

# The Effect of Electronic Service Quality on Customer Loyalty with Customer Value and Customer Satisfaction As Serial Mediation

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## Abstract

This research aimed to analyze the role of customer value and customer satisfaction as a serial mediation between the effects of electronic service quality on customer loyalty. The sampling technique used was quota sampling with a total sample of 243 respondents, while the data analysis technique used was the Structural Equation Model. The results showed that customer value and customer satisfaction have a significant effect on increasing customer loyalty; and electronic service quality does not have a significant effect on increasing customer loyalty directly, but indirectly electronic service quality has a significant effect on increasing customer loyalty through customer value and customer satisfaction. Then, customer value and customer satisfaction also act as perfect mediation between the effect of electronic service quality on customer loyalty. Thus, it can be concluded that the variables of customer value and customer satisfaction in this research act as a serial mediation between the effect of electronic service quality on customer loyalty.

**Keywords:** Electronic Service Quality, Customer Value, Customer Satisfaction, Customer Loyalty

## Introduction

The development of e-commerce business in Indonesia in recent years has grown very rapidly, especially in the B2C (Business to Consumer) sector. One of the most popular e-commerce sites in Indonesia today is Shopee. Regarding e-commerce applications, the Shopee application can be said to be good, this can be seen from the customer assessment of the application, which is 4.6 (on a scale of 1 to 5). However, despite this, there are still many customers who complain about the quality of the Shopee application, these complaints include: difficulties when entering the application, unstable shipping costs, order completion that often fails, foreign products that are discontinued, customer service response that is slow. very slow, limited choice of delivery services, questionable payment security, and many other complaints (play.google.com, 2023).

The success of an e-commerce business really depends on whether or not the quality of the electronic services offered to customers is good. Electronic service quality (application quality) is one of the main drivers for customers to shop online, therefore, e-commerce business actors in order to survive in competitive business competition must provide superior service to customers in order to create high customer value and provide satisfaction to customers which will ultimately increase customer loyalty (Chinomona et al., 2014).

Electronic service quality is important in creating customer value, customer satisfaction and customer loyalty. Candra & Juliani (2018) explained that the better the quality of an application's electronic services, the more the customer's perceived value of the application will increase. Then, Shared (2019) explained that customer satisfaction with an application can increase if the quality of electronic services in the application is also improved. Furthermore, Asgari et al (2014) also explained that the quality of electronic services in an application can also create customer loyalty. When the quality of an application can give a positive impression to a customer, the customer tends to reuse the application.

Based on the previous explanation, it is known that electronic service quality can be a predictor of customer value, customer satisfaction and customer loyalty. However, there are differences in the results of research conducted by previous researchers (research gap). The results of research conducted by previous researchers found that electronic service quality has a significant influence on customer value Chinomona et al (2014), customer satisfaction (Raza et al., 2020), and customer loyalty (Asgari et al., 2014). However, there are also other research results which find that electronic service quality does not have a significant influence on customer value (Chen et al., 2013), customer satisfaction Candra & Juliani (2018), and customer loyalty (Chang & Wang, 2011).

Regarding the viewpoint of background, it is assumed that the quality of electronic services (Shopee application quality) can influence the value, satisfaction and loyalty of Shopee application users in Banda Aceh, therefore this research was conducted in order to explain whether the quality of electronic services contributes to increasing customer value. Customer satisfaction and customer loyalty and whether customer value and customer satisfaction may act as a mediator between the influences of electronic service quality on customer loyalty.

This study would contribute not only for academics' perspective, but also it does for practitioners who run their business through the internet platform. For academics, this model may be the basis for further development of research model. On the other hand, for practitioners, these results may have implications for the company that must pay more attention to electronic service quality in order to increase customer value and customer satisfaction; it's subsequently, customer loyalty.

## **Literature Review**

### **Customer Loyalty**

Customer loyalty can be described as a condition where a consumer purchases a product regularly based on a decision-making unit (Khairawati, 2020). Customer loyalty can be said to be a customer's commitment to consistently repurchase a product in the future (Utami, 2015). Customer loyalty can also be defined as a commitment from a customer to reuse a particular product (Kotler & Keller, 2016). Customer loyalty in this study was measured using eight indicators adapted from Ting et al. (2016), this indicator is more appropriate to use because it has a similar scope.

**Customer Satisfaction**

Customer satisfaction is a post-purchase evaluation resulting from a particular purchase where the perception of the performance of the selected product meets or exceeds expectations before the purchase decision is made (Sulaiman & Basyir, 2017). Customer satisfaction can also be said to be a collective result of perceptions, evaluations and psychological reactions to the consumption experience of a particular product (Puriwat & Tripopsakul, 2017). Customer satisfaction can also be defined as a customer's emotional response from the evaluation of the consumption experience of a particular product (Susanti, 2014). Customer satisfaction in this study was also measured using seven indicators adapted from Ting et al (2016), this indicator is more appropriate to use because it has a similar scope.

**Customer Value**

Customer value is described as the value that customers feel from the overall evaluation of the usefulness of a product based on what is obtained and what is given by the customer (Mostaghimi et al., 2016). Customer value can be said to be a consequence of the overall assessment regarding the benefits received and the costs incurred by customers to obtain a product (Raza et al., 2012). Customer value can also be defined as the ratio between the benefits received from a product and the costs sacrificed by customers to obtain that product (Jiang et al., 2016). Customer value in this study was measured using nine indicators adapted from Amiruddin et al (2020) which consists of two dimensions, namely utilitarian and hedonic.

**Electronic Service Quality**

Electronic service quality is described as all phases of a customer's interaction with a site and the extent to which a site can facilitate purchasing and delivery efficiently and effectively (Parasuraman et al., 2005). Electronic service quality can be said to be an interactive, technology-based service offered by service providers to maintain relationships with consumers (Askari et al., 2016). Electronic service quality can also be defined as services provided efficiently and effectively to customers via electronic media (Asgari et al., 2014). The quality of electronic services in this study was measured using 23 indicators adapted from Ting et al (2016) which consists of six dimensions, namely: Efficiency, Privacy & Trust, Fulfillment, Responsiveness, Contact, and Design.

Based upon the above describing and its explanation, the following is a research framework development that can describe the influence of electronic service quality on customer loyalty through customer value and customer satisfaction as mediating variables.

**The Effect of Electronic Service Quality on Customer Value**

Service quality in an application can be a determinant of customer perceived value, electronic service quality and customer value have a positive relationship so it can be said that a good level of service quality will produce a higher level of customer value (Pollack, 2008). Research conducted by Chinomona et al (2014); Candra & Juliani (2018) found that the customer value of an application is largely determined by the quality of the application, when customers feel the application is easy to use, has an attractive design, provides a fast response, has good accuracy, and maintains privacy. from its users, this can provide positive value so that the customer's perceived value of the application becomes better. Thus, hypotheses can be proposed

H<sub>1</sub>: electronic service quality effects customer value significantly.

**The Effect of Electronic Service Quality on Customer Satisfaction**

Customer satisfaction from an application is largely determined by the quality of the application, when customers feel the application is easy to use, responds quickly, has an attractive design, has a guarantee, is able to meet needs, and protects the privacy of its users, then this can provide a positive experience so that customers will feel satisfied with the application (Avania & Widodo, 2022). Based on the results of research conducted by Asadpoor & Abolfazli (2017); Raza et al (2020); Shared (2019); Ting et al (2016) can also be concluded that the better the quality of service available on an application, the more customer satisfaction with the application will be. Thus, hypotheses can be proposed:

H<sub>2</sub>: electronic service quality effects customer satisfaction significantly.

