives to always improve the quality of production and marketing management with the aim of maximizing profits according to the desired targets [1] According to Hidayah et al. [2] in delivering products to consumers to achieve predetermined goals, marketing activities are used as a benchmark for every businessman. This is indicated by the increasing number of internet users compared to previous years. This is the reason that online businesses continue to grow every year [3].
Based on research conducted by Lazada, three things were found that consumers consider when shopping online, namely confidence in product quality, the best price, and delivery at the right time. So this campaign was thought of in order to answer consumer concerns in shopping online, especially at Lazada. Lazada convinces consumers to be able to make transactions at Lazada with various services and conveniences that can be obtained at Lazada. Generation Z is the generation closest to smartphones [4,5]. Even Francis & Hoefel [6], explained that Generation Z is a generation that has been exposed to technology, the

internet, and social media networks since their early youth, even since they were born. Smartphones are one form of technological development that is equipped with internet access and can be carried anywhere [7,8].

The selection of E-service Quality, User Interface, and User experience variables, which were carried out in this study because Lazada Indonesia's position is still in 3rd position in the 5 Most Visited Market Places Throughout 2023. There needs to be an update and addition of types of promotions that are more interesting to consumers that researchers want to do by distributing questionnaires directly to consumers. So, with this, the author will further examine consumer purchasing decisions in the Lazada Indonesia e-commerce.

According to the results of Octavia [9], service quality does not have a significant effect on customer loyalty of Bank Index customers, Lampung Branch Office. Meanwhile, according to Afif [10], found that there is a relationship between service quality and customer loyalty at the Araya Motor Tenggarong workshop. According to Soni & Govender [11], shows that the relationship between service quality variables and customer satisfaction has a positive and significant effect. The results of Jannah & Asyahri [12], concluded that there is a positive and significant influence between relationship marketing, service quality and relationship quality partially and simultaneously on customer satisfaction and there is a positive and significant influence of customer satisfaction on Customer Loyalty. Likewise, according to Sutrisno et al., [13], it shows that service quality has an effect on customer loyalty.

Sani & Febrian [14], stated that service quality has a positive but small effect on customer loyalty. Putra [15] stated that the user interface is a bridge connecting users with a particular website. User interfaces usually have different designs based on their respective functions and needs. Cristina, Melly stated that the user interface has a positive but insignificant effect on Customer Loyalty. According to Rahmawaty et al. [16], there is a positive effect of User Interface Quality on E-Customer Loyalty which is stated to be significant for Tokopedia Application Users. Meanwhile, according to Sharon, there is a positive and significant effect of information quality and user interface quality together or simultaneously on e-customer loyalty in using digital wallet applications.

Candra et al. [17] stated that User Experience (UX) is all aspects of the user experience when using a product, how easy it is to understand how the product works, how it feels when using the product or how users achieve their goals through your product. Oliver [18] stated that User experience has a positive and significant effect on customer satisfaction. Customer satisfaction has a positive and significant effect on customer loyalty and also a partial mediation between user experience and customer loyalty.

The investigation and examination direct relationship between user experience and customer loyalty. Evanschitzky et al. [19], investiged and examined that there was direct relationship between user experience and customer loyalty. Kartika et al. [20], in her research stated that user experience affects customer satisfaction, user experience affects customer loyalty, customer satisfaction affects customer loyalty, and user experience does not affect customer loyalty mediated by customer satisfaction. But according to Saputra [21], user experience has no significant effect on customer loyalty.

The results of the study show that the payment system has a significant and positive influence on customer loyalty. The ease and speed of transactions provided make customers loyal to the service. The payment method is the method used by customers to pay for the goods or services offered. According to Santia & Maftuchach [22], the payment method available in e-commerce is one of the features to attract customers to shop online. The results of Herviana & Wiyono [23], study show that the payment system has a significant and positive influence on customer loyalty. According to Rachmat et al. [24], it shows that the payment method affects consumer loyalty. The results of Alamsyah [25], analysis in his research are that the availability of digital payments has a positive and significant impact on customer loyalty. Maintaining customer loyalty is very necessary for companies in their future sales. In line with the research of Abror et al. [26], namely where customers will always buy again from the same seller or brand because it is the result of customer belief that they receive higher value compared to what has been provided in other alternatives.

2. Literature Review

E-service Quality

E-service Quality can be interpreted as an effort to fulfill consumer needs and desires and the accuracy of its delivery in balancing consumer expectations [27], Service quality is a form of fulfillment of customer needs and expectations that must be met [28]. According to Waruwu & Sahir, [29], defines service quality as the level of expected excellence and control over the level of excellence to fulfill customer desires. Yarimoglu [30], defines service quality as a reflection of consumer evaluation

perceptions of services received at a certain time. E-service Quality is defined as an extension of a site's ability to facilitate shopping, purchasing, and distribution activities effectively and efficiently [31].

