Mediating Role Of Satisfaction And Moderating Role Of Perceived Value: A Empirical Study Of Electronic Commerce In Indonesia

M. Munir Syam AR [1], Edy Purwanto [2*], Miftahol Arifin [3]
[1,2,3] FEB Universitas Wiraraja
Email: [1) munirsyam@wiraraja.ac.id](mailto:munirsyam@wiraraja.ac.id) ;[2) edypurwanto@wiraraja.ac.id](mailto:edypurwanto@wiraraja.ac.id) ; [3) miftaholarifin@wiraraja.ac.id](mailto:miftaholarifin@wiraraja.ac.id)

ABSTRACT

This research develops a research model where satisfaction is a mediating variable in the influence of e-service quality on loyalty. Then, perceived value acts as a moderating variable of the influence of satisfaction on loyalty. The object of this research is electronic commerce (e-commerce) in Indonesia. The sample in this study was 260 respondents taken using a purposive sampling technique. The respondent criteria used are that the respondent has an account at an online shop such as Shopee, Lazada, Tokopedia, and other online shops. Respondent also has made purchases at these online shops. Data was obtained through distributing questionnaires. Hypothesis testing is carried out using simple regression analysis, mediation tests, and moderation tests using the Hierarchical Moderated Regression (HRM) technique. Research finds that partially e-service quality has a significant influence on Satisfaction and also on Loyalty. Satisfaction also has a significant influence on loyalty. This research also found that satisfaction is a variable that can mediate the influence of E-service quality on loyalty. However, on the contrary, this research found that perceived value does not moderate the influence of satisfaction on the loyalty of E-Commerce users.

INTRODUCTION

Globalization has provided very fundamental changes for companies in conducting business. This is certainly a challenge for companies when they have plans to enter new markets and interact with consumers all over the world. The emergence of information technology is one of the triggers behind globalization. Information technology is also considered to be a key component in developing business strategies. Companies always try to find new methods to get consumers and offer added value from products and services. Demir et al., (2020) conveyed the

statement above that consumers today accept technological developments more quickly than in previous years.

In Indonesia, internet users in the last 5 years as reported by We Are Social as of January, namely in 2018 there were 146 million users, in 2019 there were 174 million users, in 2020 there were 175 million users, then in 2021 there was a big jump. quite high to 203 million users. In the first quarter of 2022, it will increase to 205 million internet users. This data shows that every year internet users in Indonesia always increase from year to year. The increase in internet users represents a very potential market share for companies that utilize e-commerce in carrying out their business activities.

The growth of online business has increased quite significantly in the last few years. This increase was partly triggered by the pandemic which was able to massively change the behavior patterns of internet users. Then, several government policies such as PSBB forced internet users to change their lifestyle from conventional to digital (APJII, 2021).

This research uses e-commerce platforms in Indonesia as research objects. The selection of this research object was based on the research recommendations of Al-dweeri et al., (2017) who researched on the quality of electronic services with the object of the Amazon website. In this article, recommendations for research regarding the quality of electronic services in a platform context are obtained. In Indonesia, there are several e-commerce platforms with the number of monthly website visitors in E-Commerce in the third quarter of 2021 for the top three positions based on a survey report conducted by iPrice. In first place was Tokopedia with 158.14 visits, followed by Shopee with 134.38 visits and stall openings with 30.13. Lazada, 27.95 million, Blibli 16.33 million, Orami 12.84 million, Ralali 5.51 million, Bhineka 4.51 million visits.

This research examines how electronic service quality can influence consumer satisfaction (Demir et al., 2020; Rita et al., 2019) and loyalty (Santika et al., 2020., Zeithml et al., 2002). This research also examines how satisfaction can influence consumer loyalty (Purwanto, 2022. Vun et al.. 2013) and how satisfaction can mediate e-service quality on loyalty (Santika, 2020., Gull et al., 2020). This research also examines the role of perceived value which can moderate the influence of satisfaction on loyalty (Chang et al., 2009; Anderson and Srinivasan (2003)

Chang et al., (2009) said that good electronic service quality (e-service quality) must be able to provide satisfaction to customers and electronic service quality is very essential for the success of a platform being developed. In addition, Al-Dweeri et al., (2017) stated that currently there is no clear agreement regarding the concept of electronic service quality. In the context of competitive electronic services, consumers' satisfaction with the performance of the service is the key to success and marketers are the key to exploring the quality of service received (Sankar and Data, 2020).