**The Effect of Customer Value on Customer Satisfaction**

The value perceived by customers will help customer evaluation of attributes that are relevant to the benefits obtained from a product. When a customer evaluates a product and has a positive value for that product, this will consistently increase customer satisfaction (Chang & Wang, 2011 ). Based on the results of research conducted by Candra & Juliani (2018); Chinomona et al (2014); Sugiati et al (2013) can also be concluded that the higher the value perceived by customers towards an application, the greater the customer satisfaction with the application. Thus, hypotheses can be proposed:

H<sub>3</sub>: customer value effects customer satisfaction significantly.

**The Effect of Electronic Service Quality on Customer Loyalty**

Research conducted by Wijaya et al (2021) on Shopee e-commerce users found that the quality of an application will greatly determine the loyalty of users of the application, when an application provides appropriate usability, good quality information, and effective service interactions for its users, then this will make customers to remain loyal to the application. Based on the results of research conducted by Asgari et al (2014); Puriwat & Tripopsakul (2017); Sundaram et al (2017) can also be concluded that the better the quality of service available on an application, the greater the customer loyalty to the application. Thus, hypotheses can be proposed

H<sub>4</sub>: electronic service quality effects customer loyalty significantly.

**The Effect of Customer Value on Customer Loyalty**

Customer value is part of assessing a customer's perception and experience of an application, which plays an important role in increasing customer loyalty to the application (Nursyirwan et al., 2020). Based on the results of research conducted by Chang et al (2009) and Chang & Wang (2011) can also conclude that the higher the value perceived by customers towards an application, the greater the customer's loyalty to the application. Thus, hypotheses can be proposed

H<sub>5</sub>: customer value effects customer loyalty significantly.

### **The Effect of Customer Satisfaction on Customer Loyalty**

Customer satisfaction is an important factor in running an e-commerce business, because when a customer is satisfied with an application used, the customer will make repeat purchases, convey positive information about the application, and will become a loyal customer (Sanjaya et al., 2020). Based on the results of research conducted by Asadpoor & Abolfazli (2017); Chinomona et al (2014); Puriwat & Tripopsakul (2017); Raza et al (2020); Ting et al (2016) can also be concluded that the higher the level of customer satisfaction with an application, the greater the customer's loyalty to the application. Thus, hypotheses can be proposed

H<sub>6</sub>: customer satisfaction effects customer loyalty significantly.

### **The Effect of Electronic Service Quality on Customer Loyalty through Customer Value**

The results of research conducted by Chinomona et al (2014); Candra & Juliani (2018) found that electronic service quality variables have a significant effect on customer value. Then, the research results of Chang et al (2009) and Chang & Wang (2011) also found that the customer value variable has a significant effect on customer loyalty. Furthermore, research conducted by Chinomona et al (2014); Candra & Juliani (2018); Zehir et al (2014) also used customer value as an intervening variable. Based on the results of these studies, it is assumed that the customer value variable in this study can act as a mediator between the influence of electronic service quality on customer loyalty. Thus, hypotheses can be proposed

H<sub>7</sub>: customer value mediates the effect of electronic service quality on customer loyalty

### **The Effect of Electronic Service Quality on Customer Loyalty through Customer Satisfaction**

The results of research conducted by Asadpoor & Abolfazli (2017); Raza et al (2020), and Shared (2019) found that electronic service quality variables have a significant effect on customer satisfaction. Then, the results of research by Chinomona et al (2014), Puriwat & Tripopsakul (2017); Ting et al (2016) also found that the customer satisfaction variable has a significant effect on customer loyalty. Furthermore, research conducted by Nagaraj & Singh (2017); Alchalidy et al (2020) also used customer satisfaction as an intervening variable. Based on the results of these studies, it is assumed that the customer satisfaction variable in this study can act as a mediator between the influence of electronic service quality on customer loyalty. Thus, hypotheses can be proposed:

H<sub>8</sub>: customer satisfaction mediates the effect of electronic service quality on customer loyalty

### **The Effect of Electronic Service Quality on Customer Satisfaction through Customer Value**

The results of research conducted by Chinomona et al (2014) found that electronic service quality variables have a significant effect on customer value. Then, the research results of Candra & Juliani (2018) also found that the customer value variable had a significant effect on customer satisfaction. Furthermore, research conducted by Chinomona et al (2014), Candra & Juliani (2018); Zehir et al (2014) also used customer value as an intervening variable. Based on the results of these studies, it is assumed that the customer value variable in this study can act as a mediator between the influence of electronic service quality on customer satisfaction. Thus, hypotheses can be proposed

H<sub>9</sub>: customer value mediates the effect of electronic service quality on customer satisfaction

### The Effect of Customer Value on Customer Loyalty through Customer Satisfaction

The results of research conducted by Candra & Juliani (2018); Sugiati et al (2013) found that the customer value variable has a significant effect on customer satisfaction. Then, the research results of Puriwat & Tripopsakul (2017); Ting et al (2016) also found that the customer satisfaction variable has a significant effect on customer loyalty. Furthermore, research conducted by Nagaraj & Singh (2017); Alchalidy et al (2020) also used customer satisfaction as an intervening variable. Based on the results of these studies, it is assumed that the customer satisfaction variable in this study can act as a mediator between the influence of customer value on customer loyalty. Thus, hypotheses can be proposed

H<sub>10</sub>: customer satisfaction mediates the effect of customer value on customer loyalty

### Theoretical Framework of Study

Based on the description above, this research can produce the following model

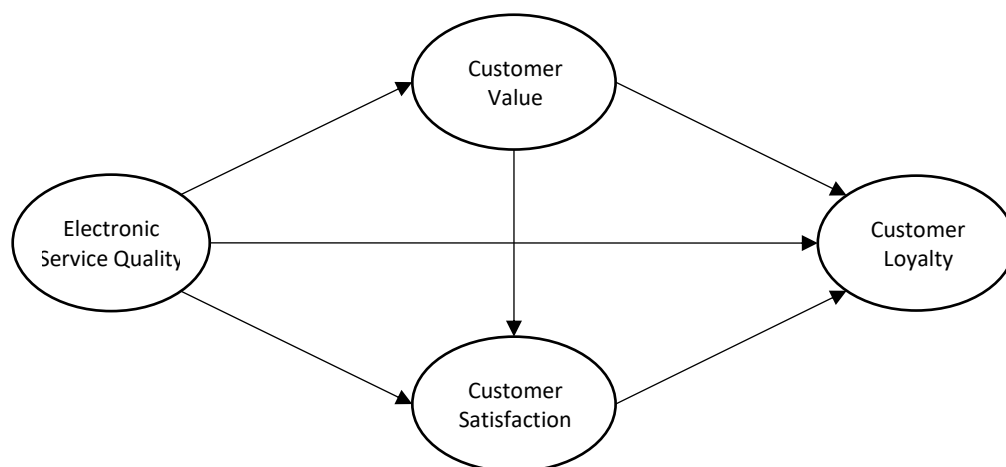


Figure 1. Theoretical Framework

### Research Method

This research was conducted in Banda Aceh City, the population in this study was Shopee application users in Banda Aceh City, while the number of samples in this study was 243 Shopee application users who were selected using quota sampling. Research data was obtained from questionnaires and analyzed using the SEM (Structural Equation Model) technique using AMOS software. SEM is a multivariate data analysis technique that combines a measurement model which aims to determine the specifications of the relationship between latent variables and their indicators and a structural model which aims to determine the specifications of the influence between latent variables (Hair et al., 2014). In addition, testing the mediation effect in this study was carried out using the Sobel test with guidelines from (Zhao et al., 2010; Hayes, 2022). The path diagram in this research looks like the following figure:



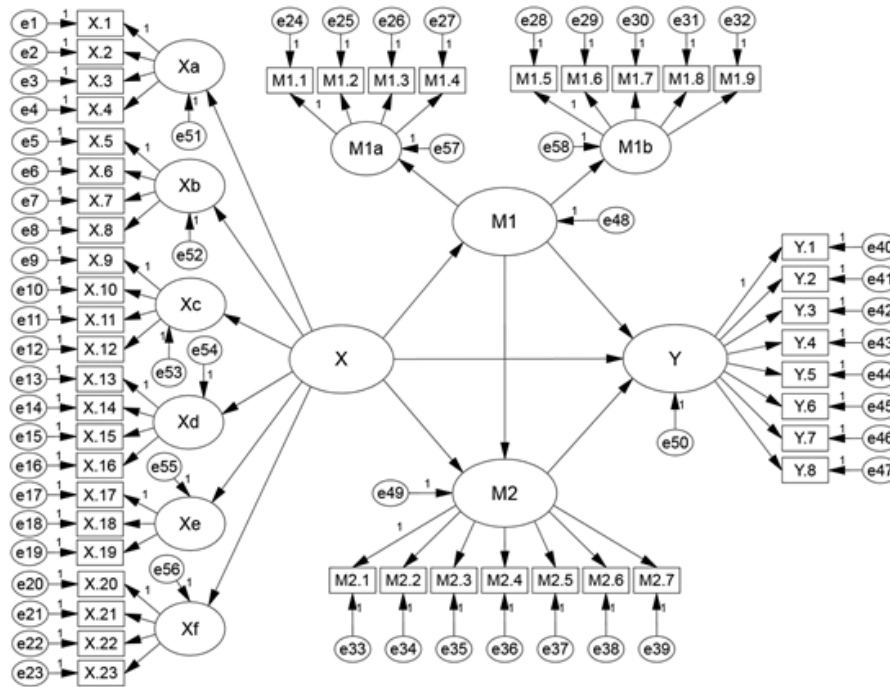


Figure 2. Path Diagram

**Results and Discussion**

**Measurement Model**

The measurement model is carried out to determine the specifications of the relationship between the latent variable and its indicators. After testing the normality of the data and several stages of model modification, the results of the measurement model in this research can be seen as shown in the following figure:

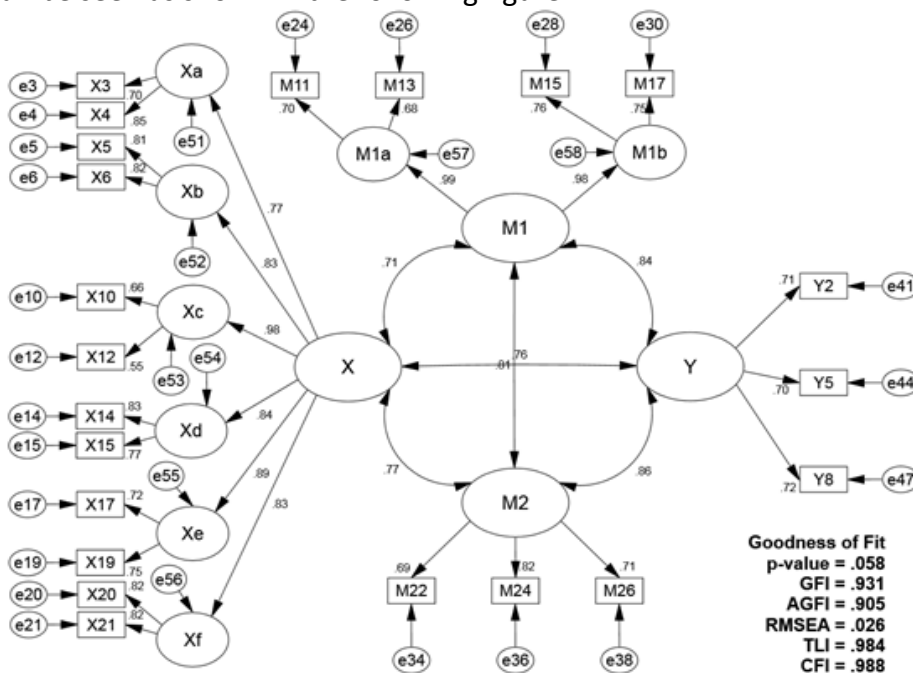


Figure 3. Measurement Model

Based on Figure 3, it is known that the measurement model in this study has met the specified goodness of fit criteria, namely: Significance Probability: 0.058 (> 0.05), GFI: 0.931

(> 0.90), AGFI: 0.905 (> 0, 90), RMSEA: 0.026 (< 0.08), TLI: 0.984 (> 0.90), and CFI: 0.988 (> 0.90). After the measurement model has been fixed, it is known that the variable indicators that have been eliminated from the research model are: electronic service quality (X1, M16, M18, M19), customer satisfaction (M21, M23, M25, M27), and customer loyalty (Y1, Y3, Y4, Y6, Y7). After the measurement model is carried out, the next stage is calculating the Average Variance Extracted (AVE) and Composite Reliability (CR) values for each variable, the results of which can be seen in the following table:

Table 1  
*AVE & Composite Reliability*

Electronic Service Quality		Customer Value		Customer Satisfaction		Customer Loyalty	
Indicator Loading		Indicator Loading		Indicator Loading		Indicator Loading	
X3	0,695	M11	0,704	M22	0,688	Y2	0,715
X4	0,846	M13	0,681	M24	0,817	Y5	0,702
X5	0,813	M15	0,762	M26	0,705	Y8	0,716
X6	0,819	M17	0,748				
X10	0,659						
X12	0,554						
X14	0,827						
X15	0,771						
X17	0,725						
X19	0,752						
X20	0,822						
X21	0,815						
<b>AVE = 0,58</b>		<b>AVE = 0,52</b>		<b>AVE = 0,55</b>		<b>AVE = 0,51</b>	
<b>CR = 0,94</b>		<b>CR = 0,82</b>		<b>CR = 0,78</b>		<b>CR = 0,75</b>	

Based on Table 1, it is known that the AVE values obtained from the variables in this study are electronic service quality (0.58), customer value (0.52), customer satisfaction (0.55), and customer loyalty (0.51) which where these variables have an AVE value > 0.50, so it can be said that the indicators in the research model developed are proven to truly measure the targeted latent variable and do not measure other latent variables. Then, it is also known that the composite reliability value of the variables in this study is electronic service quality (0.94), customer value (0.82), customer satisfaction (0.78), and customer loyalty (0.75), which are the variables This variable has a composite reliability value of > 0.70 so it can be said that all indicators of each latent variable in this research model can be said to be reliable for measuring these variables.