Service quality is an effort to fulfill consumer needs and desires and the accuracy of its delivery in balancing consumer expectations. Quality has a very close relationship with customer satisfaction, namely quality provides an encouragement to customers to undergo a strong relationship with the company. Service quality is a complex and multidimensional concept so that its interpretation and measurement are different [32,33]. The E-Servqual model is the most comprehensive and integrative online service quality model. Comprehensive and integrative because the e-servqual dimensions are very relevant and completely meet the needs to evaluate the quality of electronic services [34]. It is concluded that service quality is what is provided by a service to customers or users of services optimally.

User Interface

Usability is a measure of quality to assess the ease of use of a user interface. According to Lastiansah [35], user interface is a way for programs and users to interact. Elements of the user interface (UI) consist of colors, writing, layout and shapes that are designed to be as attractive and easy as possible so that consumers are interested and easy to use the application. UI is a link between users and applications that are tailored to the needs and desires of consumers. User interface (UI) is a user interface design that affects user satisfaction with a product [36], Therefore, to overcome these problems, it is necessary to improve the user interface (UI) by adapting the Integrated Design of Interface (IDI) method to stage 4 to produce a prototype. A prototype is an initial model built as an example to test a concept with the aim of improving and perfecting the design [37], The user interface is an important part as well as a clever strategy in presenting the form of a website or application in the best way.

The user interface is the part where the user can see and interact with the computer, website, or application with the aim of making the user experience easier and more intuitive. In other words, the user interface is a visual design part that focuses on the display to represent the function of a system that can be seen by the user. The main purpose of the user interface is to display the front interface of a system so that it is easy to use and can make users feel happy while interacting with the system. The user interface is an architecture that is no less important than the software program code to support the development of cutting-edge technology. Without a UI, an application or website will be difficult for users to use, triggering feelings of discomfort, especially when used by ordinary users. In fact, the role of UI cannot be separated from the implementation of the Graphic User Interface (GUI) in every program or application. A good interface can also affect website traffic because many users will access the site longer. Especially if the website is a business website so that indirectly the user interface is a part that supports the success of the business promotion process.

User Experience

Lazada can still increase its ranking which is very likely due to user experience. A product with a mobile platform or website is said to be good if it always evaluates and does not stop when the research is finished [38]. User Experience on the Lazada mobile application can still be improved in order to compete with other e-commerce and increase its ranking. User experience is an important component that must always be evaluated continuously, because user experience is a direct link between user interaction and the system which aims for users who use the system to feel the ease of using the system [39], User experience plays a very important role in improving a system, because user experience can show the comfort felt by users through user experience when using a system [40].

Payment Methods

This user experience improvement can be done on a less than good user interface that makes it difficult for users to use the application. User experience has at least three characteristics, namely the presence of involved users, users who interact with products, systems or things related to the interface and user experience, a value that can be observed and measured [41]. Designing user experience can solve user problems when interacting with the Lazada application. One approach to designing a user experience is design thinking, design thinking is an imaginative critical thinking technique that includes users to enter the thinking process and makes the user's point of view the main thought of a problem-solving process [42]. User experience or often referred to as UX is an individual's response to a product, as well as a feeling that is reflected in every interaction that occurs when using it. It can be concluded that UX assesses the user experience based on the use of the product. This experience can be seen from how easy it is for users to get

something according to their wishes from the product being used. Good UX will not make it difficult for users to achieve their goals.

According to Shafa & Hariyanto [43], Payment Methods are methods of payment for the purchase of goods or services, debts, taxes, and so on. Payment methods in buying and selling can generally be made by installment payments and cash. According to Bank Indonesia, the use of this payment instrument has developed and advanced rapidly. If we look back, namely at the beginning, the beginning of the payment, the barter system between goods traded was common in the pre-modern era. And in its development, certain units began to be known that had a payment value known as money. Until now, money is still one of the main means of payment in society. Payment method is our method or way to pay for something. There are several types of payment methods that we can choose from, either cash or non-cash. Based on a study conducted by Costa and Grauwe [44], the widespread use of non-cash payment instruments has implications for reducing the demand for money for money issued by the central bank, base money, which in turn can affect the implementation of the central bank's duties in implementing monetary policy, especially monetary control.

