

The Role of After-sales Service for Online Shopping Loyalty

Budi Setyanta¹, Dian Citaningtyas Ari Kadi², Danang Wahyudi², Kartinah², Titop Dwiwinarno² and Aswin Siddik Sarumaha³

¹*Fakultas Ekonomi Universitas Janabadra Yogyakarta, Tentara Rakyat Mataram street, Yogyakarta, Indonesia*

²*Fakultas Ekonomi Dan Bisnis, Universitas PGRI Madiun, Madiun, Indonesia*

³*Fakultas Ekonomi Universitas Janabadra Yogyakarta, Yogyakarta, Indonesia*

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Abstract: This study aims to identify the effect of after-sales service on online shopping loyalty. Sample 200 in this study is people who have done online shopping to meet the sample adequacy requirements in the structural equation model test. The results of the study indicate that after-sales service moderates the customer loyalty model. This study only uses 200 samples and does not divide the sample according to specific criteria. Future research is expected to increase the number of samples and divide the sample based on specific criteria so that the results of the study can be more precise in explaining the increasing phenomenon of online shopping.

1 INTRODUCTION

Online shopping is a rapidly growing phenomenon and is one of the most astonishing trends (Lim et al., 2016). The definition of online shopping in this study is shopping through the Internet. The Internet affects consumer behaviour in conducting searches, shopping and product payments (Yannopoulos, 2011). At present, the Internet is developing not only as a means of communication and information search engine but has become one of the essential tools to improve competitiveness. The Internet plays a role in encouraging sales transactions and increasing cost efficiency (Yannopoulos, 2011). The Internet because it affects the daily lives of consumers (Nam, 2003). The growth of internet users in Indonesia is very rapid and is estimated to reach 143 million in 2017 (Bohang, 2018) so that Indonesia is a potential market for online stores. Although the number of online transactions has increased, more than half of internet users have expressed confusion and frustration at online shopping activities (Horrigan, 2008). Perceived inconvenience indicates that in addition to providing the benefits of online shopping it also faces risks due to uncertainty (Egeln and Joseph, 2012). To reduce customer perceived risk, the seller provides after-sales service (Asugman et al., 1997). After-sales service is an ongoing relationship with customers after purchase (Sigala et al., 2008), by providing guarantees or repair services to increase customer satisfaction and

loyalty (Ladokun et al., 2013). After-sales service can increase competitive advantage because it can attract the attention of customers (Chien*, 2005). Companies invest significant funds to make differentiation by providing additional services (Loomba, 1998).

Many studies on the role of after-sales service on purchasing behaviour indicate that after-sales service has a positive effect on customer behaviour. After-sales service is a necessary construct that influences customer behaviour. Customers receive positive benefits from the after-sales service provided, but customer perceptions of after-sales service vary. Previous research put the role of aftersales service as a predictor of buying behaviour has not yet explained the role of after-sales service in moderating buying behaviour.

This research aims to identify the role of aftersales service as a moderating model of customer loyalty. Transactions that are potentially at risk, customers need a loss-free guarantee. Even though the product is of good quality and profitable for the customer, if the customer faces a risk, then aftersales service becomes an essential consideration in the decision-making process. Customers who give full trust to the seller may be insignificant after-sales service in the buying process.

This study divides customers into two groups. Groups that have the perception that after-sales services are critical, namely high groups and groups that have the perception after-sales services are less criti-

cal, namely low groups.

2 HYPOTHESIS

Risk plays a vital role in consumer behaviour because it influences the process of making consumer purchasing decisions and reduces consumer intention to make online purchases (Barnes et al., 2007). Risk includes all the negative consequences of consumer purchases that cannot be anticipated. There are two theoretical perspectives on risk: one that focuses on the uncertainty of the outcome of the decision to make a purchase and the other focuses on the costs or consequences of the results of online purchases (Barnes et al., 2007). There is no agreement on the definition of risk, but often more shows the results of adverse decisions (Gefen, 2002a). Consumers have differences in assessing risk, and there are differences in consumer attitudes towards risk.

Previous research shows that perspectives of risk are negatively and significantly related to online purchases; if customer perceptions of risk are high, then the attitude of customers to online shopping is low. Based on this, the second hypothesis in this study is.

H1: Risk perception has a negative effect on online shopping loyalty

The perceived benefits of online shopping compared to buying in traditional stores is one of the main driving factors for online purchases. The choice of one's behaviour to make an online purchase is a consequence of the satisfaction felt by the customer.

Consequences that consumers feel significantly influence the behaviour of online shopping. In other words, an individual will make an online purchase if they feel the benefits (positive consequences) or will not make an online purchase if the consumer feels critical negative consequences. This finding is consistent with research from (Kurnia and Chien, 2003) which indicate that perceived benefits and ease of use are felt to have a positive effect on online shopping behaviour.