**Structural Model**

In SEM analysis, the form of the structural model path diagram is different from the form of the measurement model path diagram, the difference lies in the relationship between latent variables. In the measurement model the relationship between variables is correlation, while in the structural model the relationship between variables is causality, this is because the structural model is carried out to determine the relationship between latent variables in



a research model. The results of the structural model in this research can be seen in the following figure:

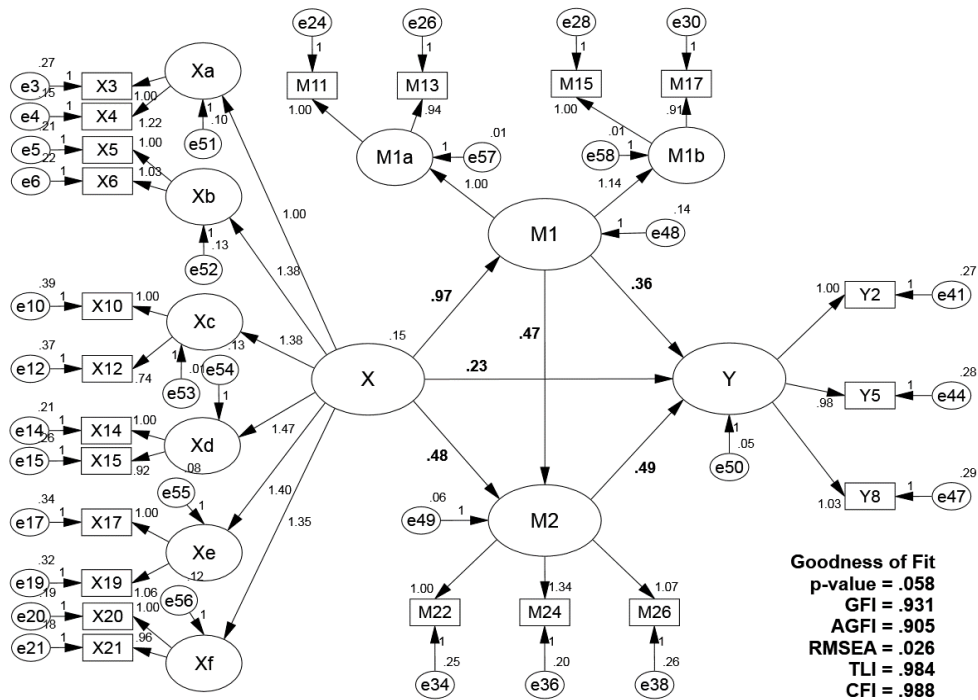


Figure 4. Structural Model

Based on Figure 4, it is known that the latent variable in this study has a positive influence between one variable and another variable. Then, it was also discovered that the goodness of fit results also met the specified criteria consisting of: Significance Probability: 0.058 (> 0.05), GFI: 0.931 (> 0.90), AGFI: 0.905 (> 0.90), RMSEA: 0.026 (< 0.08), TLI: 0.984 (> 0.90), and CFI: 0.988 (> 0.90). Thus, it can be concluded that the model in this research can be said to be good fit because all the criteria have been fulfilled in accordance with applicable regulations.

**Hypothesis testing**

Hypothesis testing in this research was carried out to test and analyze the influence between electronic service quality, customer value, customer satisfaction and customer loyalty. Hypothesis testing consists of testing the hypothesis of direct influence and indirect influence. The results of testing the direct influence hypothesis can be seen in the following table

Table 2

*Results of Direct Effect Hypothesis Testing*

			Estimate	S.E.	C.R.	P	Label
M1	<---	X	.970	.150	6.459	***	a
M2	<---	X	.478	.125	3.837	***	b
M2	<---	M1	.471	.092	5.112	***	c
Y	<---	X	.229	.141	1.629	.103	d
Y	<---	M1	.365	.128	2.841	.004	e
Y	<---	M2	.494	.167	2.959	.003	f

Based on Table 2, it is known that the influence between these variables is as follows:

- 1) Electronic service quality has a significant effect on customer value, this can be seen from the path coefficient value obtained at 0,970 with a significant value of 0,000.
- 2) Electronic service quality has a significant effect on customer satisfaction, this can be seen from the path coefficient value obtained at 0,478 with a significant value of 0,000.
- 3) Customer value has a significant effect on customer satisfaction, this can be seen from the path coefficient value obtained at 0,471 with a significant value of 0,000.
- 4) Electronic service quality does not have a significant effect on customer loyalty, this can be seen from the path coefficient value obtained at 0,229 with a significant value of 0,103.
- 5) Customer value has a significant effect on customer loyalty, this can be seen from the path coefficient value obtained at 0,365 with a significant value of 0,004.
- 6) Customer satisfaction has a significant effect on customer loyalty, this can be seen from the path coefficient value obtained at 0,494 with a significant value of 0,003.

Meanwhile, the results of testing the indirect effect hypothesis can be seen in the following table

Table 3

*Results of Indirect Effect Hypothesis Testing*

Eksogen → Intervening (a)	Intervening → Endogen (b)	Eksogen → Intervening → Endogen (a x b)	Z-value (sobel test)
X → M1 (0,970)	M1 → Y (0,365)	X → M1 → Y (0,354)	2,609
X → M2 (0,478)	M2 → Y (0,494)	X → M2 → Y (0,236)	2,340
X → M1 (0,970)	M1 → M2 (0,471)	X → M1 → M2 (0,457)	4,014
M1 → M2 (0,471)	M2 → Y (0,494)	M1 → M2 → Y (0,233)	2,561
X → M1 (0,970)	M1 → M2 (0,471) M2 → Y (0,494)	X → M1 → M2 → Y (0,226)	2,381

Based on Table 3, it is known that the influence between these variables is as follows

- 1) Electronic service quality has a significant effect on customer loyalty indirectly through customer value, this can be seen from the path coefficient value 0,354 with a Z-value of 2,609.
- 2) Electronic service quality has a significant effect on customer loyalty indirectly through customer satisfaction, this can be seen from the path coefficient value 0,236 with a Z-value of 2,340.

- 3) Electronic service quality has a significant effect on customer satisfaction indirectly through customer value, this can be seen from the path coefficient value 0,457 with a Z-value of 4,014.
- 4) Customer value has a significant effect on customer loyalty indirectly through customer satisfaction, this can be seen from the path coefficient value 0,233 with a Z-value of 2,561.
- 5) Electronic service quality has a significant effect on customer loyalty indirectly through customer value and customer satisfaction, this can be seen from the path coefficient value 0,226 with a Z-value of 2,381.

Based on the results, the discussion of the effect between variables in this research will be discussed as follows

### **The Effect of Electronic Service Quality on Customer Value**

Based on the results, electronic service quality has a significant effect on customer value with a path coefficient of 0,970 and a significant value of 0,000, so it can be said that electronic service quality has a significant contribution in increasing customer value. These results indicate that the quality of electronic services is something that can determine customer value, meaning that the better the quality of electronic services provided by the Shopee application, the value perceived by Shopee application users in Banda Aceh City will also increase. This is because the Shopee application loads its pages and responds quickly, has an attractive visual appearance and the Shopee application can be said to be innovative, apart from that, shops that sell on the Shopee application send customer orders according to the promised time and the Shopee application also provides a delivery guarantee, on the other hand The information provided in the Shopee application is very organized, both information related to product stock availability and also further information about products on Shopee social media as well as providing contacts to contact the company, plus the Shopee application protects information about transactions and customer accounts so that Shopee application users in the city Banda Aceh feels that the quality of electronic services provided by the Shopee application has high value for its customers. The results of this study are also in accordance with the results of research conducted by Chinomona et al (2014); Candra & Juliani (2018) where the results of these studies also found that electronic service quality has a significant contribution in increasing customer value.