Customer Loyalty

Hasan et al. [45], said that customer loyalty is a person who buys regularly and repeatedly, they continuously and repeatedly come to the same place to satisfy their desires by having a product or getting a service and paying for the product. According to Oliver [18], stated that customer loyalty is a customer's commitment to persist deeply to re-subscribe or re-purchase selected products or services consistently in the future, even though the influence of situations and marketing efforts have the potential to cause behavioral changes. Meanwhile, according to Morais said that customer loyalty is a customer's commitment to a store brand, or supplier, based on a very positive attitude and reflected in consistent repeat purchases. Furthermore, Parasuraman [47], defines customer loyalty in the context of service marketing as a response that is closely related to a vow or promise to uphold the commitment that underlies the continuity of the relationship, and is usually reflected in ongoing purchases from the same service provider on the basis of dedication and pragmatic constraints. Keeping customers happy and loyal is a challenge for companies and the best way to survive in the competition.

Based on several definitions from several experts above, it can be concluded that customer loyalty is the loyalty of a customer who buys regularly and repeatedly, they continuously and repeatedly come to the same place to satisfy their desires by having a product or getting a service and paying for the product. Characteristics of Customer Loyalty. Loyal customers are an important asset for the company. This can be seen from the characteristics they have.

Hypothesis

This study examines the direct influence of E-service Quality, user interface, user experience on customer loyalty of e-commerce Marketplace Lazada, examines the influence of payment methods on customer loyalty and examines the indirect influence of E-service Quality, user interface, user experience, on customer loyalty mediated by payment methods. The researcher will describe the research hypothesis as follows:

1. Hypothesis 1

H0: E-service Quality does not have a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place in Medan City.

H1: E-service Quality has a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place, Medan City.

2. Hypothesis 2

H0: User interface does not have a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place, Medan City.

H1: User interface has a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place, Medan City.

3. Hypothesis 3

H0: User interface does not have a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place, Medan City.

H1: User interface has a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place, Medan City.

4. Hypothesis 4

H0: Payment methods do not have a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place, Medan City.

H1: Payment methods have a positive and significant effect on customer loyalty among Generation Z customers of Lazada Market Place in Medan City.

5. Hypothesis 5

H0: E-service Quality does not have a positive and significant effect on payment methods for

Generation Z customers of Lazada Market Place in Medan City.

H1: E-service Quality has a positive and significant effect on payment methods for Generation Z customers of Lazada Market Place in Medan City.

6. Hypothesis 6

H0: User Interface does not have a positive and significant effect on payment methods for Generation Z customers of Lazada Market Place in Medan City.

H1: User Interface has a positive and significant influence on payment methods for Generation Z customers of Lazada Market Place in Medan City.

7. Hypothesis 7

H0: User Experience does not have a positive and significant effect on payment methods for Generation Z customers of Lazada Market Place in Medan City.

H1: User Experience has a positive and significant effect on payment methods for Generation Z customers of Lazada Market Place in Medan City.

8. Hypothesis 8

H0: E-service Quality does not have a positive and significant effect on customer loyalty through payment methods for Generation Z customers of Lazada Market Place in Medan City.

H1: E-service Quality has a positive and significant effect on customer loyalty through payment methods for Generation Z customers of Lazada Market Place in Medan City.

9. Hypothesis 9

H0: User Interface does not have a positive and significant effect on customer loyalty through payment methods for Generation Z customers of Lazada Market Place in Medan City.

H1: User Interface has a positive and significant influence on customer loyalty through payment methods for Generation Z customers of Lazada Market Place, Medan City.

10. Hypothesis 10

H0: User Experience does not have a positive and significant effect on customer loyalty through payment methods for Generation Z customers of Lazada Market Place in Medan City.

H1: User Experience has a positive and significant influence on customer loyalty through payment methods for Generation Z customers of Lazada Market Place, Medan City.

3. Research Methods

In accordance with the formulation of the problem and the objectives of the study, the design of this study uses a quantitative approach with an emphasis on explanatory research to explain the causal relationship between variables through hypothesis testing [47], Cooper and Schindler [48], stated that research based on hypothesis testing to test a phenomenon that occurs is a type of explanatory research. Data were collected through research instruments and analyzed statistically. This study uses three latent variables/exogenous constructs, namely E-service Quality, user interface, and user experience. The mediating variable is the payment method, and the latent variable/endogenous construct is customer loyalty.

Data analysis uses hypothesis testing with Partial Least Square-Path Modeling (PLS-SEM). It is more appropriate to use because the interpretation of the results and the validity and reliability in the conclusions are more accurate. To process questionnaire data in measuring the relationship or influence between variables, these variables are usually latent, requiring indicators to explain them. The location of this research is Medan City, North Sumatra. In this study, the population is all Gen Z who are consumers of the Lazada E-commerce Marketplace in Medan and have made transactions more than once. So the number of samples in this study is around 350 people. This research technique uses associative research techniques. The following are data collection techniques carried out by researchers, namely Observation, Interviews, and Documentation. The data sources in this study are primary data and secondary data. The variables to be measured are replaced with indicator variables using the Likert scale.

