

The Effect of Website Design Quality, E-Service Quality, and Brand Image on E-Satisfaction and E-Loyalty of E-Commerce Customers

Tesa Daniati, Rr. Ratna Roostika

Department of Business and Economics, Universitas Islam Indonesia

Abstract: This study aims to analyze the variables that affect the satisfaction and loyalty of e-commerce customers. This study uses a structural equation model (SEM) analysis. The data used in this study is secondary data collected using a questionnaire from e-commerce customers in western Indonesia as many as 300 respondents. The results found that Website Design Quality and E-service Quality positively and significantly affect E-satisfaction. Brand Image positively and significantly affects E-Loyalty. Then E-satisfaction positively and significantly affects E-Loyalty.

Keywords: SEM, Satisfaction, Loyalty, E-commerce

I. INTRODUCTION

According to statistics, nearly 4.57 billion people were active internet users as of July 2020, this represents 59 per cent of the world's population. According to Internet World Stats, Indonesia's internet users in 2000 were 2,000,000 people with a population of 211,540,429, then increased significantly in 2020 as many as 171,260,000 people with a population of 273,523,615. It shows that internet growth in 2000-2020 is 85.60%. Indonesia is the 4th largest internet user in the world. The rapid development of information technology has an impact on several sectors such as social, political and economic. This condition encourages business people to sell online, otherwise known as e-commerce.

According to Wong (2010), e-commerce includes buying, selling and marketing goods and services through electronic commerce. According to Wear Social and Hootsuite, around 90% of internet users in Indonesia have shopped online. Meanwhile, according to data from the Indonesian Ministry of Communication and Information Technology in 2019, the growth of e-commerce in Indonesia reached 78% and was the highest in the world. This phenomenon has triggered the birth of many online transaction platforms. The data for the second quarter of 2020 shows that Shopee's monthly visitor numbers are 93.4 million, Tokopedia with 86.1 million, Bukalapak with 35.2 million, Lazada with 22 million and Blibli with 18.3 million. In this study, the author limits the scope of the research to only that e-commerce based on the influence of website design quality, brand image, e-service quality toward consumer satisfaction and loyalty.

According to Flavian et al (2009), the quality of the design does not only show a good appearance but also the

level of ease of use of a product. Design quality can affect the affective perception of the user. Based on the Expectation-Confirmation Theory (Oliver, 1977; Oliver, 1980), when the perceived quality of website design exceeds consumer expectations, they will feel satisfied.

E-service quality can also affect customer satisfaction and loyalty. According to Zeithaml et al (2005), e-service quality shows the extent to which a website can facilitate consumer activities efficiently and effectively, such as shopping, purchasing, and others. Research by Prasetyo et al (2018) on 100 Lazada consumers showed that e-service quality had a positive effect on e-satisfaction. Meanwhile, Perwira et al (2016) found that e-service quality had a significant effect on the satisfaction and loyalty of 115 Tokopedia consumers.

In addition to the preceding two variables, brand image is also an important factor in customer satisfaction and loyalty. According to Kotler (2002), brand image is a consumer's perception of both the image of the company and the products. Pramudyo (2012) explains that image has a significant role and can affect consumer perceptions and expectations about the products and services offered so that it can affect consumer satisfaction. Furthermore, Pramudyo (2012) found a positive influence of brand image on customer loyalty.

However, the research by Yeridha et al (2019) found that brand image did not affect GO-JEK customer loyalty. In addition, research by Romadhan et al (2019) also found that e-service quality did not affect the loyalty of Lazada consumers. Therefore, we are interested to research this topic with the title the effect of website design quality, e-service quality and brand image on e-satisfaction and e-loyalty of e-commerce customers.

II. THEORETICAL REVIEW

2.1. Theoretical Background

According to Sutabri (2012), E-commerce is the distribution, purchase, sale, marketing of goods and services through electronic systems such as the internet or television, websites, or other computer networks. Meanwhile, according to Jony (2010), e-commerce (electronic commerce) is the buying, selling and marketing of goods and services through

electronic commerce. In the context of e-commerce, customer satisfaction and loyalty are important factors that must be a concern for an e-commerce company.