Consumers' perceived consequences significantly influence online shopping behaviour. In other words, an individual will make an online purchase if they feel the benefits (positive consequences) or will not make an online purchase if the consumer feels critical negative consequences.

(Forsythe and Shi, 2003) found evidence that there was a positive and significant relationship between perceived internet shopping profits and the frequency of spending and the amount spent online. Based on previous research, the first hypothesis in this study is.

H2: Perception of benefits has a positive effect on online shopping loyalty

Trust is an essential variable in online purchasing because one party does not take advantage of the weaknesses of the other party in trade, willingness to accept the actions of others because of the expectation that the other party takes actions that are important to him (Mayer et al., 1995). Trust in the context of online purchases is related to risk factors (Van der Heijden et al., 2003). Trust is one of the main factors that influence the context of online purchases and as a determinant of individual attitudes or online purchase intentions (Gefen et al., 2003). Trust indicates that higher consumer confidence in online shopping, higher shopping behaviour. Based on previous research, the third hypothesis in this study is.

H3: Trust has a positive effect on online shopping loyalty

After-sales service is a continuous relationship with customers after the purchase (Sigala et al., 2008), by providing after-sales services and ensuring reliable product functions (Ahn and Sohn, 2009), for example warranty or repair services, so as to increase satisfaction and customer loyalty (Ladokun et al., 2013). After-sales service can increase competitive advantage because it can attract the attention of customers (Chien*, 2005).

After-sales service is an activity carried out by the company after the purchase of products that can increase competitive advantage by ensuring that the product is problem-free for the duration of the product, failed product replacement and guaranteed repairs during the warranty period, timely repairs and affordable repair costs.

The higher the after-sales service provided to customers, the greater customer loyalty because of getting a guarantee of the costs spent. After-sales service is a variable that can moderate customer loyalty by divide into high and low after-sales services. Based on this understanding, the hypothesis in this study is.

H4: After-sales service moderates the effect of risk perception on customer loyalty on online shopping

H5: After-sales services moderate the influence of perceived benefits on customer loyalty on online shopping

H6: After-sales service moderates the effect of trust in customer loyalty on online shopping

3 RESEARCH METHODS

3.1 Population and Samples

The object in this study is online shopping loyalty. The population in this study are people who have the intention to repurchase online shopping intending.

In this study, the sample size to be taken is 200 according to the requirements of the study sample adequacy using SEM analysis tools.

Data collection uses a questionnaire given to people who have the intention of shopping online through convenience sampling techniques.

4 RESULTS AND DISCUSSION

The Structural Equation Modeling (SEM) test uses sample adequacy assumptions, data normality and outliers. The number of respondents in this study was 200 to fulfil the sample adequacy requirements.

Table 1: Normality Test Result

item	Before Transformation				After Transformation			
	skew	c.r.	kurtosis	c.r.	skew	c.r.	kurtosis	c.r.
R2	-0.61	3.005	0.408	4.715	0.032	2.337	0.108	2.21
R3	0.992	1.62	1.02	3.77	0.761	1.208	1.335	2.09
M1	1.382	1.54	1.46	4.05	1.046	1.334	1.06	1.89
P1	0.592	3.221	0.451	3.332	0.026	0.497	-0.288	-1.058
P2	0.339	4.684	-0.857	3.102	0.328	1.382	-0.985	-0.997
Multivariate		89.081	15.557				66.037	9.048

The normality test consists of two parts. Univariate abnormalities identified from the value of the critical ratio (c.r) skewness and multivariate normality are identified from the value of the critical kurtosis ratio (c.r). Univariate and multivariate normality is accepted if the critical ratio (c.r) is between the critical values of -2.58 and 2.58. The results of the normality test after data transformation indicate that the data is normally distributed univariately. Although the distribution of multivariate normality data is not fulfilled,

because the amount of research data is quite large ($n > 100$), the assumption of normality can be ignored.

Table 2: Outliers Test Result

Observation number	Mahalanobis d-squared	p1	p2
104	102.96	0	0.09
95	99.04	0	0.08
88	83.75	0	0.06
87	66.53	0	0.05
52	63.05	0	0.04
33	58.44	0	0.04
9	49.32	0	0.04

The number of indicators in this study is 25, and the case said that if the outliers are married, the Mahalanobis d-Square value is greater than $\chi^2 (25; 0.001) = 44,314$. The test results in this study indicate that there are six outlier cases, but because there are no specific reasons for issuing outlier data, the data can still be used in subsequent statistical tests.