Inner Model Analysis or Structural Model

According to Abdillah and Hartono [49], based on the substance of the theory, the inner model is also called a structural model that describes the causal relationship between latent variables. The inner model aims to investigate the relationship between variable indicators [50]. Testing with the inner model can be done with several indicators such as :

R-Square (R^2)

The R-Square value for each endogenous latent variable is used to first be evaluated using structural using PLS. Changes in the R-Square value can be used to explain if a particular exogenous latent variable has a significant effect on the endogenous latent variable. According to Ghozali and Latan [51], R Squares values of 0.67, 0.33, and 0.19 indicate strong, moderate, and weak models. R-Square value for endogenous constructs. In the endogenous construct, the coefficient of determination is the R-Square value. The R-Square value states 0.75 (strong), 0.5 (strong), 0.25 (weak) [50].

Q-Square (Q^2)

The Q-Square test aims to predict whether the model is good or not. The Q-Square test can be done using the blindfolding procedure. The Q-Square test value states that $Q^2 > 0$, meaning that the variables and data can predict the model well. While $Q^2 < 0$ means that the variables and data cannot predict the model well. According to Musyaffi et al., [52], the criteria for the Q-Square (Q^2) value, namely the Q^2 value less than 0, means that the exogenous latent structure as an explanatory variable can be interpreted as a prediction of the existing structure. A Q^2 value of 0.02 to $\leq$ 0.15 is classified as small, 0.15 to $\leq$ 0.35 is classified as medium, and $\geq$ 0.35 is classified as large.

Hypothesis Testing

Once the hypothesis is established, the next step is to test it. To clarify the direction of the relationship between endogenous and exogenous variables, hypothesis testing is carried out. In this study, the bootstrapping method and the IBM SEM application version 4.0 were used to determine whether there was a direct or indirect effect between the variables. Hypothesis testing in this study can be done by looking at the results of the t-statistic values and also the p-values. Bootstrapping is a repeated sampling method using a resampling-based method to calculate statistical tests [50]. In this study, the level of statistical significance used to accept or reject a hypothesis is 5%. This means that the level of confidence needed to reject the hypothesis is 0.05 if 5% is chosen for significance. In addition, the possibility of making the right choice is 95%, while the possibility of making the wrong choice is 5%. The following is the basis for decision making:

1. The influence of E-service Quality (X1) on customer loyalty (Y)

H01 : $\beta 1 = 0$ (There is no influence of E-service Quality on customer loyalty)

Ha1 : $\beta 1 \neq 0$ (There is an influence of E-service Quality on customer loyalty)

Criteria :

a. H0 rejected or Ha accepted if the significance < 0.05

b. H0 accepted or Ha rejected if the significance ≥ 0,05

2. The influence of user interface (X2) on customer loyalty (Y)

H02 : $\beta 2 = 0$ (There is no influence of user interface on customer loyalty)

Ha2 : $\beta 2 \neq 0$ (There is an influence of user interface on customer loyalty)

Criteria:

a. H0 rejected or Ha accepted if the significance < 0.05

b. H0 accepted or Ha rejected if the significance ≥ 0,05

3. The influence of user experience (X3) on customer loyalty (Y)

H03 : $\beta 3 = 0$ (There is no influence of user experience on customer loyalty)

Ha3 : $\beta 3 \neq 0$ (There is an influence of user experience on customer loyalty)

Criteria :

a. H0 rejected or Ha accepted if the significance < 0.05

b. H0 accepted or Ha rejected if the significance ≥ 0,05

4. There is an influence of payment method (Z) on customer loyalty (Y)

H06 : $\beta 6 = 0$ (There is no influence of payment method on customer loyalty)

Ha6 : $\beta 6 \neq 0$ (There is an influence of payment methods on customer loyalty)

Criteria :

a. H0 rejected or Ha accepted if the significance < 0,05

b. H0 accepted or Ha rejected if the significance ≥ 0,05

5. There is an influence of E-service Quality (X1) on payment methods (Z)

H07 : $\beta 7 = 0$ (There is no influence of E-service Quality on payment methods)

Ha7 : $\beta 7 \neq 0$ (There is an influence of E-service Quality on payment methods)

Criteria:

a. H0 is rejected or Ha is accepted if the significance is < 0.05

b. H0 is accepted or Ha is rejected if the significance is ≥ 0.05

6. There is an influence of the user interface on the payment method (Z)

H08 : $\beta 8 = 0$ (There is an influence of the user interface on the payment method)