Based on the literature study conducted, inconsistencies in research results were found in the context of electronic service quality. Research conducted by Demir et al., (2020) and Rita et al., (2019) found that the quality of electronic services effects consumer satisfaction. However, Abdullah et al. (2015) in the context of online business application users found that electronic service quality does not affect consumer loyalty. This finding is important because, in the business context, consumer loyalty is very essential. Therefore, the intercorrelation of each variable and also the role of mediating and moderating variables will be largely determined by the influence of electronic service quality on consumer loyalty.

This research is a compilation of research conducted by Gull et al., (2020) and research previously conducted by (Chang et al., 2009). Gull et al., (2020) research on the influence of e-service quality on e-commerce customer loyalty in Pakistan. In this research, the satisfaction variable is used as a mediating variable. Then, Chang et al., (2009) also researched e-service quality, satisfaction, and loyalty. However, this research did not test satisfaction as a mediating variable but tested the moderating effect of the perceived value variable.

Based on the two studies above, the research developed a research model that tests moderation and mediation effects (MODMED) in one research framework. The customer

satisfaction variable acts as a mediating variable and perceived value acts as a moderating variable. To the best of the researcher's knowledge, referring to the literature studies conducted, there has never been research that has developed research using the perceived value variable as a moderating variable and consumer satisfaction as a mediating variable as developed in this research.The research questions asked in the study are whether e-service quality affects satisfaction and loyalty, whether satisfaction effects on loyalty, whether satisfaction mediates the effect of e-service quality on loyalty, and whether perceived value moderates the effect of satisfaction on loyalty.The objectives of the research are to find out the effect of e-service quality on satisfaction and loyalty, to find out the effect of satisfaction on loyalty, to find out the role of satisfaction in mediating the effect of e-service quality on loyalty, and to find out the role of perceived value in moderating the effect of satisfaction on loyalty.

LITERATURE REVIEW

Attitude Theory

This research uses the attitude theory from Bagozzi, (1992) as Grand Theory for the research framework developed. This research then uses e-service quality (Appraisal), satisfaction (emotional response), and loyalty (behavior). Then, this research added the variable perceived value as a moderating variable.

E-Service Quality

The first definition of electronic service quality was presented by Zeithaml et al (2000) Electronic service quality is defined as the extent to which a website can facilitate consumers when shopping, making purchases, and delivering products by providing services effectively and efficiently. In principle, the quality of the electronic service in question is the service provided comprehensively, both before and after purchasing services on a website/e-commerce. Zeithaml, (1988) also said that electronic service quality is a consumer's assessment of the excellence or superiority of the entire entity (service).

Satisfaction

Zhang et al., (2022) define consumer satisfaction regarding how companies respond to consumer expectations. The relationship between consumer service quality is based on the "Expectancy-Disconfirmation" theory developed by (Oliver, 1980). This theory states that satisfaction can be created after consumers compare the expected service with the actual service received. Therefore, consumer satisfaction occurs if the service received is better than the expected service (Demir et al., 2020) Likewise Purwanto, (2022) said that satisfaction is a measure of how well consumer needs are met.

Perceived Value

The concept of perceived value is part of equity theory. Perceived value is a comparison ratio between sacrifices and what consumers get from service providers (Oliver & DeSarbo, 1988). In principle, equity theory will compare the benefits they get with the sacrifices the brand incurs (Demir et al., 2020). Perceived value is currently getting more attention because companies are currently more service-oriented than product-oriented (Wang & Teo, 2020) Therefore, the value perceived by consumers is a trade-off between all the benefits and sacrifices that consumers obtain from certain services (Jiang et al., 2016).

Loyalty

In the context of the marketing community, consumer loyalty is a very important issue (chang et al., 2009). Based on previous literature, huang, (2017) stated that brand loyalty is realized in two dimensions. The stochastic view conveys that consumers exhibit behavior

randomly and their purchasing behavior is not influenced by previous behavior. The deterministic view, on the other hand, suggests that brand loyalty results from the influence of external factors.

In their research, başer et al., (2016) define loyalty as a firmly held commitment to repurchase a product (brand) and use that product consistently in the future. Brand loyalty is one of the most important strategic constituents in creating sustainable competitive advantage.

METHODS

Types of research

The approach used is a quantitative approach. This quantitative research is confirmatory by collecting primary data obtained from respondents' answers after the questionnaire was distributed. After that, the data will be processed and interpreted. This research is a cross-section research where research data is taken in one period.

Research Variables and Indicators

The e-service quality variable is measured using 4 dimensions adapted from research by Wolfinbarger & Gilly, (2003) namely platform design, reliability, security/privacy, and customer service. The total indicators developed from these four indicators amounted to 13 question items. The consumer satisfaction variable is measured using 3 indicators adapted from research by (Chang et al., 2009) The perceived value variable is measured using 4 indicators adapted from (Chang et al., 2009). Then, consumer loyalty was measured using 6 indicators adapted from research by (Chang et al., 2009).