Consumer Loyalty

Loyalty is defined as a repeat purchase behaviour and is driven by a favourable attitude towards the subject including aspects of attitude and behaviour. True loyalty shows higher purchase intention (Shankar et al., 2003). According to Srinivasan, et al. (2002), e-loyalty is defined as a customer's positive attitude towards e-retailers which results in repeat purchase behaviour. Oliver (1997) defines loyalty as a customer's commitment to making repeated purchases at the same company.

The change to online consumption has made researchers develop the concept of loyalty into e-loyalty. Anderson and Srinivasan (2003) define e-loyalty as the perceived benefits of consumers from online sites that encourage repeat purchase behaviour.

E-Satisfaction

E-satisfaction is defined as customer satisfaction related to previous purchase experiences in e-commerce (Anderson and Srinivasan, 2003). According to Oliver (1997), satisfaction is defined as pleasurable fulfilment. Meaning that consumers feel that the fulfilment of consumption of a need, desire, goal, and so on makes consumers feel happy.

Satisfaction can be interpreted as an expression of whether consumers like it or not that compares expectations and reality to a product and service obtained (Kotler and Keller, 2007).

Website Design Quality

According to Flavian et al (2009), the quality of the design does not only show a good appearance but also the level of ease of use of a product. Design quality can affect the affective perception of the user. Based on the Expectation-Confirmation Theory (Oliver, 1977; Oliver, 1980), when the perceived quality of website design exceeds consumer expectations, they will feel satisfied. Thus, website design quality can be defined as the quality of the website as measured by all aspects such as appearance, navigational ease, language used and the suitability of the page with customer preferences.

According to Yuhefizar (2013), the website is the entire web page of a domain. The quality of a web design can be determined by the quality of the navigation system and website appearance (McKnight et al. 2002; Cyr et al. 2008; Zhou et al. 2009; Wilson and Keni 2018; Bernarto et al. 2019).

E-Service Quality

Parasuraman and Maholtra (2005) define e-service quality as the extent to which the website can facilitate efficient and effective consumer activities such as shopping,

purchasing, and others. According to Zeithaml et al (2005), e-service quality shows the extent to which a website can facilitate consumer activities efficiently and effectively, such as shopping, purchasing, and others. Research by Prasetyo et al (2018) on 100 Lazada consumers showed that e-service quality had a positive effect on e-satisfaction. Meanwhile, Perwira et al (2016) found that e-service quality had a significant effect on the satisfaction and loyalty of 115 Tokopedia consumers.

Customer ratings of website quality and e-service quality include their experience when interacting with the site and post-service satisfaction. Core service quality includes efficiency, fulfilment, system availability, privacy. Meanwhile, e-recovery service quality includes responsiveness, compensation, contacts and others (Parasuraman & Grewal, 2000).

Brand Image

A brand is a name, term, sign, symbol, design, or a combination of these that indicates the identity of a seller's products and services that differentiates his products from those of competitors (Kotler & Armstrong, 2008). Furthermore, Kotler (2002) defines brand image as a consumer's perception of the image of the company itself and the products produced by the company. Meanwhile, According to Setiadi (2003), brand image is defined as a representation of the overall consumer perception of the brand which is formed from information and consumer experiences of the product.

Image has a significant role in influencing consumer perceptions and expectations about the products and services offered by the company so that it can affect consumer satisfaction (Pramudyo, 2012).

2.2. Previous Study and Hypothesis

Website design quality on e-satisfaction

Research conducted by Lin (2010) found that the quality of website design has a positive effect on customer satisfaction. The better the website design quality, the more impact it has on increasing customer satisfaction (Bernarto et al., 2019). The Expectation-Confirmation Theory (Oliver, 1977; Oliver, 1980) explained that when the perceived quality of website design exceeds consumer expectations, they will feel satisfied. Many empirical studies have found a significant effect of website design quality on satisfaction (McKinney & Yoon, 2002; Shim et al., 2002; Cheung & Lee, 2005; Wixom & Todd, 2005). Therefore, we formulate a hypothesis:

H1: Website design quality has a positive effect on E-satisfaction of e-commerce customers.