Ha8: $\beta 8 \neq 0$ (There is no influence of the user interface on the payment method)

Criteria :

a. H0 rejected or Ha accepted if the significance < 0.05

b. H0 accepted or Ha rejected if the significance ≥ 0,05

7. There is an influence of user experience (X3) on payment methods (Z)

H09 : $\beta 9 = 0$ (There is no influence of user experience on payment methods)

H09 : $\beta 9 \neq 0$ (There is an influence of user experience on payment methods)

8. There is an influence of E-service Quality on customer loyalty which is mediated by payment methods)

H12 : β12 = 0 (There is no influence on E-service Quality on customer loyalty mediated by payment methods)
H12: β12 ≠ 0 (There is an influence of service quality on customer loyalty mediated by payment methods)
9. There is an influence of user interface on customer loyalty mediated by payment method)
H13: β13 = 0 (There is no influence of user interface on customer loyalty mediated by payment method)
H13: β13 ≠ 0 (There is an influence of user interface on payment method)
10. There is an influence of user experience on customer loyalty mediated by payment methods)
H14: β14 = 0 (There is no influence of user experience on customer loyalty mediated by payment methods)
H14: β14 ≠ 0 (There is an influence of user experience on customer loyalty mediated by payment methods)

4. Result And Discussion

Data Processing with Pls

This study uses a structural equation model (structural equation modelling/SEM) and the software used is SmartPLS. SEM is a statistical method that allows researchers to simultaneously test the influence of several independent variables on several dependent variables [53]. Partial Least Square analysis is a powerful analysis method and is also called soft modelling because it eliminates the assumptions of OLS (Ordinary Least Square) regression, such as data must be normally distributed multivariate and there are no multicollinearity problems between exogenous variables. Evaluation of the Outer model consists of convergent validity, discriminant validity, and composite reliability.

Convergent Validity Testing

The purpose of conducting convergent validity testing is to determine the suitability of each instrument used in the study when measuring its construct variables. It is expected that each instrument has a good value, because an instrument that has a good validity value is an instrument that is suitable and appropriate to be used to measure its construct variables. Convergent validity testing is carried out in 2 ways, the first is by using a loading factor and the second is using Average Variance Extracted. A loading value greater than 0.7 is a good loading factor value for an instrument to measure its construct variables [54]. An Average Variance Extracted value greater than 0.5 is a good Average Variance Extracted value for its construct variables. Furthermore, the results of Convergent validity of each variable are presented. The AVE limit value is 0.50 and the composite reliability is 0.7. The loading factor values in this study are shown in Table 1 below :

Table 1. *Validity Testing Based on Outer Loading (First Order)*

	Quality of Service	Customer Loyalty	User Experience	User Interface	Metode Pembayara
X11	0.839				
X12	0.915				
X13	0.871				
X14	0.869				
X15	0.871				
X16	0.861				
X17	0.859				
X18	0.903				
X21				0.856	
X22				0.893	
X23				0.873	
X24				0.860	
X25				0.880	
X26				0.839	
X27				0.857	
X28				0.833	
X31			0.863		

X32			0.879		
X33			0.884		
X34			0.895		
X35			0.875		
X36			0.918		
X37			0.838		
X38			0.850		
Y11		0.682			
Y12		0.691			
Y13		0.693			
Y14		0.702			
Y15		0.707			
Y16		0.742			
Y17		0.724			
Y18		0.748			
Z11					0.729
Z12					0.763
Z13					0.754
Z14					0.732
Z15					0.697
Z16					0.733
Z17					0.732
Z18					0.706

Source: Data processed with Smart PLS (V.3.2.9), 2024

The Outer Loading Test aims to see the correlation between item or indicator scores and variable scores. Indicators are considered reliable if they have a correlation value above 0.5 [55]. Based on the outer loading validity test in Table 5.4, it is known that all outer loading indicator values are > 0.7, but in the development stage, a correlation of 0.50 is still acceptable [51].

