

The Influence of E-Service Quality on E-Loyalty with E-Satisfaction as an Intervening Variable (A Study on OVO E-Wallet Users in the City of Bogor)

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Abstract— The advancement of information technology have provided convenience for many aspects of human life, one of which is the ease of transactions with the emergence of e-wallets among the public. The development of e-wallets in the midst of rapid technological development, makes competition between e-wallets increasingly tight. Companies to be able to win the market need to pay attention to the quality of service produced so that consumers feel satisfied with the experience they get and maintain their loyalty. This research aims to understand the influence of e-service quality on e-loyalty through e-satisfaction among OVO e-wallet users in Bogor City. This research follows an explanatory approach with a sample size of 97 respondents. The sampling technique used is non-probability sampling with the purposive sampling method through multistage. Data collected using offline questionnaire deployment method. The data collected is processed using SmartPLS SEM 3.2.9 software. The results show that e-service quality has a positive and significant influence on e-satisfaction. Additionally, e-service quality has a positive and significant influence on e-loyalty. Furthermore, e-satisfaction also has a positive and significant influence on e-loyalty. The research also found that there is an influence between e-service quality on e-loyalty through e-satisfaction with partial mediation. The suggestion from this research is that OVO needs to pay attention to the e-service quality of its products and post-consumption services provided to consumers so that consumers feel comfortable and get maximum benefits so that they will maintain their loyalty.

Keywords— E-Service Quality, E-Satisfaction, E-Loyalty.

I. INTRODUCTION

Society's dependence on technology and the internet cannot be denied, human activities run with internet support. Technological developments provide many changes and conveniences in the community environment, one of which is the ease of transactions with the creation of e-wallets among the community. E-wallets began to appear in Indonesia in 2007 when one of the private banks implemented a payment method with electronic money.

Various e-wallets appear with various features they offer. E-wallets that are popular in Indonesia include DANA, GoPay, OVO, ShopeePay, and LinkAja. Some of these e-wallets are embedded in the ecosystem and stand independently.

OVO is the longest established independent e-wallet application, while GoPay is one example of an e-wallet application embedded in the Gojek (ride-hailing apps) and Tokopedia (e-commerce) ecosystems. The formation of Goto in 2021 further provides an advantage for GoPay because of

its maximum use for the community for the needs of e-commerce payments, rides online, and food delivery using one e-wallet. With this merger, OVO's share ownership in Tokopedia was bought by Grab so that its ownership rose to 90% from 39% previously. OVO's position is indirectly replaced by GoPay which is present as the main payment method in Tokopedia e-commerce. Previously, OVO benefited a lot from Tokopedia and Grab, now it is likely that this will shift and OVO will benefit more from Grab. Meanwhile, GoPay has two large ecosystems that can increase its usage, namely Tokopedia and Gojek.

From a pre-survey conducted by the author of 30 OVO e-wallet users in Bogor City, it was found that e-service quality problems and brand switches were the most common reasons consumers stopped using OVO. As many as 43.3% of respondents stopped using the application because of their experience in terms of e-service quality. Respondents' unfavorable experiences of e-service quality were experienced in several ways, including unresponsive customer service, insecurity when using the product, and application system problems. Furthermore, 30% of respondents stopped using because they were more interested in other e-wallets, especially because of the access to payments in e-commerce and e-wallets that were integrated with the respondent's bank. As many as 26.7% others were dissatisfied with ineffective application services and complained about admin fees so they stopped using OVO. Based on the survey results that have been described, it is known that there is an e-loyalty problem for OVO users in Bogor city which is characterized by the cessation of consumers in using OVO service products.

OVO often receives complaints from consumers who express their dissatisfaction and disappointment with OVO services through social media X (Twitter). Problems that users often complain about include pending transactions, problematic fund top-ups, failed transactions and disappointing post-consumption services.

Losing consumers is an unpleasant thing for companies to experience, the dissatisfaction felt by consumers after product consumption that occurs continuously becomes the starting point of misunderstanding between consumers and companies (Griffin, 2005).