Population, Sample, and Sampling Techniques

The population in this research is online consumers in Sumenep Regency who have made purchases and have e-commerce platform accounts such as Shopee, Tokopedia, Lazada, and other platforms. The sample size used is 5-10 times the total indicators. Thus, the sample size used was 26 (total items) x 10 = 260 respondents.The sampling technique used was purposive sampling. The respondent criteria determined were: the respondent had made online purchases and the respondent had an e-commerce platform account. Data collection in this research used survey techniques by distributing questionnaires to respondents.

Instrument Test

Validity testing in this research was carried out by comparing the calculated r-value obtained with the r-table value. If the r-calculated value is greater than the r-table then the instrument is declared valid. The r-table value is obtained using the formula df=n-2. Meanwhile, reliability testing was carried out using Cronbach alpha analysis. A research instrument can be said to be reliable if it has a CA value ≥ 0.70 (Joseph F Hair et al., 2018)

To ensure the accuracy of this research, we conducted validity testing by comparing the calculated r-value with the r-table value. If the r-calculated value is greater than the r-table value, we declare the instrument valid. We obtained the r-table value using the formula df=n-2. Additionally, we conducted reliability testing using Cronbach alpha analysis. A research instrument that has a CA value of 0.70 or higher is considered reliable (Hair et al., 2014).

Hypothesis test

a. Simple Regression Test

   To test hypotheses 1, 2, and 3, testing was carried out using simple regression analysis.

b. Mediation Test

   Hypothesis 4 testing was carried out using the mediation test suggested by (Baron, R & kenny, D, 1986). The mediation testing process is carried out based on the following stages:

1) Test the influence of the independent variable (X) on the mediator variable (M)
2) Test the influence of the mediator variable (M) on the dependent variable (Y)
3) Test the influence of the independent variable (X) on the dependent variable (Y)
4) Test the influence of the independent variable (X) and mediator variable (M) on the dependent variable (Y)

Moderating Test

Hypothesis 5 testing was carried out using the Hierarchical Moderated Regression (HRM) technique (Carol H. Anderson, 1986). According to this technique, testing is carried out in 3 testing stages, namely:
1. Regress the independent variable (Satisfaction) on the dependent (loyalty) as model 1.
2. Regress the independent variable (Satisfaction) and moderating (perceived value) on the dependent variable (loyalty) as in model 2.
3. The next stage is to regress the independent variable (Satisfaction), the moderating variable (perceived value), and the interaction of the independent and moderating variables on the dependent variable (loyalty) as in model 3.

RESULTS

Instrument Test Results

Based on the tests carried out, information was obtained that the items used in the research could be declared valid. This is based on the calculated r value of all the items used which has a value greater than the r-table value of 0.1217. This value is obtained by looking at the value in the r-table. The next test is to carry out reliability testing. The following are the results of the reliability test.

Table 1 Reliability Test Results

Variable	Cronbach Alpha	Number of Items
E-Service Quality	0,944	13
Satisfaction	0,891	3
Perceived Value	0,884	4
Loyalty	0,937	6

Source: Primary data is processed (2024)

Hair et al., (2014) said that if the reliability value is greater than 0.70, it is considered to have good reliability. The reliability values for the variables E-Service Quality (0.944), Satisfaction (0.891), Perceived Value (0.884), and Loyalty (0.937). Therefore, the variables used in this research are declared reliable.

Simple regression test results

Testing of hypotheses 1 to hypothesis 3 was carried out using simple linear regression analysis. The results of simple regression testing can be explained in table 2 below:

Table 2 Hypothesis Testing with Simple Regression

Hypothesis	(ß)	t	Sig.	Result
H1: E-Service Quality influences satisfaction	,792	20,803	,000	Supported
H2: E-Service Quality influences loyalty	,853	26,207	,000	Supported
H3: Satisfaction influences loyalty	,791	20,732	,000	Supported

Source: Primary data is processed (2024)

Mediation test results

Testing of hypothesis 1 to hypothesis 3 was carried out using simple linear regression analysis. The results of simple regression testing can be explained in table 2 below:

Table 3 Hypothesis testing with mediating variables

Hypothesis	Equation	(ß)	t	Sig.	Result
H4: Satisfaction mediates the influence of E-Service Quality on Loyalty	E-SQ → Satisfaction	,792	20,803	,000	Supported (Partial Mediation)
	Satisfaction → Loyalty	,791	20,732	,000	
	E-SQ → Loyalty	**,853**	**26,207**	**,000**	
	E-SQ and SAT → LOY	**,607**	**12,219**	**,000**	
		,310	6,229	,000	