Average Variance Extracted (AVE)

The recommended Average Variance Extracted (AVE) value is above 0.5 [57]. If the AVE value is greater than 0.5, then the discriminant validity is considered good, the following is the average variance extracted (AVE) value in Table 2 below :

Table 2. *Validity Testing based on Average Variance Extracted (AVE); Reliability based on Composite Reliability (CR) and Cronbach's Alpha (CA) (First Order)*

	Cronbach's Alpha	**rho_A**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Service Quality	**0.956**	**0.956**	**0.963**	**0.763**
Customer Loyalty	**0.861**	**0.862**	**0.891**	**0.507**
User Experience	**0.956**	**0.957**	**0.963**	**0.767**
User Interface	**0.950**	**0.951**	**0.958**	**0.742**
Payment Method	**0.875**	**0.876**	**0.902**	**0.534**

Source: Data processed with Smart PLS (V.3.2.9), 2024

The recommended AVE value is above 0.5. It is known that all AVE values are > 0.5, which means that they have met the validity requirements based on AVE. Furthermore, reliability testing is carried out based on the composite reliability (CR) value. The recommended CR value is above 0.7. It is known that all CR values are > 0.7, which means that they have met the reliability requirements based on CR. Furthermore, reliability testing is carried out based on the cronbach's alpha (CA)

value. The recommended CA value is above 0.7. It is known that all CA values are > 0.7, which means that they have met the reliability requirements based on cronbach's alpha. Furthermore, discriminant validity testing is carried out using the Fornell-Larcker approach.

Discriminant Validity

Based on the outer loading validity test in Table 3, it is known that all outer loading values are > 0.7, which means that they have met the validity requirements based on the outer loading value.

Table 3. *Validity Testing Based on Outer Loading (Second Order)*

	Sample Mean (M)
X11 <- Service Quality	0.830
X12 <- Service Quality	0.910
X13 <- Service Quality	0.866
X14 <- Service Quality	0.865
X15 <- Service Quality	0.864
X16 <- Service Quality	0.856
X17 <- Service Quality	0.853
X18 <- Service Quality	0.900
X21 <- User Interface	0.849
X22 <- User Interface	0.888
X23 <- User Interface	0.867
X24 <- User Interface	0.854
X25 <- User Interface	0.874
X26 <- User Interface	0.833
X27 <- User Interface	0.854
X28 <- User Interface	0.826
X31 <- User Experience	0.858
X32 <- User Experience	0.873
X33 <- User Experience	0.880
X34 <- User Experience	0.891
X35 <- User Experience	0.873
X36 <- User Experience	0.916
X37 <- User Experience	0.829
X38 <- User Experience	0.843
Y11 <- Customer Loyalty	0.681
Y12 <- Customer Loyalty	0.692
Y13 <- Customer Loyalty	0.681
Y14 <- Customer Loyalty	0.696
Y15 <- Customer Loyalty	0.705
Y16 <- Customer Loyalty	0.731
Y17 <- Customer Loyalty	0.717
Y18 <- Customer Loyalty	0.738
Z11 <- Payment Method	0.723
Z12 <- Payment Method	0.756
Z13 <- Payment Method	0.749
Z14 <- Payment Method	0.723
Z15 <- Payment Method	0.689
Z16 <- Payment Method	0.724
Z17 <- Payment Method	0.719
Z18 <- Payment Method	0.691

Source: Data processed with Smart PLS (V.3.2.9), 2024

Based on the outer loading validity test in Table 3, it is known that all outer loading indicator values are > 0.7, which means that they have met the validity requirements based on the outer loading value. Discriminant validity testing in research using the Fornell-Larckel approach is discriminant validity testing with the AVE square root value of a latent variable, compared to the correlation value between the latent variable and other latent variables. The following are the results of the discriminant validity test in Table 4 below :

Tabel 4. *Pengujian Validitas Diskriminan: Fornell & Larcker (First Order)*

	Quality of Service	**Customer Loyalty**	**User Experience**	**User Interface**	**Payment Methods**
Service Quality					
Customer Loyalty	0.944	0.935			
User Experience	0.929	0.874	0.951		
User Interface	0.870	0.862	0.939	0.932	
Payment Method	0.919	0.712	0.876	0.862	0.979

Source: Data processed with Smart PLS (V.3.2.9), 2024

In the discriminant validity test, the AVE square root value of a latent variable is compared with the correlation value between the latent variable and other latent variables. It is known that the AVE square root value for each latent variable is greater than the correlation value between the latent variable and other latent variables. So it is concluded that it has met the requirements for discriminant validity.