Table 3: Goodness-of fit test results

Indeks	Cut-off	Result	Conclusion
Chi Square	Kecil	382.091	
P	≥ 0.05	0.822	Fit
CMIN/DF	≤ 2.00	0.981	Fit
GFI	≥ 0.90	0.934	Fit
AGFI	≥ 0.90	0.871	Marginal
CFI	≥ 0.95	1	Fit
TLI	≥ 0.95	0,995	Fit
RMSEA	≤ 0.06	0.01	Fit
IFI	≥ 0.95	0,990	Fit

Goodness-of-fit test to identify whether the model developed can explain data according to the underlying theory. The goodness-of-fit test results identify only AGFI that has marginal values so that the research model is indicated to be fit and able to explain the phenomenon of research.

Table 4: Regression Test Before Moderation

			β	C. R
Perception Risk	→	Loyalty	-0,104	205
Perception Benefit	→	Loyalty	0,162	3,11
Thrust	→	Loyalty	0,117	2,17

To identify the causality relationship between research variables and hypothesis testing, the Structural Equation Modeling (SEM) test is used, by analyzing the significance level of the effect of independent variables on the dependent variable based on the CR value

(z-count) greater than or equal to the z-table value (z-count \geq z-table). The test results before being moderated by the trust as follows.

The regression test results between the risk perception variables and loyalty indicate that perceived risk has a positive and significant effect on loyalty ($\beta = -0.104$, and CR = 2.05), so H1 is supported. The regression test results indicate that the perceived risk hurts online shopping loyalty, so to increase online shopping loyalty, a program is needed to reduce perceived risk.

The implies of the result that perceived risk influence online shopping behaviour. The results of this study support previous research. (Barnes et al., 2007) which states that risk plays a vital role in consumer behaviour because it affects the process of making consumer purchasing decisions and reduces the intention of consumers to make online purchases. (Gefen, 2002b)(Liu, 2012)(Sweeny et al., 1999) which state that the chance of loss experienced by consumers both financial and nonfinancial losses will have a negative and significant effect on the attitude of online shopping. Although tested in a different context from previous research, this study identifies that the effect of perceived risk on loyalty tends to lead to negative and consistent influential phenomena.

The regression test results between perceived benefit variables and online shopping loyalty indicate that perceived benefits have a positive and significant effect on online shopping loyalty ($\beta = 0.162$, and CR = 3.11), so H2 is supported. The result indicates that if the benefits perceived by consumers as a result of online shopping are getting bigger, the positive attitude of consumers towards online shopping is getting bigger.

The results of this research are supports the opinion of (Forsythe and Shi, 2003) which states that the perceived benefits of online shopping compared to purchases in traditional stores is one of the main driving factors of purchase, because one's choice of behaviour to make online purchases is a consequence of satisfaction perceived by customers. In other words, an individual will make an online purchase if they feel the benefits (positive consequences) or will not make an online purchase if the consumer feels essential negative consequences. This finding is consistent with research from (Kurnia and Chien, 2003), who found the fact that perceived benefits and ease of use were positively affected by online shopping attitudes.

Although tested in a different context with previous research, this study identifies that the influence of perceived benefits on online shopping loyalty tends to lead to a phenomenon that has a positive and consistent effect.

This study also found the fact that trust had a positive and significant effect on online shopping loyalty ($\beta = 0.117$, and CR = 2.17), so the third hypothesis (H3) in this study was supported. The result indicates that if consumers increasingly believe in online shopping, the positive attitude of consumers will be higher in doing online shopping. Online business actors must increase consumer trust because trust is a vital variable in online purchases due to uncertainty. Online stores require effort to improve integrity, kindness, and competence and provide what has been promised to strengthen customer loyalty.

The results of this study support previous studies conducted by (Liu, 2012)(Teo, 2002) which state that trust is one of the main factors that have a positive effect in the context of online purchases, (Gefen et al., 2003). That the higher the customer's trust in online shopping, the higher the customer's attitude towards online purchases. Although tested in a different context with previous research, this study identified that the influence of trust on customer loyalty tends to lead to a phenomenon that has a positive and consistent effect.

Table 5: Regression Test Before Moderation

			B	High C.R	β	Low C.R
Perceived Risk	→	Loyalty	-0,091	1,35	-0,233	2,04
Perceived Benefit	→	Loyalty	0,221	2,94	0,181	2,19
Thrust	→	Loyalty	0,193	1,56	0,126	2,52

difference chi square test ($\Delta\chi^2$) = 572,366 - 544,027 = 28,34

difference df (Δdf) = 338 - 301 = 37

chi square table (37;0,05) = 52,192

chi square table (χ^2) > difference chi square calculate ($\Delta\chi^2$)

The Constrained model is significantly different from the Unconstrained Model

The results of the multi-group regression test after moderating after-sales service indicate that after-sales service moderate the research model (chi-square table (χ^2) > chi-square difference count ($\Delta\chi^2$)) so that the constrained model is significantly different from the unconstrained model.

