Effect of E-service quality on E-customer loyalty: The role of E-customer satisfaction as a mediator

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ARTICLE INFO

ABSTRACT

Purpose – This paper seeks to examine the mediator effect of e-customer satisfaction on the relationship between e-service quality and e-customer loyalty. **Methodology/approach –** The population in this study was all OVO e-money customers in Padang city. The sampling technique used a non-probability approach, namely the purposive sampling. In the data analysis, 151 samples were used as a sample size. In order to test hypotheses, the software of SEM-PLS was performed. **Findings –** It was found that e-service quality has positive effect on e-customer satisfaction and e-customer loyalty. The variable of e-customer satisfaction is also found to have positive effect on e-customer loyalty. Furthermore, the e-customer satisfaction is proven to mediate the relationship between e-service quality and e-customer loyalty. **Novelty/value –** e-customer loyalty has been an important factor in the e-marketing. However, the determinants of e-customer loyalty are still far from conclusive.

INTRODUCTION

Today, the development of advances in financial technology has had an impact on the increasing level of competition between companies. One of the advancements in financial technology is the use of electronic money, also known as E-Money. According to Arief (2019) the existence of E-Money will make you feel more comfortable and secure to carry out various financial transactions. Utilization of E-Money is considered more practical and can be done anywhere. Besides that, E-Money will also make users not have to carry cash to make financial transactions. The existence of E-Money certainly gets wide acceptance from the world community, especially Indonesia where in a short time the use of E-Money has been carried out by millions of people in Indonesia.

The high public interest in using E-Money has encouraged the emergence of several providers that provide E-Money services such as Link-Aja, Tap Cash BNI, GOPAY, OVI, Brizzi and so on. Each E-Money certainly has advantages and disadvantages with one another.

Charisma and Suprapti (2020)revealed that OVO is an E-Money product that has many conveniences for customers who use it. The E-Money product is easy to use, has complete cooperation with a number of conventional banks or regional banks, and has an easily accessible website, so that many customers have high loyalty to the brand. On the other hand, Wirtz and Lovelock (2011)explained that creating loyal customers is a very important thing that will encourage the survival of the brand in the long term. Keller (2016)E-customer loyalty is a commitment shown by customers to repeatedly buy and use a product brand online. E-customer loyalty arises because consumers have consistently felt the benefits of the product brand repeatedly when needed. The positive impression that arises from within consumers encourages them to intend to use the same product brand again when the need for the product brand re-emerges.

*E-customer loyalty*in the context of E-Money does not form by itself but can be influenced by a number of factors. According toKaya et al., (2019)revealed that the formation of e-customer loyalty in consumers is influenced by E-service quality, website familiarity and E-customer satisfaction. Each variable will encourage stronger customer brand loyalty in using digital products, especially E-Money. Therefore, it is very interesting for researchers to try to observe changes in each of these variables to drive changes in E-customer loyalty.

Carrizo et al., (2017)explained that E-service quality shows the extent to which digital services offered to customers can provide value or benefits for customers who use them. The better the E-service quality that is formed, it shows that the digital service products used by customers are able to provide benefits for their users. When this is realized, repeated activities to continue to use digital products, especially E-Money will increase. When the utilization action has been carried out more than twice, it shows that E-customer loyalty has emerged in the customer.

Empirically, the research resultsPearson et al., (2012)found that e-service quality has a positive effect on e-customer loyalty. Consistent results were also found byCarrizo et al., (2017)states that the better the service quality perceived by the customer, the higher the regularity in using the service. Furthermore, when the action has become a habit that continues to be carried out, it shows that the customer has loyal behavior to the product brand he uses. Further research resultsAl-dweeri et al., (2017)found E-service quality has a positive and significant effect on E-customer loyalty.

Another variable that can affect E-customer loyalty is E-customer satisfaction.Kaya et al., (2019)found that the perceived satisfaction in using an e-commerce-based website can be seen from the perceived suitability between the level of importance or expectations with the perceived reality after the transaction or product is received. When the perceived satisfaction increases, it will create a positive impression and will encourage consumers' desire to continue shopping online. When the activity is repeated more than twice, it shows that loyalty has been formed. Several other researchers have also proven that E-customer satisfaction has a positive effect on E-customer loyalty in using online shopping websites (Lin & Sun, 2009; Nurchayo, 2020).