### **The Effect of Electronic Service Quality on Customer Satisfaction**

Based on the results, electronic service quality has a significant effect on customer satisfaction with a path coefficient of 0,478 and a significant value of 0,000, so it can be said that electronic service quality has a significant contribution in increasing customer satisfaction. These results indicate that the quality of electronic services is something that can determine customer satisfaction, meaning that the better the quality of electronic services provided by the Shopee application, the satisfaction of Shopee application users in Banda Aceh City will also increase. This is because the information provided in the Shopee application is very organized, both information regarding product stock availability and also further information about products on Shopee social media as well as providing contacts to contact the company, apart from that, shops that sell on the Shopee application send customer orders according to the specified time. promised and the shopee application also provides a delivery guarantee, on the other hand the shopee application loads its pages and responds quickly, has an attractive visual appearance and the shopee application can be said to be innovative, plus the shopee application protects information about transactions and

customer accounts so that shopee application users are The city of Banda Aceh is satisfied with the quality of electronic services provided by the Shopee application. The results of this research are also in accordance with the results of research conducted by Asadpoor & Abolfazli (2017); Raza et al (2020); Shared (2019); Ting et al (2016) where the results of these studies also found that electronic service quality has a significant contribution in increasing customer satisfaction.

### **The Effect of Customer Value on Customer Satisfaction**

Based on the results, customer value has a significant effect on customer satisfaction with a path coefficient of 0,471 and a significant value of 0,000, so it can be said that customer value has a significant contribution in increasing customer satisfaction. These results indicate that customer value is something that can determine customer satisfaction, meaning that the higher the value felt by users of the Shopee application in Banda Aceh City, the greater the satisfaction of users of the application. This is because Shopee application users in the city of Banda Aceh shop on the Shopee application to see what new products are available and feel that online shopping on the Shopee application is like an adventure. On the other hand, the Shopee application also provides products that suit customer needs and offers affordable prices. relatively cheap so that Shopee application users in Banda Aceh City feel satisfied with the added value provided by the Shopee application. The results of this research are also in accordance with the results of research conducted by Candra & Juliani (2018); Chinomona et al (2014); Sugiati et al (2013) where the results of these studies also found that customer value makes a significant contribution to increasing customer satisfaction.

### **The Effect of Electronic Service Quality on Customer Loyalty**

Based on the results, electronic service quality does not have a significant effect on customer loyalty with a path coefficient of 0,229 and a significant value of 0,103, so it can be said that electronic service quality does not have a significant contribution in increasing customer loyalty. These results indicate that the loyalty of Shopee application users in Banda Aceh City cannot be influenced by the quality of electronic services provided by the Shopee application. Overall, the quality of electronic services according to users of the Shopee application in Banda Aceh City can be said to be good, however, if we look at the variable indicators of electronic service quality, Shopee application users in Banda Aceh City predominantly answer that they disagree with several statements from these variable indicators, such as: shopee application protects information about customer transactions and accounts; shops selling on the Shopee application send customer orders according to the promised time; shopee application provides delivery guarantee; the shopee application has a fast response; the shopee application provides contacts to contact the company; To get further information about products in the Shopee application, customers can open Shopee social media; as well as innovative Shopee applications. Meanwhile, if seen based on the customer loyalty variable indicator, Shopee application users in Banda Aceh City also predominantly answered that they disagreed with almost all statements from this variable indicator. Therefore, it is assumed that this is a factor that causes the quality of electronic services to have no significant effect on the loyalty of Shopee application users in Banda Aceh City in this research. The results of this study do not match the results of research by Asgari et al (2014); Puriwat & Tripopsakul (2017); Sundaram et al (2017) where the results of this research found that electronic service quality has a significant effect on customer loyalty. However, this does not prove that this research is incorrect or less relevant, because there

are also other studies with the same results as this research, namely research by Avania & Widodo (2022); Juwaini et al (2022); Rachmawati & Syafarudin (2022) where the results of this research also found that the quality of electronic services does not have a significant contribution in increasing customer loyalty.

### **The Effect of Customer Value on Customer Loyalty**

Based on the results, customer value has a significant effect on customer loyalty with a path coefficient of 0,365 and a significant value of 0,004, so it can be said that customer value has a significant contribution in increasing customer loyalty. These results indicate that customer value is something that can determine customer loyalty, meaning that the higher the value felt by users of the Shopee application in Banda Aceh City, the loyalty of users of the application will also increase. This is because Shopee application users in Banda Aceh City feel that online shopping on the Shopee application is like an adventure because customers shop on the Shopee application to see what new products are available, on the other hand, the Shopee application also offers relatively cheap prices and provides products that suit their needs. customer needs so that shopee application users in Banda Aceh City can be loyal to the application. The results of this study are also in accordance with the results of research conducted by Chang et al (2009); Chang & Wang (2011), the results of these studies also found that customer value makes a significant contribution to increasing customer loyalty.

### **The Effect of Customer Satisfaction on Customer Loyalty**

Based on the results, customer satisfaction has a significant effect on customer loyalty with a path coefficient of 0,494 and a significant value of 0,003, so it can be said that customer satisfaction has a significant contribution in increasing customer loyalty. These results indicate that customer satisfaction is something that can determine customer loyalty, meaning that the higher the satisfaction of users of the Shopee application in Banda Aceh City, the loyalty of users of the application will also increase. This is because Shopee application users in Banda Aceh City feel satisfied with the online shopping experience using the Shopee application and are satisfied with the products available in the Shopee application and are satisfied with the transaction services provided by the Shopee application so that it can increase the loyalty of Shopee application users in Banda City towards the application. the. The results of this research are also in accordance with the research results of Asadpoor & Abolfazli (2017); Raza et al (2020); Ting et al (2016) where the results of this research also found that customer satisfaction makes a significant contribution to increasing customer loyalty.

### **Customer Value Mediates Effect of Electronic Service Quality on Customer Loyalty**

The mediating effect of customer value on the effect of electronic service quality on customer loyalty will be explained as follows:

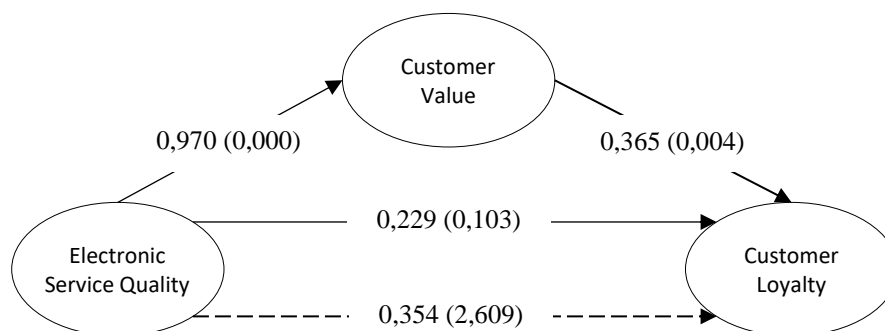


Figure 5. Mediating Effect of Customer Value between The Effect of Electronic Service Quality on Customer Loyalty

Based on Figure 5, electronic service quality has a significant indirect effect on customer loyalty through customer value, this can be seen from the path coefficient of 0,354 and the Z-value of 2,609. These results conclude that the better the quality of electronic services provided by the Shopee application, the value felt by Shopee application users in Banda Aceh City will also increase, which indirectly also has a significant contribution in increasing the loyalty of Shopee application users in the City Banda Aceh.