Table 5 shows that in the after-sales service group, high perceptions of risk and trust do not affect online shopping loyalty, while perceived benefits have a positive and significant effect on online shopping

loyalty. In the low after-sales service group, that perceived benefits, perceived risk and trust affected online shopping loyalty.

In the high after-sales service group, the results of the regression test between risk perception variables towards online shopping loyalty indicate that risk perception does not affect online shopping loyalty ($\beta = -0.091$, C.R. = 1.35). The results of this study indicate that after-sales service as providing a solution that reduces risk perception — various opportunities for losses that occur on online shopping minimized by the guarantee.

In the low after-sales service group, this study indicates that risk perceptions have a negative and significant effect on online shopping loyalty ($\beta = -0.233$, C.R. = 2.04). This result indicates that aftersales services provided by online stores do not reduce perceptions opportunities for losses that can be borne by the customer. In the low after-sales service group, customers consider that the aftersales service provided by online stores is not a variable that significantly reduces potential losses. The results of this study support the fourth hypothesis (H4).

Based on the multi-group test, it identifies that the influence of after-sales service moderated the effect of risk perception variables on online shopping loyalty in the high and low groups because the chi-square table (χ^2) > chi-square count difference ($\Delta\chi^2$) — after-sales service as having a different influence on the effect of risk perception on online shopping loyalty.

The regression test results between the perceived benefit variables and online shopping loyalty at high after-sales service ($\beta = 0.221$, C.R. = 2.94) indicate that perceived benefits have a positive and significant effect on online shopping loyalty. This result shows that the after-sales service guarantee facility improves customer perceptions of the benefits received on online shopping.

The regression test results between the perceived benefit variables and online shopping loyalty at low after-sales services ($\beta = 0.181$, C.R. = 2.19) indicate that the perception of benefits has a positive and significant effect on online shopping loyalty. The moderation test results show that in high and low after-sales services, the benefit perception variable influences online shopping loyalty. Based on the multi-group test, it identifies that the influence of after-sales service moderated the effect of benefit perception variables on online shopping loyalty in the high and low groups because the chi-square table (χ^2) > the difference in chi-square count ($\Delta\chi^2$). The results of this study support the fifth hypothesis (H5). After-sales service is perceived to have a different influence on high and low after-sales service groups, identify

from different standard coefficient quantities in the high and low after-sales service group.

The results of the multi-group regression test in the high after-sales service group indicate that the trust variable does not affect online shopping loyalty ($\beta = 0.193$, C.R. = 1.56). The results of this study indicate that customers who have a positive perception of after-sales service, trust, reliability, the ability to maintain customer privacy, complete information, and the belief that the product does not affect customer loyalty. In the group of customers who have a positive perception of after-sales service have the perception that after-sales service can guarantee trust in online shopping.

The results of the multi-group regression test in the low after-sales service group showed that the trust variable affected online shopping loyalty ($\beta = 0.126$, C.R. = 2.52). The results of this research indicate that trust affects customer loyalty. In the low after-sales service group, trust is an essential variable in customer loyalty.

Based on the multi-group test, that the effect of after-sales service moderated the influence of the trust variable on online shopping loyalty in the high and low groups because the chi-square table (χ^2); the difference in chi-square count ($\Delta\chi^2$). The results of this study support the sixth hypothesis (H6). After-sales service as having a different influence on consumer perceptions about the effect of trust in after-sales services.

5 CONCLUSIONS

This study focuses on high and low after-sales services, which in the previous study have not explained yet. Before moderates test the level of after-sales service online shopping loyalty, risk perception, perceived benefits and trust affect online shopping loyalty.

After moderation test, in the high-after-sales service groups, perceived benefits affect online shopping loyalty, but perceived risk and trust not influence. In the low after-sales service group, perceived benefits, perceived risk and trust affect online shopping loyalty.

This research indicates that after-sales service moderates online shopping loyalty.

The results of this study as a basis for online stores in developing marketing strategies to increase online shopping loyalty by designing stimuli that can increase customer loyalty. The stimulusstimulus in question is related to increasing online shopping loyalty, namely by considering the different levels of after-sales service.

Future research can develop this research model in the context of loyalty to online shopping outside and research outside the context of online shopping loyalty — subsequent research to improve generalization of broader concepts.

This research model uses online shopping loyalty as an object of research, so it has an impact on the limitations of generalizing the concept of research, and its application only in Yogyakarta. In connection with these limitations, it is recommended to illustrate this research model at different locations and objects to improve the generalization of the concept.

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