Although the variables of E-service quality and E-customer satisfaction are two important variables that affect E-customer loyalty, this study argues that between E-service quality is a determinant of E-customer satisfaction. If the better the E-service quality perceived by the customer, then this condition will certainly be able to increase the E-customer satisfaction and vice versa. Thus, this study argues that E-customer satisfaction acts as a mediating variable between E-service quality and E-customer loyalty.

LITERATURE REVIEW

*E-customer loyalty*is a commitment that consumers have to continue to carry out activities related to e-marketing such as buying and selling online (e-commerce) to online-based transportation (Lin & Sun, 2009). When a consumer or customer has carried out e-marketing activities more than twice, it indicates that the consumer has a commitment or loyalty.

According toKeller (2016)e-customer satisfaction is a match between the level of importance and the performance felt by consumers when using certain products or services via online media. Maximum satisfaction will certainly be felt by consumers when the perceived performance in using a product far exceeds the expected expectations. Conformity that is felt continuously encourages the

emergence of commitment in individuals to continue to use services or products with the same brand over and over again.

Kotler and Keller (2016)conceptualizing E-service quality as the ability of a website to provide services needed by users or users. Temporary,Pradnyaswari and Aksari (2020)defines e-service quality as the extent to which a website is able to provide services to users who use the website. The quality of service in question is related to tangibles, empathy, reliability, responsiveness and assurance that can be obtained by users. The better the website service quality, the more it will encourage satisfaction and that can create loyalty or commitment in customers.

E-service quality and E-customer loyalty

Kotler and Keller (2016)Expressing loyalty is a customer's commitment to a brand, store, supplier based on a very positive attitude and reflects in consistent repeat purchases. If viewed from the definition of loyalty, it can be concluded that loyalty is a commitment within the customer to make a number of consistent purchases of the same brand within a certain period of time. Besides that, according toWirtz and Lovelock (2011)e-service quality shows the ability of a website to provide services needed by users or users. E-service quality relates to the ability of the system to provide appropriate data and information for website users, including accuracy in conducting transactions. E-service quality is also related to the extent to which a website is able to serve users in doing e-marketing. The better management of website service quality will encourage increased customer commitment to continue to use e-commerce-based websites.Zhang et al., (2018)states that e-service quality affects e-customer loyalty in online shopping.Lin and Sun (2009)found that e-service quality has a positive effect on e-customer loyalty.

H1   *E-service quality*positive effect on e-customer loyalty of E-Money OVO users

E-service quality and E-customer satisfaction

Wirtz and Lovelock (2011)defines E-service quality as a service provided by a server to consumers (users) that are useful for using the server for certain purposes, one of which is shopping. When the server can provide good service, all the desires or expectations that consumers want will be fulfilled, so satisfaction is realized, thus researchers suspect that web service quality has a positive effect on e-customer satisfaction, especially in utilizing a server or web in order to carry out online shopping activities. .Kaya et al., (2019)found that e-service quality has a positive effect on e-customer satisfaction. Consistent results were also found byLin and Sun (2009)where e-service quality has a positive effect on e-customer satisfaction in online shopping. The results obtained indicate that the higher the quality of service provided by the website manager to users who want to shop online, the higher the satisfaction in using the website.

H2   *E-service quality*positive effect on e-customer satisfaction of E-Money Ovo users

E-customer satisfaction and E-customer loyalty

Kaya et al., (2019)found that the perceived satisfaction in using an e-commerce-based website can be seen from the perceived suitability between the level of importance or expectations with the perceived reality after the transaction or product is received. When the perceived satisfaction increases, it will create a positive impression and will encourage consumers' desire to continue shopping online. When the activity is repeated more than two times, it shows that loyal behavior has been formed.Lin and Sun (2009)found that E-customer satisfaction has a positive effect on E-customer loyalty.Nurcahyo (2020)states that E-customer satisfaction has a positive effect on E-customer loyalty in using online shopping websites.

H3   *E-customer satisfaction*positive effect on e-customer loyalty of E-Money OVO users

E-customer satisfaction as mediation

As previously explained, the better the implementation of E-service quality, then this condition will increase E-customer satisfaction and in turn will increase E-customer loyalty and vice

versa. Several previous researchers have found empirically that E-service quality has a positive effect on E-customer loyalty through E-customer satisfactionin using e-commerce websites in order to carry out online shopping activities (Lin & Sun, 2009; Zavareh at al., 2012).