Customer value in this research acts as a perfect mediation between the effect of electronic service quality on customer loyalty. This can be seen from the research results which found that electronic service quality does not have a significant influence on customer loyalty directly, but electronic service quality has a significant influence on customer loyalty. customer loyalty indirectly through customer value. The results of this study are also in accordance with research by Zehir et al. (2014) which concluded that customer value plays a mediating role between electronic service quality and customer loyalty. However, the results of this study are different from the research of Zehir et al. (2014), namely the mediating role of customer value variables, in the research of Zehir et al. (2014) the customer value variable acts as a partial mediator between electronic service quality and customer loyalty, whereas in this study the customer value variable acts as a perfect mediator between electronic service quality and customer loyalty.

**Customer Satisfaction Mediates Effect of Electronic Service Quality on Customer Loyalty**

The mediating effect of customer satisfaction on the influence of electronic service quality on customer loyalty will be explained as follows:

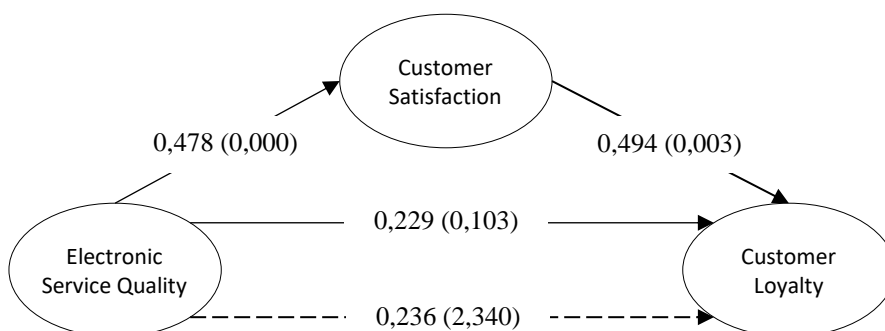


Figure 6. Mediating Effect of Customer Satisfaction between The Effect of Electronic Service Quality on Customer Loyalty



Based on Figure 6, electronic service quality has a significant indirect effect on customer loyalty through customer satisfaction, this can be seen from the path coefficient of 0,236 and the Z-value of 2,340. These results conclude that the better the quality of electronic services provided by the Shopee application, the satisfaction of Shopee application users in Banda Aceh City will also increase, which indirectly also has a significant contribution in increasing the loyalty of Shopee application users in Banda Aceh City.

Customer satisfaction in this research acts as a perfect mediation between the effect of electronic service quality on customer loyalty. This can be seen from the research results which found that electronic service quality does not have a significant influence on customer loyalty directly, but electronic service quality has a significant influence on customer loyalty indirectly through customer satisfaction. The results of this study are also in accordance with the research of Alchalidy et al (2020) which concluded that customer satisfaction plays a mediating role between electronic service quality and customer loyalty. However, the results of this study have differences with the research of Alchalidy et al (2020), namely the mediating role of customer satisfaction variables, in the research of Alchalidy et al (2020) customer satisfaction acts as a partial mediator between electronic service quality and customer loyalty, whereas in this study customer satisfaction acts as a perfect mediator between electronic service quality and customer loyalty.

#### Customer Value Mediates Effect of Electronic Service Quality on Customer Satisfaction

The mediating effect of customer value on the influence of electronic service quality on customer satisfaction will be explained as follows:

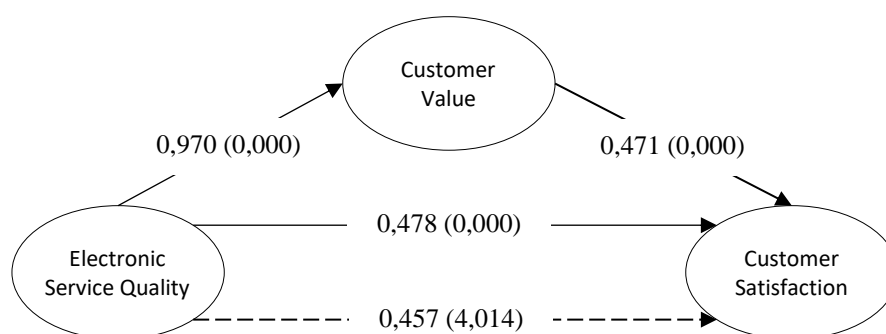


Figure 7. Mediating Effect of Customer Value between The Effect of Electronic Service Quality on Customer Satisfaction

Based on Figure 7, electronic service quality has a significant indirect effect on customer satisfaction through customer value, this can be seen from the path coefficient of 0,457 and the Z-value of 4,014. These results conclude that the better the quality of electronic services provided by the Shopee application, the value felt by Shopee application users in Banda Aceh City will also increase, which indirectly also has a significant contribution in increasing the satisfaction of Shopee application users in the City Banda Aceh.

Customer value in this research acts as a partial mediation between the influence of electronic service quality on customer satisfaction. This can be seen from the research results which found that electronic service quality has a significant influence on customer satisfaction both directly and indirectly through customer value. The results of this study are also in accordance with the research of Aditi et al (2021) who concluded that customer value plays a mediating role between electronic service quality and customer satisfaction.

### Customer Satisfaction Mediates Effect of Customer Value on Customer Loyalty

The mediating effect of customer satisfaction on the influence of customer value on customer loyalty will be explained as follows:



Figure 8. Mediating Effect of Customer Satisfaction between The Effect of Customer Value on Customer Satisfaction

Based on Figure 8, customer value has a significant indirect effect on customer loyalty through customer satisfaction, this can be seen from the path coefficient of 0.233 and the Z-value of 2.561. These results conclude that the better the perceived value, the satisfaction of Shopee application users in Banda Aceh City will also increase, which indirectly also has a significant contribution in increasing the loyalty of Shopee application users in Banda Aceh City.

Customer satisfaction In this research acts as a partial mediation between the influence of customer value on customer loyalty, as can be seen from the research results which found that customer value has a significant influence on customer loyalty both directly and indirectly through customer satisfaction. The results of this research are also in accordance with research by Khasbulloh & Suparna (2022) which concluded that customer satisfaction acts as a mediator between customer value and customer loyalty.

### Conclusion and Recommendation

This research finds the several premises that strengthen the previous theories, that are: customer value and customer satisfaction have a significant effect on increasing customer loyalty; and electronic service quality does not have a significant effect on increasing customer loyalty directly, but indirectly electronic service quality has a significant effect on increasing customer loyalty through customer value and customer satisfaction. Then, customer value and customer satisfaction also act as perfect mediation between the effects of electronic service quality on customer loyalty. Thus, it can be concluded that the variables of customer value and customer satisfaction in this research act as a serial mediation between the effects of electronic service quality on customer loyalty.