Source: Primary data is processed (2024)

Moderating test results

Hypothesis 5 testing was carried out using the Hierarchical Moderated Regression (HRM) technique. The test results can be seen in table 4 below:

Table 4 Hypothesis testing with moderating variables

Hypothesis	Equation	Adj. R^2	(ß)	Nilai t	Sig.	Result
H5: Perceived Value moderates the influence of satisfaction on Loyalty	Satisfaction → Loyalty	**,623**	,791	20,732	,000	Not Supported
	Satisfaction and PV → Loyalty	**,685**	,464	8,093	,000	
			,412	7,184	,000	
	Satisfaction., PV andSATXPV → Loyalty		,592	2,822	,005	
		6,84	,555	2,373	,018	
			-,258	**-,634**	**,527**	

Source: Primary data is processed (2024)

DISCUSSION

The Influence Of E-Service Quality On Satisfaction

Referring to Table 2 above, we can see that the calculated t-value from hypothesis 1 is 20.803 with a significance level of 0.000 (p<0.05). This value shows that partially the E-service quality variable has a positive and significant effect on satisfaction. Therefore, hypothesis 1 is declared accepted. This research proves that e-service quality is one of the factors that can influence the satisfaction of e-commerce users. This research is in line with Parasuraman et al., (1998) statement that service quality is an antecedent of consumer satisfaction.

This research found that the satisfaction of e-commerce users can be created with the services provided. Therefore, e-service quality must be maintained and paid attention to. Several things that need to be considered include the e-commerce platform design, reliability, security, and customer service of e-commerce.The results of this research are in line with the results of research conducted by Demir et al., (2020) which found that electronic service quality influences consumer satisfaction on online meeting platforms. This research was conducted in Kurdistan, Iraq. Likewise, research conducted by Rita et al., (2019) also found that the quality of electronic services influences consumer satisfaction when making online purchases.

The Influence Of E-Service Quality On Loyalty

Referring to Table 2 above, we can see that the calculated t-value of hypothesis 2 is 26.207 with a significance level of 0.000 (p<0.05). This value shows that partially the E-service quality variable has a positive and significant effect on Loyalty. Therefore, hypothesis 2 in the research is declared accepted. This research proves empirically that e-service quality is one of the factors

that can make users loyal to e-commerce. Zeithaml et al., (2002) said that service refers to the excellence and superiority of a service provided by an existing website/platform.

This research certainly provides information that consumer loyalty can be created through the services provided. Thus, e-service quality must still be considered carefully. Several important things that need to be considered include the design of the platform being created, the reliability of the e-commerce platform, the level of security, and the customer service of the e-commerce.

This research is in line with research conducted by (Gull et al., 2020) which found that e-service quality has an influence on the loyalty of e-commerce users in Pakistan. This research also supports the findings of research conducted by Santika et al., (2020) which found that there is an influence of e-service quality on loyalty. This research was conducted in Bali, Indonesia with a research focus on online consumers.

The Influence Of Satisfaction On Loyalty

Referring to Table 2 above, We know that the calculated t-value of hypothesis 3 is 20.732 with a significance level of 0.000 (p<0.05). This value shows that partially the satisfaction variable has a positive and significant effect on loyalty. Thus, hypothesis 3 in the research is declared accepted. The findings of this research confirm that consumer satisfaction is a very powerful factor that can influence loyalty. In expectancy, disconfirmation theory (EDT) Oliver, (1980) explains that the assessment of consumer satisfaction is not only determined by the performance of a product or service but is also determined by the process where consumers will compare the brand's perceived performance with their expectations.

This research provides information that consumer satisfaction really needs to be paid attention to if we want the consumers we have to remain loyal to our products and services. Therefore, consumers' satisfaction with all the services provided and the products they get through e-commerce must be able to make consumers feel the benefits that are in line with what they expect. They should also feel that the platform they are buying from is the most suitable place and will not disappoint them. This will certainly give rise to the desire to make repeat purchases on e-commerce.

This research supports the findings of previous research. Likewise, research conducted by Purwanto, (2022) found that consumer satisfaction can influence consumer loyalty. This research examines e-commerce in Indonesia. This research is also in line with the results of research conducted by Vun et al., (2013) which found that there is an influence of satisfaction on loyalty. This research uses electronic commerce as a research object. professional workers in various industries and various business models in Sabah, Malaysia as research subjects.