Based on the above phenomenon, the researcher will conduct research with the title "The Influence of E-Service Quality on E-Loyalty with E-Satisfaction as an Intervening

Variable (A Study on OVO E-Wallet Users in The City of Bogor). Specifically, this study aims to prove the formulation of the problem and explain: (1) The positive influence of e-service quality on e-satisfaction, (2) The positive influence of e-service quality on e-loyalty, (3) The positive influence of e-satisfaction on e-loyalty, (4) The positive influence of e-service quality on e-loyalty through e-satisfaction.

II. THEORITICAL FRAMEWORK

A. E-Loyalty

Hur et al. (2011) defines e-loyalty as a customer's intention to access the application again with or without an online transaction in the future.

B. E-Satisfaction

Ranjbarian et al. (2012) defines e-satisfaction as the level of satisfaction with the positive experience felt in conducting transaction or interactions with companies electronically.

C. E-Service Quality

Parasuraman et al. (2005) defines e-service quality as the extent to which an application is able to provide consumer activity facilities that include shopping, purchasing, and delivering products or services effectively and efficiently.

III. RESEARCH METHODOLOGY

The type of research methodology used in this research is explanatory research with a quantitative approach. The sampling techniques used non-probability sampling with the purposive sampling through multisatage. The sample calculation use theory from (Purba, 2006) with total of 97 respondennts is sufficient as a sample requirement that is able to represent the research and fulfill the normal distribution. This research data was collected using questionnaire and measure using a likert scale. This research data was analyzed using SmartPLS 3.2.9 sotfware based Structural Equation Modeling (SEM) analysis techniques.

IV. HYPOTHESIS

Based on theory and literature review, the following research hypothesis were formulated:

H1: It is suspected that there is a positive influence between e-service quality on e-satisfaction.

H2: It is suspected that there is a positive influence between e-service quality on e-loyalty.

H3: It is suspected that there is a positive influence between e-satisfaction on e-loyalty.

H4: It is suspected that there is a positive influence between e-service quality on e-loyalty through e-satisfaction.

V. RESULT

A. Convergent Validity and Discriminant Validity

Convergent validity testing is the initial stage in the validity test. The results of convergent validity are obtained from the outer loading value of each construct indicator and the Average Variance Extracted (AVE) value of each construct. Construct indicators are considered to have good convergent validity if each indicator has an outer loading

value above 0.7, and the Average Variance Extracted (AVE) value is more than 0.5.

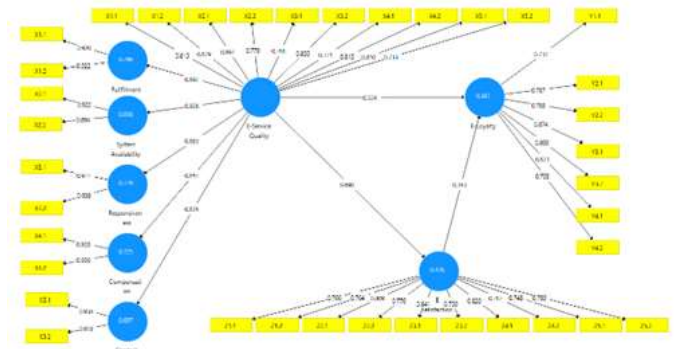


Fig. 1. Path Analysis Model Diagram

Figure 1 shows the outer loading of validity test results after deleted one indicator. It is known that the overall indicator value is > 0.70 and it can be interpreted that the convergent validity test has been fulfilled.

TABLE I. Composite Reliability and Average Variance Extracted (AVE)

	Composite Reliability	AVE
E-Satisfaction	0.942	0.617
E-Service Quality	0.950	0.657
E-Loyalty	0.933	0.665
System Availability	0.904	0.825
Fulfillment	0.918	0.848
Contact	0.923	0.858
Compensation	0.930	0.869
Responsiveness	0.930	0.869

Referring to table 1, it can be seen that the AVE value for each construct has a score value above 0.5. Thus, it can be concluded that convergent validity on the first order construct which includes three variables can be declared valid and the second order construct on the e-service quality variable has also met the requirements and can be said to be valid.