    H4   *E-customer satisfaction*mediate the relationship between E-service quality and E-customer loyalty of E-Money OVO users

3. METHOD

The population in this study is all people in the city of Padang who use E-Money OVO. To determine the number of samples, the Cochran formula is used where it is obtained thatthe number of samples in the study were 151 people. While the sampling technique used is*purposive sampling*namely the sampling technique based on the criteria set by the researcher such as the age of the respondents between 18-60 years and at least having used E-Money Ovo twice.

    *E-customer loyalty*is a commitment that customers have in using or conducting online shopping transactions through E-Money OVO repeatedly. This variable was measured using 4 statement items (Kaya et al., 2019). E-customer satisfaction is the conformity felt by consumers between the level of interest or expectation before doing shopping activities with the reality that is felt after using E-Money OVO. This variable was measured using 2 statement items (Kaya et al., 2019). Sedengka E-service quality is the ability of a website to provide services to users or customers who want to carry out online payment transaction activities through E-Money OVO as measured by 14 statement items (Kaya et al., 2019). Next, tThe data analysis technique used Smart PLS 3.2.9 which consisted of Measurement Model Assessment for validity and reliability testing, and Structural Model Assessment for hypothesis testing.

RESULT AND DISCUSSION

The results of the study will begin by presenting the profiles of respondents who participated in this study as presented in the following table

Table 1. Profile of Respondents

Demographics	Category	Number of people)	Percentage (%)
Gender	Man	68	45.03
	Woman	83	54.97
OVO E-Money Usage Frequency	2 times	13	8.61
	3-10 times	39	25.83
	>10 times	99	65.56
Age	18 – 25 Years	18	11.92
	26 – 30 Years	36	23.84
	31 –35 years old	34	22.52
	36 –40 Years	33	21.85
	41 – 50 Years	17	11.26
	>50 years	13	8.61
Education	High school / equivalent	64	42.38
	D3 / Diploma	13	8.61
	S1	72	47.68
	S2	2	1.32
Work	Self-employed	66	43.71
	Private employees	32	21.19
	Government employees	31	20.53
	Teaching Staff	5	3.31
	Housewife	7	4.64
	Student / Student	6	3.97
	Other	4	2.65

Based on the table above, it can be seen that the majority of respondents who participated in this study were women (54.97%), had used E-money OVO more than 10 times (65.56%), aged between 26-30 years (23.84%), had a bachelor's degree education (47.68%), and working as an entrepreneur (43.71%).

Measurement model assessment(MMA) aims to ensure that each statement item that supports each research variable used is appropriate and reliable. MMA analysis consists of convergent validity and discriminant validity.

Table 2. Convergent Validity Test Results

Variable	Items	*Outer loadings*	*Cronbach's Alpha*	*Composite Reliability*	AVE
E-customer Loyalty	E-CL1	0.890			
	E-CL2	0.898			
	E-CL3	0.925	0.847	0.960	0.683
	E-CL4	0.915			
	E-CL5	0.815			
E-service quality	E-SQ1	0.836			
	E-SQ2	0.828			
	E-SQ3	0.806			
	E-SQ4	0.798			
	E-SQ5	0.878			
	E-SQ6	0.825			
	E-SQ7	0.830			
	E-SQ8	0.783	0.937	0.948	0.551
	E-SQ9	0.787			
	E-SQ10	0.766			
	E-SQ11	0.621			
	E-SQ12	0.595			
	E-SQ13	0.541			
	E-SQ14	0.560			
E-customer satisfaction	E-CS1	0.807	0.712	0.812	0.682
	E-CS2	0.845			

Based on the table above, it can be seen that all statement items on the E-customer loyalty and E-customer satisfaction variables are valid because they have an outer loading > 0.70. However, in the E-service quality variable, there are 4 invalid statement items having outer loading < 0.70 where the invalid statement items are eliminated. Furthermore, the three variables were found to have Cronbach's alpha > 0.70, composite reliability > 0.70 and AVE > 0.5 so that they met the specified criteria (Supriadi & Sefnedi, 2017).