This research is a development of models from previous studies that have contributed to the academic and practical fields. For academics, this model and method can be the basis for further development of research models while for practice these results have implications for the company that they must pay more attention to electronic service quality in order to increase customer value and customer satisfaction, thereby creating customer loyalty. The limitation of this research is the scope of the object and the number of variables, so for the further researchers can develop the new models based on this research model.

## References

- Aditi, B., Hafizah, H., & Hermansyur, H. (2021). The Role of E-Services, Quality System and Perceived Value on Customer Satisfaction: An Empirical Study on Indonesian SMEs. *Journal of Industrial Engineering & Management Research*, 2(3), 193-205. Retrieved from <https://jiemar.org/index.php/jiemar/article/view/195/148>
- Alchalidy, W., Lubis, P. H., & Utami, S. (2020). The Effect of Electronic Service Quality on Customer Loyalty Through Customer Satisfaction of GO JEK Application Users in Banda Aceh. *International Journal of Scientific and Management Research*, 3(1), 95-103. Retrieved from [https://ijsmr.in/doc/ijsmr\\_01\\_6888\\_32.pdf](https://ijsmr.in/doc/ijsmr_01_6888_32.pdf)
- Amiruddin., Kusrihandayani, D., Dhanny, P. O., & Nardi. (2020). Impact of Utilitarian Value and Hedonic Value and Social Influence on Behavioral Intention through Customer Satisfaction in Hypermart Consumers. *Global Journal of Business and Social Science Review*, 9(1), 4158-4162. Retrieved from <https://www.ijstr.org/final-print/jan2020/Impact-Of-Utilitarian-Value-And-Hedonic-Value-And-Social-Influence-On-Behavioral-Intention-Through-Customer-Satisfaction-In-Hypermart-Consumers-.pdf>
- Asadpoor, S., & Abolfazli, A. (2017). Effect of Electronic Service Quality on Customer Satisfaction and Loyalty Saderat Bank's Customers. *International Journal of Scientific Study*, 5(4), 407-411. Retrieved from [http://www.ijss-sn.com/uploads/2/0/1/5/20153321/14\\_ijss-mahdi\\_jul\\_oa14\\_-\\_2017.pdf](http://www.ijss-sn.com/uploads/2/0/1/5/20153321/14_ijss-mahdi_jul_oa14_-_2017.pdf)
- Asgari, N., Ahmadi, M. H., Shamlou, M., Farokhi, A. R., & Farzin, M. (2014). The Impact of E-Service Quality on E-Loyalty of Customers in the Area of E-Banking Services. *Journal of Management and Sustainability*, 4(2), 126-133. Retrieved from <https://www.ccsenet.org/journal/index.php/jms/article/view/34887>
- Askari, M., Kazempoor, M., Saedi, H. R., Eslamirad, A., & Lajevardi, M. (2016). Measuring E-Service Quality from the Customers' Perspective: An Empirical Study on Banking Services. *Journal of Marketing and Consumer Research*, 24, 57-68. Retrieved from <https://core.ac.uk/download/pdf/234694139.pdf>
- Avania, I. K., & Widodo, A. (2022). Affect of E-Service Quality On E-Customers Loyalty Through E-Customers Satisfaction on E-Commerce Shopee. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 5(1), 535-546. Retrieved from <https://www.bircu-journal.com/index.php/birci/article/view/3641>
- Candra, S., & Juliani, M. (2018). Impact of E-Service Quality and Customer Value on Customer Satisfaction in LocalBrand. *Binus Business Review*, 9(2), 125-132. Retrieved from <https://journal.binus.ac.id/index.php/BBR/article/view/4650/3355>
- Chang, H. H., Wang, Y., & Yang, W. (2009). The Impact of E-service Quality, Customer Satisfaction and Loyalty on E-Marketing: Moderating Effect of Perceived Value. *Total Quality Management & Business Excellence*, 20(4), 423-443. Retrieved from <https://doi.org/10.1080/14783360902781923>
- Chang, H. H., & Wang, Y. (2011). The Moderating Effect of Customer Perceived Value on Online Shopping Behaviour. *Online Information Review*, 35(3), 333-359. Retrieved from <https://doi.org/10.1108/14684521111151414>
- Chen, M-H., Tsai, K-M., Hsu, Y-C., & Kuan-Yin Lee. (2013). E-service Quality Impact on Online Customer's Perceived Value and Loyalty. *China-USA Business Review*, 12(5), 473-485. Retrieved from <https://www.semanticscholar.org/paper/E-service-Quality-Impact-on-Online-Customer%27s-Value-Mei-Hui-Chen/cd7f8db6f9921e9a387f54f7e7f34f675e75a011>

- Chinomona, R., Masinge, G., & Sandada, M. (2014). The Influence of E-Service Quality on Customer Perceived Value, Customer Satisfaction and Loyalty in South Africa. *Mediterranean Journal of Social Sciences*, 5(9), 331-341. Retrieved from <https://www.richtmann.org/journal/index.php/mjss/article/view/2642>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis: A Global Perspective 7<sup>th</sup> Edition*. New Jersey: Pearson Education.
- Hayes, A. F. (2022). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach 3<sup>th</sup> Edition*. New York: Guilford Press.
- Jiang, L., Jun, M., & Yang, Z. (2016). Customer-perceived value and loyalty: how do key service quality dimensions matter in the context of B2C e-commerce?. *Service Business, Springer;Pan-Pacific Business Association*, 10(2), 301-317. Retrieved from <https://link.springer.com/article/10.1007/s11628-015-0269-y>
- Juwaini, A., Chidir, G., Novitasaric, D., Iskandar, J., Hutagalung, D., Pramono, T., Maulana, A., Safitri, K., Fahlevi, M., Sulisty, A.B., & Purwanto, A. (2022). The role of customer e-trust, customer e-service quality and customer e-satisfaction on customer e-loyalty. *International Journal of Data and Network Science*, 6, 477-486. Retrieved from [https://www.growingscience.com/ijds/Vol6/ijdns\\_2021\\_104.pdf](https://www.growingscience.com/ijds/Vol6/ijdns_2021_104.pdf)
- Khairawati, S. (2020). Effect of customer loyalty program on customer satisfaction and its impact on customer loyalty. *International Journal of Research in Business and Social Science*, 9(1), 15-23. Retrieved from <https://www.ssbfnnet.com/ojs/index.php/ijrbs/article/view/603>
- Khasbulloh, A. H. K., & Suparna, G. (2022). Effect of Perceived Risk and Perceived Value on Customer Loyalty through Customer Satisfaction as Intervening Variables on Bukalapak Users. *European Journal of Business and Management Research*, 7(4), 22–28. Retrieved from <https://www.ejbm.org/index.php/ejbm/article/view/1472/831>
- Kotler, P., & Keller, K. L. (2016). *Marketing Management 15<sup>th</sup> Edition*. New Jersey: Pearson Prentice Hall.
- Mostaghimi, M., Akhlagh, E. M., & Danesh, S. (2016). An Investigation of The Effects of Customer's Expectations And Perceived Quality on Customer's Loyalty With The Mediating Role of The Perceived Value And Customer's Satisfaction. *Journal of History Culture and Art Research*, 5(4), 593-606. Retrieved from <http://kutaksam.karabuk.edu.tr/index.php/ilc/article/view/625/514>
- Nagaraj, S., & Singh, S. (2017). Investigating the Mediating Role of Customer E-Satisfaction on E-Service Quality and E-Loyalty: An Empirical Evidence of Indian Online Shopping. *International Journal of Economic Research*, 14(15), 623-633. Retrieved from [https://serialsjournals.com/abstract/70572\\_ch\\_50\\_f\\_-\\_nag\\_raja\\_samala.pdf](https://serialsjournals.com/abstract/70572_ch_50_f_-_nag_raja_samala.pdf)
- Nursyirwan, V. I., Valentika, N., & Ardaninggar, S. S. (2020). The Effect of Flexibility, Interactivity, and Perceived Value on Satisfaction Level and Loyalty of E-Commerce Customer. Case Study on E-Commerce Customer of Shopee. *Proceedings International Seminar on Accounting Society*, 2(1), 66-75. Retrieved from <http://openjournal.unpam.ac.id/index.php/PISA/article/view/8809>
- Parasuraman, A., Zeithaml, V., & Malhotra, A. (2005). E-S-Qual A Multiple-Item Scale For Assessing Electronic Service Quality. *Journal of Service Research*, 7(3), 213-233. Retrieved from <https://journals.sagepub.com/doi/10.1177/1094670504271156>
- Pollack, B. L. (2008). The Nature of The Service Quality and Satisfaction Relationship: Empirical Evidence for The Existence of Satisfiers and Dissatisfies. *Managing Service Quality*, 18(6), 537-558. Retrieved from <https://doi.org/10.1108/09604520810920059>