Discriminant validity testing is done by looking at the cross loading value. Variable validity can be said to be fulfilled if the construct indicator has a higher correlation with its construct than with other constructs. The value of discriminant validity can also be known through the acquisition of an AVE value > 0.5 . Based on the result in table 1, it is know that the AVE value of e-service quality dimension is more that 0.5. The AVE value of the e-service quality, e-satisfaction, and e-loyalty is also greater than 0.5.

B. Reliability Test

Reliability test is conducted to assess the consistency of research instruments in measuring a construct. The reliability test can be done in two ways, namely by looking at Cronbach's Alpha and Composite Reliability. Constructs can be said to be reliable if Cronbach's Alpha or Composite Reliability is above 0.70.

Referring to table 2, it can be seen that the composite reliability results in this study have a value above 0.7. Based on this, it can be concluded that the instruments used in this study can be said to be reliable. The composite reliability

value that exceeds 0.7 indicates that the level of consistency and reliability of the instrument is sufficient in measuring the construct being tested.

TABLE. 1 Cronbach's Alpha and Composite Reliability

	Cronbach's Alpha	Composite Reliability
E-Satisfaction	0.931	0.942
E-Service Quality	0.941	0.950
E-Loyalty	0.916	0.933
System Availability	0.788	0.904
Fulfillment	0.821	0.918
Contact	0.834	0.923
Compensation	0.849	0.930
Responsiveness	0.850	0.930

TABLE. 2 R-Square Value

	R-Square
E-Loyalty (Y)	0.374
E-Satisfaction (Z)	0.470

The results of Tabel 3 show that the e-satisfaction variable obtained an r-square value of 0.47. This shows that e-service quality affects e-satisfaction by 47% and the rest is influenced by other variables outside this study. In the e-loyalty variable, the r-square value is 0.374. This shows that e-service quality and e-satisfaction together affect e-loyalty by 37.4%, the rest is influenced by other variables outside this study.

TABLE. 3 F-Square Value

	E-Loyalty (EL)	E-Satisfaction (ES)	E-Service Quality (ESQ)
EL			
ES	0.099		
ESQ	0.087	0.908	

F-Square is used to see the magnitude of the influence of each exogenous variable on endogenous. F-Square with a value of 0.02 is said to have a small influence, 0.15 is said to be moderate, and 0.35 has a large influence on the structural level. Based on Table 4 it can be seen there is large influence, namely on the e-service quality on e-satisfaction in reuse of 0.908. Meanwhile, the variables in the small category are the e-service quality on e-loyalty in reuse of 0.087 and the e-satisfaction on e-loyalty in reuse of 0.099.

C. Hypothesis Testing

The research model was processed with the SmartPLS 3.2.9 for windows program. Path coefficient is done to test the hypothesis that has been determined by testing each hypothesis.

TABLE. 4 Direct Effect

	Path Coefficient	T-Statistic	P-Values
E-Service Quality -> E-Satisfaction	0.690	7.520	0.000
E-Service Quality -> E-Loyalty	0.324	2.545	0.011
E-Satisfaction-> E-Loyalty	0.353	3.553	0.000

Based on Table 5, the following conclusions can be drawn: H1: Testing the influence of e-service quality on e-satisfaction shows a probability value of 0.000 < 0,05 or 5%, which means

a significant influence. Respondents e-satisfaction of OVO users is influenced by e-service quality, with a positive direction of 69%, which is calculated as 0.690.

H2: Testing the influence of e-service quality on e-loyalty shows a probability value of 0.011 < 0,05 or 5%, which means a significant influence. Respondents e-loyalty of OVO users is influenced by e-service quality, with a positive direction of 32,4%, which is calculated as 0.324.

H3: Testing the influence of e-satisfaction on e-loyalty shows a probability value of 0.000 < 0,05 or 5%, which means a significant influence. Respondents e-loyalty of OVO users is influenced by e-satisfaction, with a positive direction of 35,3%, which is calculated as 0.353.