Q-Square Value Analysis

The Q-square value can be determined by looking at the Construct Crossvalidated Redundancy results in table 6 below :

Table 5. *Construct Crossvalidated Redundancy*

	SSO	SSE	Q² (=1-SSE/SSO)
Quality of Service	2800.000	2800.000	
Customer Loyalty	2800.000	1514.746	0.459
User Experience	2800.000	2800.000	
User Interface	2800.000	2800.000	
Metode Pembayaran	2800.000	1375.840	0.509

Source: Data processed with Smart PLS (V.3.2.9), 2024

The Q-square value is said to have relevance if the Q-Square value > 0. The Q-Square values are in the following table 6 :

Table 6. *Q-Square Values (Q2)*

	Q2 (=1-SSE/SSO)
Payment methods	0,509
Customer loyalty	0.459

Source: Data processed with Smart PLS (V.3.2.9), 2024

Known :

a. The Q-Square value of customer loyalty is 0.459 > 0, which means that service quality, user interface, user experience, e-word of mouth, on-time delivery and payment methods have predictive relevance to customer loyalty

b. The Q-Square value of Payment Method is 0.509 > 0, which means that service quality, user interface, user experience, e-word of mouth, and on-time delivery have predictive relevance to payment methods.

Goodness of Fit Model Testing

Table 7. *Goodness of Fit Model Testing Estimated Model*

	Estimated Model
SRMR	0.050

Source: Data processed with Smart PLS (V.3.2.9), 2024

It is known that based on the results of the SRMR goodness of fit test, the SRMR value = 0.080 < 0.1, so it is concluded that the model is FIT.

Structural Model Evaluation (Inner Model)

The inner model is a specification of the relationship between latent variables (structural model) that describes the relationship between latent variables based on the substantive theory of the study. The structural model is evaluated using R-square for the dependent construct, the Stone-Geisser Q-square test for predictive relevance and the t-test and significance of the structural path parameter coefficient. The results of the outer model test indicate that it has met the validity and reliability requirements. Furthermore, the inner model test is carried out, namely including the direct influence significance test and the indirect influence significance test/mediating influence and Mediation.

Direct Effect between Research Variables

The results of the direct influence significance test of this study are shown in Table 8 below:

Table 8. *Direct Effect between Research Variables*

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Service Quality -> Customer Loyalty	0.92	0.95	0.69	4.35	**0.00**
Service Quality -> Payment Method	0.007	0.007	0.034	0.211	**0.833**
User Experience -> Customer Loyalty	-0.276	-0.250	0.093	2.948	**0.003**
User Experience -> Payment Method	0.233	0.232	0.048	4.882	**0.000**
User Interface -> Customer Loyalty	-0.071	-0.064	0.086	0.817	**0.414**
User Interface -> Payment Method	0.091	0.094	0.051	1.765	**0.078**
Payment Method -> Customer Loyalty	2.394	2.304	0.215	11.155	**0.000**

Source: Data processed with Smart PLS (V.3.2.9), 2024

1. E-Service Quality Towards Customer Loyalty

H1: E-Service Quality has a positive and significant effect on Customer Loyalty in Lazada E-commerce. Based on table 8, the results of the O.S value are 0.292 and the T statistic value is 4.235 with a significance of 0.000 <0.05, thus it can be said that service quality has a positive and significant effect on customer loyalty in Lazada E-commerce. Thus Ha (hypothesis) is accepted and Ho is rejected.

2. The Influence of User Interface on Customer Loyalty

H2: User Interface has a positive and significant effect on Customer Loyalty on Lazada E-commerce. Based on table 8, the results of the O.S value are -0.071 and the T statistic value is 0.817 with a significance of 0.414> 0.05, thus it can be said that User Interface does not affect Customer Loyalty on Lazada E-commerce. Thus Ha (hypothesis) is rejected, and Ho is accepted.

3. The Influence of User Eexperience on Customer Loyalty

H3: User Eexperience has a positive and significant effect on Customer Loyalty on Lazada E-commerce. Based on table 8, the results of the O.S value are -0.276 and the T statistic value is 2.948 with a significance of 0.003 <0.05, thus it can be said that User Eexperience has a positive and significant effect on Customer Loyalty on Lazada E-commerce. Thus Ha (hypothesis) is accepted, and Ho is rejected.

4. The Influence of Payment Methods on Customer Loyalty

H4: Payment method has a positive and significant effect on customer loyalty in Lazada E-commerce. Based on table 8, the results of the O.S value are 2,394 and the T statistic value is 11,155 with a significance of 0.000 <0.05, thus it can be said that the payment method has a positive and significant effect on Customer Loyalty in Lazada E-commerce. Thus Ha (hypothesis) is accepted, and Ho is rejected.

5. The Influence of E-Service Quality on Payment Methods

H5: E-Service Quality has a positive and significant effect on Lazada E-commerce payment methods. Based on table 8, the results of the O.S value are 0.007 and the T statistic value is 0.211 with a significance of 0.833> 0.05, thus it can be said that E-Service Quality does not affect Lazada E-commerce customer loyalty. Thus Ha (hypothesis) is rejected, and Ho is accepted.