- Puriwat, W., & Tripopsakul, S. (2017). The Impact of E-Service Quality on Customer Satisfaction and Loyalty in Mobile Banking Usage: Case Study of Thailand. *Polish Journal of Management Studies*, 15(2), 183-193. Retrieved from <https://pjms.zim.pcz.pl/resources/html/article/details?id=156514>
- Rachmawati, D., & Syafarudin, A. (2022). Analysis of e-Service Quality and e-Trust on e-Loyalty with e-Satisfaction as an Intervening Variable in The Government e-Catalogue. *European Journal of Business and Management Research*, 7(2), 323-329. Retrieved from <https://www.ejbmr.org/index.php/ejbmr/article/view/1377/762>
- Raza, M. A., Siddiquei, A. N., Awan, H. M., & Bukhari, K. (2012). Relationship Between Service Quality, Perceived Value, Satisfaction and Revisit Intention in Hotel Industry. *Interdisciplinary Journal of Contemporary Research in Business*, 4(8), 788-805. Retrieved from [https://www.researchgate.net/publication/275035518\\_Relationship\\_between\\_service\\_quality\\_perceived\\_value\\_satisfaction\\_and\\_revisit\\_intention\\_in\\_hotel\\_industry](https://www.researchgate.net/publication/275035518_Relationship_between_service_quality_perceived_value_satisfaction_and_revisit_intention_in_hotel_industry)
- Raza, S. A., Umer, A., Qureshi, M. A., & Dahri, A. S. (2020). Internet banking service quality, e-customer satisfaction and loyalty: the modified e-SERVQUAL model. *The TQM Journal*, 32(6), 1443-1466. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/TQM-02-2020-0019/full/html>
- Sanjaya, P. K. A., Wimba, I. G. A., & Premayani, N. W. (2020). Determinants Influencing Customer Loyalty to an Indonesian Online Shop Shopee: A Case Study in Denpasar City, Bali. *Solid State Technology*, 63(5), 4713-4722. Retrieved from <https://www.solidstatetechnology.us/index.php/JSST/article/view/5480>
- Shared, H. A. (2019). The Relationship between E-Service Quality and E-Customer Satisfaction: An Empirical Study in Egyptian Banks. *International Journal of Business and Management*, 14(5), 171-182. Retrieved from <http://www.ccsenet.org/journal/index.php/ijbm/article/download/0/0/39217/40032>
- Sugiati, T., Thoyib, A., Hadiwidjono, D., & Setiawan, M. (2013). The Role of Customer Value on Satisfaction and Loyalty (Study on Hypermart's Customers). *International Journal of Business and Management Invention*, 2(6), 65-70. Retrieved from [https://www.ijbmi.org/papers/Vol\(2\)6/Version-1/H0261065070.pdf](https://www.ijbmi.org/papers/Vol(2)6/Version-1/H0261065070.pdf)
- Sulaiman & Basyir, M. (2017). Customer Relationship Management, Customer Satisfaction and Its Impact on Customer Loyalty. *Internationalization of Small Medium Enterprises (SMEs): Challenges and Prospects, The 1st International Conference on Community Research and Service Engagements, JW Marriott Hotel Medan, LPM Universitas Negeri Medan, 4 Desember 2017*. Retrieved from <https://rp2u.usk.ac.id/index.php/welcome/prosesCariPublikasi/4998/196710181994031002/Sulaiman,%20Muhammad%20Basyir/5>
- Sundaram, V., Ramkumar, D., & Shankar, P. (2017). Impact of E-Service Quality on Customer Satisfaction and Loyalty Empirical Study in India Online Business. *KINERJA: Journal of Business and Economics*, 21(1), 48-69. Retrieved from <https://ojs.uajy.ac.id/index.php/kinerja/article/view/1034/875>
- Susanti, C. E. (2014). The Antecedence of Customer Loyalty In Traditional Restaurants in East Java, Indonesia. *International Journal Process Management and Benchmarking*, 4(1), 22-35. Retrieved from <https://www.inderscienceonline.com/doi/pdf/10.1504/IJPMB.2014.059451>

- Ting, O. S., Ariff, M. S. D., Zakuan, N., Sulaiman, Z., & Saman, M. Z. M. (2016). E-Service Quality, E-Satisfaction and E-Loyalty of Online Shoppers in Business to Consumer Market; Evidence form Malaysia. *IOP Conference Series: Materials Science and Engineering, Volume 131, 4<sup>th</sup> International Conference on Manufacturing, Optimization, Industrial and Material Engineering (MOIME 2016) 19–20 March 2016, Bali, Indonesia*. Retrieved from <https://iopscience.iop.org/article/10.1088/1757-899X/131/1/012012/pdf>
- Utami, S. (2015). The Influence of Customers' Trust on Customer Loyalty. *International Journal of Economics, Commerce and Management, 13*(7), 638-653. Retrieved from <https://ijecm.co.uk/wp-content/uploads/2015/07/3743.pdf>
- Wijaya, I. G. N. S., Triandini, E., Kabnani, E. T. G., & Arifin, S. (2021). E-commerce website service quality and customer loyalty using WebQual 4.0 with importance performances analysis, and structural equation model: An empirical study in shopee. *Register: Jurnal Ilmiah Teknologi Sistem Informasi, 7*(2), 107-124. Retrieved from <https://journal.unipdu.ac.id/index.php/register/article/view/2266/pdf>
- Zehir, C., Sehitoglu, Y., Narcikara, E., & Zehir, S. (2014). ES-quality, perceived value and loyalty intentions relationships in internet retailers. *Procedia-Social and Behavioral Sciences, 150*, 1071-1079. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1877042814051696>
- Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *Journal of Consumer Research, 37*(2), 197-206. Retrieved from <https://www.jstor.org/stable/10.1086/651257>