Satisfaction Mediates The Influence Of E-Service Quality On Loyalty

To test hypothesis 4 is done by testing 4 equations (Baron & Kenny 1986). Referring to Table 3 above, we know that the calculated t value for equation 1 is 20.803 with a significance level of .000. The calculated t value for the 2nd equation is 20.732 with a significance level of .000. The calculated t value for the 3rd equation is 26.207 with a significance level of .000. Then, the 4th equation is tested simultaneously between e-service quality (independent) and satisfaction (mediator) with Loyalty (dependent). The t-calculated value in equation 4 for the influence of e-service quality on loyalty is 12.219 with a significance level of .000. These results show that there is a decrease in the calculated t-value and the significance level of the 4th equation when compared with the 3rd equation. In the 4th equation, even though there is a decrease, it still has a positive and significant value. This shows that hypothesis 4 is supported in this study. In other words, the satisfaction variable mediates the effect of e-service quality on loyalty with a partial mediation category. This means that the role of satisfaction as a mediating variable is still not optimal because it is not yet in the full mediation category.

Research findings provide information that e-service quality has an indirect influence on loyalty through satisfaction. The better the e-service quality provided, the more satisfied consumers will be. Furthermore, this satisfaction will give rise to loyalty towards e-commerce in the form of repeat purchases and recommendations to others.

The findings of this research are in line with the results of research conducted by Kadi, (2021) which found that satisfaction is a variable that can mediate the influence of destination image on intention to visit again. The results of this research also support the research of Santika et al., (2020). The research focuses on the role of satisfaction as a mediating variable. In this research, it was found that consumer satisfaction can mediate the relationship between service quality and loyalty of e-commerce users in Bali, Indonesia. Furthermore, the results of this research are also in line with the results of research conducted by Gull et al., (2020). This research was conducted in Pakistan using e-commerce as a research object. This research found that satisfaction can mediate the influence of e-service quality on consumer loyalty.

Perceived Value Moderates The Influence Of Satisfaction On Loyalty

To test hypothesis 5 was done using the Hierarchical Moderated Regression (HRM) technique (Anderson, 1986). Referring to table 4, It is known that the adjusted R^2 value from model 2 is greater than the adjusted R^2 value from model 1 (.685 > 623). Meanwhile, the adjusted R^2 value from model 3 is smaller than the adjusted R^2 value from model 2 (.684 <.685). If you look at the adjuted R^2 value from model 3 which is smaller than the value of model 2 then this is a signal that the perceived value variable is not able to moderate the influence of satisfaction on loyalty. However, you must still pay attention to the t-count value and the significance of the interaction between satisfaction and perceived value. The t-calculated value of the interaction variable is -.634 with a significance level of .527. This means that the significance level of this interaction variable is greater than 0.05. Based on these results, it can be concluded that Hypothesis 5 is not supported in the research.

The results of this research are different from the statement by Anderson & Srinivasan (2003) who said that the higher the perceived value felt by consumers, the greater the influence of satisfaction on the loyalty of e-commerce users, vice versa. This research is also different from the research results found by Chang et al., (2009) which found that perceived value moderates the influence of satisfaction on loyalty.

The research results are certainly very interesting new information to study further, especially in the context of e-commerce in Indonesia. These findings also provide information that the moderating role of perceived value on the influence of consumer satisfaction on loyalty does not have a significant influence.

CONCLUSION

In this research, it can be concluded that partially the e-service quality variable is one of the factors that has a significant influence in influencing the satisfaction of e-commerce users in Indonesia. Likewise, the loyalty of e-commerce users can be influenced by e-service quality. Likewise, the satisfaction of e-commerce users is also a factor that can influence consumer loyalty. Meanwhile, satisfaction is also a variable that can mediate the influence of e-service quality on loyalty. This research found that satisfaction partially mediates.

On the other hand, based on testing using the Hierarchical Moderated Regression (HRM) technique, it was found that the Perceived value variable did not moderate the effect of satisfaction on loyalty. This is shown by the adjusted R^2 value of Model 3 which is smaller than the adjusted R^2 value of Model 2. In addition, the significance level is above 0.05% so it can be stated that the perceived value variable is unable to moderate the influence of satisfaction on loyalty.

SUGGESTION

Suggestions in this research include the following: Future research needs to conduct research using respondents with the same income. This is intended to provide a more specific view of e-commerce in Indonesia for certain classes. Future research also needs to examine further the role of satisfaction in mediating the influence of e-service quality on loyalty. This is intended to obtain more comprehensive information regarding the role of satisfaction as a mediating variable. Apart from that, the role of perceived value as a moderating variable also needs to be re-examined with the same object and/or different objects to obtain clearer information regarding the moderating role.

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