TABLE. 5 Mediation Test and VAF Hypothesis 4

		Path Coefficient	P-Value	Result
Direct Effect	ESQ->ES	0.690	0.000	Partial Mediation
	ESQ->EL	0.324		
	ES->EL	0.324	0.011	
Indirect Effect	ESQ->ES->EL	0.243	0.003	
VAF	VAF=Indirect Effect/Total Effect VAF =			

H4: Direct effect testing shows that the path coefficient of the e-service quality variable on e-loyalty has a positive direction with a score of 0.324 and a t-statistic significance of 2.545 > 1.96 and a p-value of 0.011 which is lower than 5%. This value proves that the e-service quality variable has a positive and significant effect on e-loyalty. Furthermore, the results of indirect effect testing on e-service quality on e-loyalty through e-satisfaction also show a positive direction of influence with a path coefficient value of 0.243 and a t-statistic significance of 2.991 > 1.96 and a p-value of 0.003 < 5% or 0.05. Based on the direct effect and indirect effect tests it can be conclude that the mediation relationship between e-service quality on e-loyalty through e-satisfaction is partial mediation. The amount of influence that e-satisfaction is able to provide from the e-service quality to e-loyalty according to calculation with the VAF formula is 0.4291 or 42.91%. The percentage results of 42.91% supports the theory of the form of mediating variables according to Hair et al., (2014) where the VAF value between 20%-80% is included in the partial mediation category.

VI. DISCUSSION

The test results on the direct effect test show that the e-service quality has a significant influence on e-satisfaction as explained by the P-Value. The direction of the relationship is unidirectional or positive, where if there is an increase in the e-service quality, the e-satisfaction explained through the path coefficient value also rises. Based on this, it can be interpreted that the formulation of hypothesis 1 is accepted. These results are in line with research conducted by Al-Dmour et al. (2019) on internet banking users in Jordan, proving that good internet banking service quality will result in high service user satisfaction.

The test results on the direct effect test show that the e-

service quality has a significant influence on e-loyalty as explained by the P-Value. The direction of the relationship is unidirectional or positive, where if there is an increase in the e-service quality, the e-loyalty explained through the path coefficient value also rises. Based on this, it can be interpreted that the formulation of hypothesis 2 is accepted. These results are in line with research conducted by Cahyanti et al. (2022) on ShopeePay users. In this study, it is proven that the better the e-service quality that ShopeePay has, the higher the e-loyalty of ShopeePay users on its service products

The test results on the direct effect test show that the e-satisfaction has a significant influence on e-loyalty as explained by the P-Value. The direction of the relationship is unidirectional or positive, where if there is an increase in the e-satisfaction, the e-loyalty explained through the path coefficient value also rises. Based on this, it can be interpreted that the formulation of hypothesis 3 is accepted. These results are in line with research conducted by Syahidah et al. (2023) on DANA Digital Wallet users in Indonesia, it is known that e-satisfaction has a positive and significant influence on e-loyalty. This indicates that with high e-satisfaction, the higher the user's e-loyalty to the DANA e-wallet.

The test results on the indirect effect show that the e-service quality has a significant influence on e-loyalty through e-satisfaction as a mediator, this is explained by the acquisition of the P-Value. The direction of the relationship is unidirectional or positive, where if there is an increase in the e-service quality mediated by e-satisfaction, the e-loyalty explained by path coefficient value will also increase. Based on this, it can be interpreted that the formulation of hypothesis 4 is accepted. The previous direct effect test also mentioned the positive and significant influence of the e-service quality on e-loyalty. This indicates that the mediation role produced by e-satisfaction is as a partial mediation, with the amount of absorption of influence calculated through VAF is 42,91%. These results are in line with research conducted by Sasono et al. (2021) on internet banking users in Indonesia, the results of the study prove that e-satisfaction significantly mediates the effect of e-service quality on e-loyalty. In other words, good e-service quality in an electronic service will affect the e-satisfaction felt by consumers which has an impact on consumer e-loyalty to service products.