6. The Influence of User Interface on Payment Methods

H6: User Interface has a positive and significant effect on Lazada's E-commerce payment method. Based on table 8, the results of the O.S value are 0.094 and the T statistic value is 1.765 with a significance of 0.078 > 0.05, thus it can be said that User Interface has no effect on Lazada's E-commerce payment method. Thus Ha (hypothesis) is rejected, and Ho is accepted.

7. The Influence of User Eexperience on Payment Methods

H7: User Eexperience has a positive and significant effect on the payment method of Lazada E-commerce. Based on table 8, the results of the O.S value of 0.233 and the T statistic value of 4.882 with a significance of 0.000 <0.05, thus it can be said that User Eexperience has a positive and significant effect on the payment method on Lazada E-commerce. Thus Ha (hypothesis) is accepted, and Ho is rejected.

Indirect Influence

The indirect influence in this study is the influence mediated by the payment method variable in table 9 below :

Table 9. *Results of Indirect Effect Test*

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Service Quality -> Payment Method -> Customer Loyalty	0.017	0.015	0.080	0.217	**0.829**
User Experience -> Payment Method -> Customer Loyalty	0.558	0.536	0.126	4.424	**0.000**
User Interface -> Payment Method -> Customer Loyalty	0.217	0.214	0.116	1.870	**0.062**

Source: Processed data, 2024

8. The Influence of E-Service Quality on Customer Loyalty Mediated by Payment Methods.

H8: E-Service Quality has a positive and significant effect on Customer Loyalty mediated by payment methods on Lazada E-commerce. Based on table 9, the results of the O.S value are 0.017 and the T statistic value is 0.217 with a significance of 0.829> 0.05, thus it can be said that E-Service Quality does not affect customer loyalty mediated by payment methods on Lazada E-commerce. Thus Ha (hypothesis) is rejected, and Ho is accepted.

9. The Influence of User Interface on Customer Loyalty Mediated by Payment Methods

H9: User Interface has a positive and significant effect on customer loyalty mediated by payment methods on Lazada E-commerce. Based on table 9, the results of the O.S value are 0.217 and the T statistic value is 0.808 with a significance of 0.420> 0.05, thus it can be said that User Interface does not affect customer loyalty mediated by payment methods on Lazada E-commerce. Thus Ha (hypothesis) is rejected, and Ho is accepted.

10. The Influence of User Experience on Customer Loyalty mediated by payment methods

H14: User Experience has a positive and significant effect on Customer Loyalty mediated by payment methods on Lazada E-commerce. Based on table 9, the results of the O.S value are 0.558 and the T statistic value is 4.424 with a significance of 0.000 <0.05, thus it can be said that User Experience has a positive and significant effect on Customer Loyalty through payment methods. Thus Ha (hypothesis) is accepted, and Ho is rejected.

Coefficient of Determination (R2)

The value of the coefficient of determination (R2) is said to be strong, if the value of R2 > 50%. The following is an analysis of the value of the coefficient of determination (R2) in Table 23 below:

Table 10. *Coefficient of Determination (R2)*

	R Square	**R Square Adjusted**
Customer Loyalty	0.798	0.791

Source: Data processed with Smart PLS (V.3.2.9), 2024

It is known that the R-Square value of customer loyalty is 0.798, which means that the independent variables of service quality, user interface, and user experience are able to explain the dependent variable of customer loyalty by 79.8% (strong), the remaining 20.2% is explained by other independent variables.

5. Conclusion

Based on the results of the research and overall analysis, the following conclusions can be drawn :

1. E-Service Quality has a positive and significant effect on customer loyalty in generation Z of Lazada Market Place customers in Medan City.
2. User interface does not have an effect on customer loyalty in generation Z of Lazada Market Place customers in Medan City.
3. User experience has a positive and significant effect on customer loyalty in generation Z of Lazada Market Place customers in Medan City.
4. Payment method has a positive and significant effect on customer loyalty in generation Z of Lazada Market Place customers in Medan City.
5. E-Service Quality does not have a positive and significant effect on payment method in generation Z of Lazada Market Place customers in Medan City.
6. User interface does not have an effect on payment method in generation Z of Lazada Market Place customers in Medan City.
7. User experience has a positive and significant effect on payment method in generation Z of Lazada Market Place customers in Medan City.
8. E-Service Quality does not have an effect on Customer Loyalty mediated by payment method in generation Z of Lazada Market Place customers in Medan City.
9. User interface does not have an effect on Customer Loyalty mediated by payment method in generation Z of Lazada Market Place customers in Medan City.
10. User experience has a positive and significant effect on Customer Loyalty mediated by payment method in generation Z of Lazada Market Place customers Medan City.

Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.
- **Conflict of interest:** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper

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