*Discriminant validity*shows the uniqueness of the construct from other constructs. The measurement of discriminant validity is carried out using the Fornell-Lurcker criterion and cross loading method, based on the results of data processing that has been carried out as shown below:

Table 3. Discriminant Validity with Fornell-Larcker Criterion Method

Variable	E-customer satisfaction	E-service quality	E-customer loyalty
E-customer satisfaction	0.909		

E-service quality	0.517	**0.825**	
E-customer loyalty	0.883	0.529	**0.833**

Based on the results of discriminant validity testing with the Fornell-Larcker criterion method, it can be seen that the correlation of the E-customer satisfaction variable with itself is 0.908 greater than the correlation value with the E-service quality (0.517) and E-customer loyalty (0.883) variables. Likewise, the correlation value of the E-service quality variable with itself is 0.825 which is greater than the correlation value with E-customer loyalty (0.529). Furthermore, the results of the discrimant variance analysis using the cross loading method can be summarized as follows.

Table 4. Discriminant Validity with Cross Loading

Variable	Items	customer satisfaction	E-Service Quality	Customer loyalty
E-customer loyalty	E-CL1	0.417	0.833	**0.890**
	E-CL2	0.434	0.804	**0.898**
	E-CL3	0.474	0.758	**0.925**
	E-CL4	0.546	0.793	**0.915**
	E-CL5	0.478	0.821	**0.915**
E-customer satisfaction	E-CS1	**0.768**	0.405	0.323
	E-CS2	**0.878**	0.466	0.509
E-service quality	E-SQ1	0.412	**0.854**	0.810
	E-SQ10	0.380	**0.802**	0.681
	E-SQ2	0.455	**0.864**	0.697
	E-SQ3	0.447	**0.845**	0.687
	E-SQ4	0.558	**0.822**	0.475
	E-SQ5	0.465	**0.786**	0.542
	E-SQ6	0.417	**0.853**	0.497
	E-SQ7	0.426	**0.866**	0.486
	E-SQ8	0.419	**0.815**	0.400
	E-SQ9	0.394	**0.817**	0.611

From the table above, it can be seen that the 5 E-customer loyalty statement items (E-CL1 – E-CL5) have the highest loading in the E-customer loyalty variable group, and so are the other variables, namely E-customer satisfaction and E-service. quality. This means that each statement item has a unique value (Sefnedi, 2007).

In accordance with the test results, it can be seen that each variable has a statement that has a higher correlation coefficient than other constructs outside of themselves, so it can be concluded that each variable has been supported by valid and reliable statements so that further data processing stages can be carried out immediately.

After the MMA analysis has been carried out, each research variable will be described as follows:

Table 5. Description of Research Variables

Variable	Average	TCR (%)	Information
E-customer loyalty	3.60	72.00	Currently
E-customer satisfaction	3.75	75.00	Quite satisfied
E-service quality	3.80	76.00	Pretty good

The table above shows that the E-customer loyalty variable has an average score of 3.60 with a TCR of 72% and it can be interpreted that the level of E-customer loyalty of E-money OVO users in Padang City belongs to the medium category. The E-customer satisfaction variable has an average of 3.75 with a TCR of 75% and it can be interpreted that the level of satisfaction of E-Money OVO users

in the city of Padang is quite satisfied. Meanwhile, the E-service quality variable has an average score of 3.80 with a TCR of 76% and it can be interpreted that the quality of services provided by the OVO E-Money provider is still classified as quite good. Before testing the research hypothesis, the results of the R square (R2) analysis are first stated as follows:

Table 6. Results of R square

Endogenous Variables	R square (R2)	Information
E-customer satisfaction	0.280	Low
E-customer loyalty	0.784	Tall

Based on the table above, it can be seen that the E-customer satisfaction variable has an R2 value of 0.280. This finding can be interpreted that the magnitude of the effect of E-service quality on E-customer satisfaction is 28% which belongs to the low category (Hair et al., 2010; Ghozali & Latan, 2015). Meanwhile, the E-customer loyalty variable has an R2 value of 0.784. This finding can be interpreted that the magnitude of the effect of E-service quality and E-customer satisfaction on E-customer loyalty is 78.4% which belongs to the high category (Hair et al., 2010). Furthermore, for hypothesis testing, a Structural Model Assessment (MMA) with bootstrapping method is used where the results can be summarized as follows:

Table 6. Hypothesis Testing Results

Direction	Original Sample	T Statistics	P Values	Decision
*E-service quality →*E-customer loyalty	0.847	26.098	0.000	H1 accepted
*E-service quality →*E-customer satisfaction	0.529	6.303	0.000	H2 accepted
*E-customer satisfaction →*E-customer loyalty	0.323	3.025	0.004	H3 accepted
*E-service quality →*E-customer satisfaction*→E-customer loyalty*	0.268	2.110	0.017	H4 accepted

Based ontabel diatas dapat dilihat bahwa pengaruh E-service quality terhadap E-customer loyalty memiliki original sample 0.847 dengan T statistics 26.098 (besar dari 1.96) dan p values 0.000 (kecil dari 0.05). Hasil ini dapat diartikan bahwa E-service quality berpengaruh positif terhadap E-customer loyalty, sehingga hipotesis pertama (H1) dapat diterima. Dengan demikian dapat dimaknai bahwa apabila provider E-Money OVO dapat memperbaiki E-service quality dimasa yang akan datang maka kandisi tersebut akan dapat meningkatkan E-customer loyalty dalam menggunakan E-Money OVO di Kota Padang. Temuan ini sejalan dengan hasil penelitian terdahulu (Zhang et al., 2018; Lin & Sun 2009) yang mengungkapkan bahwa e-service quality berpengaruh positif terhadap e-customer loyalty dalam berbelanja online.

The results of the SMA analysis related to the effect of E-service quality on E-customer satisfaction have an original sample of 0.529 with T statistics of 6.303 (larger than 1.96) and p values of 0.000 (small than 0.05). These results can be interpreted that E-service quality has a positive effect on E-customer satisfaction, so that the second hypothesis (H2) can be accepted. Thus, it can be interpreted that if the OVO E-Money provider can improve E-service quality in the future, this condition will be able to increase E-customer satisfaction in using OVO E-Money in Padang City. This finding is supported by the results of previous studies (Kaya et al., 2019; Lin & Sun 2009) which provethat e-service quality has a positive effect on e-customer satisfaction in online shopping.

Furthermore, the results of the analysis on the effect of E-customer satisfaction on E-customer loyalty obtained*original sample*0.323 with T statistics 3.025 (larger than 1.96) and p values of 0.004 (smaller than 0.05). These results can be interpreted that E-customer satisfaction has a positive effect on E-customer loyalty, so the third hypothesis (H3) can be accepted. Thus it can be interpreted that if in the future the OVO E-Money provider can increase E-customer satisfaction, this condition will be

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able to increase E-customer loyalty in using OVO E-Money in Padang City. This finding is in line with the results of previous studies (Nurcahyo, 2020; Lin & Sun 2009) whichthat e-customer satisfaction has a positive effect on e-customer loyalty in the case of online shopping.

The results of the analysis of the mediating effect of the E-customer satisfaction variable between E-service quality and E-customer loyalty have*original sample*0.268 with T statistics 2.110 (larger than 1.96) and p values of 0.017 (smaller than 0.05). These results can be interpreted that E-customer satisfaction mediates the relationship between E-service quality and E-customer loyalty, so the fourth hypothesis (H4) can be accepted. Thus it can be interpreted that if in the future the E-Money OVO provider can improve the implementation of E-service quality, it will be able to increase E-customer satisfaction and in the end will improve E-customer loyalty in using E-Money OVO in Padang City. This finding is supported by the results of previous studies(Lin & Sun, 2009; Zavareh at al., 2012) which revealed that E-service quality has a positive effect on E-customer loyalty through E-customer satisfactionin using e-commerce websites.

CONCLUSION

Based on the results of the analysis and discussion that have been presented previously, it can be concluded that E-service quality has a positive effect on both E-customer satisfaction and E-customer loyalty. In addition, E-customer satisfaction also has a positive influence on E-customer loyalty to OVO E-Money users in Padang City. Furthermore, the E-customer satisfaction variable is empirically proven to mediate the relationship between E-service quality and E-customer loyalty to E-Money OVO users in Padang City.

ACKNOWLEDGMENT

We would like to thank the Dean of the Faculty of Economics and Business, Bung Hatta University, who has given permission for the research, and the respondents who have participated in filling out the questionnaire.

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