VII. CONCLUSIONS

Based on the results of the findings in this study, the authors can conclude:

1. E-service quality has a positive and significant influence on e-satisfaction.
2. E-service quality has a positive and significant influence on e-loyalty.
3. E-satisfaction has a positive and significant influence on e-loyalty.
4. There is an influence between e-service quality on e-loyalty through e-satisfaction with partial mediation.

VIII. SUGESSTION

Based on the research on OVO users in The City of Bogor, the authors can proved recommendations:

1. OVO can improve post-consumption services by improving access to complaint service contacts to be provided on the main page so that it is more flexible to access, it is further hoped that OVO can provide real time consumer complaint services in the OVO application which are served directly by OVO. In addition, the authors also suggest that OVO can improve compensation services in terms of points to be packaged more attractively, such as by providing a higher point nominal provided that the transactions made have reached a certain nominal, so that users feel that giving points is interesting, useful, profitable and reliable, so it is hoped that the company can maintain consumer loyalty.
2. The author suggests that OVO should be more concerned with the information provided on the OVO main page to keep it up to date and immediately replace information that is no longer valid on the OVO page. There are also suggestions given regarding the security of using the application, OVO can provide a guarantee or warranty policy if consumer personal data is leaked due to OVO's negligence, so that consumers are not worried about using the application because of additional protection and consumer confidence can increase. On the other hand, OVO is advised to supervise post-consumption services so that it can be known and ensured that consumer complaints are handled properly.
3. To maintain the loyalty of OVO consumers, companies can increase the provision of promotions, such as providing "free admin fees" if the transaction nominal exceeds a certain nominal value, so that there is a feeling of benefit in the minds of consumers and encourage consumers to make transactions with higher values.

REFERENCES

- [1] Al-Dmour, R. H., Alnafouri, M., & Allwan, A. "The mediating role of e-satisfaction in the relationship between e-service quality and customer e-loyalty in internet banking," *Jordan Journal of Business Administration*, vol. 15, issue 2, pp. 209–226, 2019.
- [2] Cahyanti, A. A. A., Sudarmiatin, & Dhewi, T. S. "Effect of e-service quality and e-trust on e-loyalty of e-payment through e-satisfaction of shopee pay users," *International Journal of Humanities Education and Social Sciences*, vol. 2, issue 1, pp. 239–246, 2022.
- [3] Griffin, J. *Menumbuhkan & Mempertahankan Kesetiaan pelanggan*, Penerbit Erlangga, 2005.
- [4] Hair, J. F., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research," *European Business Review*, vol. 26, issue 2, pp. 106–121, 2014.
- [5] Hur, Y., Ko, Yong, J., & Valacich, J. "A structural model of the relationships between sport website quality, e-satisfaction, and e-loyalty," *Journal of Sport Management*, vol. 25, issue 5, pp. 458–473, 2011.
- [6] Parasuraman, A., Zeithaml, V. A., & Malhotra, A. "E-S-QUAL a multiple-item scale for assessing electronic service quality," *Journal of Service Research*, vol. 7, issue 3, pp. 213–233, 2005.
- [7] Purba, R. *Measuring Customer Perception Through Factor Analysis*, The Asian Manager, 2006.
- [8] Ranjbarian, B., Fathi, S., & Rezaei, Z. "Factors influencing on customers' E-satisfaction: A case study from Iran," *Interdisciplinary Journal of Contemporary Research in Business*, vol. 3, issue 9, pp. 1496–1511, 2012.
- [9] Sasono, I., Jubaedi, A. D., Novitasari, D., Wiyono, N., Riyanto, R., Oktabrianto, O., Jainuri, J., & Waruwu, H. "The impact of e-service quality and satisfaction on customer loyalty: Empirical evidence from



internet users in Indonesia,” *Journal of Asian Finance, Economics and Business*, vol. 8, issue 4, pp. 465–473, 2021.

[10] Syahidah, A. A., Fikry Aransyah, M. “The mediating role of e-satisfaction in the relationship between e-service quality and customer e-

loyalty in internet banking,” *Jurnal Sistem Informasi dan Komputer*, vol. 12, issue 1, pp. 36–44, 2023.