E-service quality on e-satisfaction

Tobagus' research (2018) found that e-service quality has a positive and significant effect on the e-satisfaction of Tokopedia customers. E-service quality is positively related to

e-satisfaction. Increasing e-service quality will have an impact on increasing e-satisfaction.

According to research by Permana et al (2018), there is a significant influence between each dimension of electronic service quality such as efficiency, system availability, fulfilment, privacy, responsiveness, compensation, and contact and Shopee customer satisfaction in Bandung. Hence, we formulate the following hypothesis:

H2: E-service quality has a positive effect on E-satisfaction of E-commerce customers

Brand image of e-satisfaction

According to Pramudyo (2012), the image has a significant role in influencing consumer perceptions and expectations about goods or services. Thus, an image of a product can affect consumer satisfaction. According to Pramudyo (2012), the brand image has a significant role in influencing consumer perceptions and expectations about the goods or services offered by the company which then affects consumer satisfaction.

Research by Malik, et al (2012) found that brand image has a positive and significant effect on customer satisfaction. Hatane and Julian (2019) also found the influence of brand image on customer satisfaction. The better the image of a brand, the higher the level of satisfaction felt by consumers. Hence, we formulate the following hypothesis:

H3: Brand image has a positive effect on e-satisfaction of e-commerce customers

Website design quality on e-loyalty

Customer satisfaction is an important factor that has the most influence on customer loyalty (Kanning and Bergmann, 2009; Amin., 2010). Research by Puspitasari (2013) found that website quality has a significant effect on customer loyalty. Website quality affects the perceived value of customers. These results are in line with Fahmi (2018) who found that website quality has a positive and significant effect on loyalty where website quality has a positive effect on online shop customer loyalty in Medan City. Hence, we formulate the hypothesis:

H4: Website design quality has a positive effect on e-loyalty of e-commerce customers

E-service quality on e-loyalty

Laurent (2016) found that e-service quality has a positive effect on customer loyalty. It means that the e-service quality provided by the company is good enough, so that loyalty is formed. Meanwhile, Perwira et al (2016) also found that e-service quality had a significant effect on loyalty.

Meanwhile, Ramadhan et al (2019) found that e-service quality did not have a significant effect on the loyalty variable in the Lazada application. Hence, we formulate the hypothesis

H5: E-service Quality has a positive effect on e-loyalty of e-commerce customers.

Brand image on e-loyalty

Research by Pramudyo (2012) found that there is a significant influence of brand image on loyalty. These results indicate that consumers become loyal due to the positive brand image of the company.

On the other hand, Yeridha et al (2019) found that brand image had no significant effect on customer loyalty for GO-JEK online motorcycle taxi services in Samarinda. Hence, we formulate the hypothesis:

H6: Brand image has a positive influence on e-loyalty of e-commerce customers

E-satisfaction on e-loyalty

Research by Santika and Satria (2018) found that e-satisfaction has a positive and significant effect on the e-loyalty of tourists using online travel sites in Bali. Lin and Sun (2009) said that customer e-satisfaction can directly and positively affect customer e-loyalty.

Akhter et al. (2011) found that customer loyalty is directly and positively influenced by customer satisfaction. These results are in line with research by Lin and Sun (2009) which found that customer e-satisfaction can directly and positively affect customer e-loyalty.

Santika and Satria (2018) found that e-satisfaction has a positive and significant effect on the e-loyalty of tourists using Bali travel online sites. Therefore, the more customer satisfaction increases, the more loyalty increases. Meanwhile, customers who are not satisfied with the products and services purchased will tend to switch to other brands and will leave that brand (Anderson and Srinivasan, 2003). Hence, we formulate the hypothesis:

H7: E-satisfaction has a positive effect on e-loyalty of e-commerce customers.

Meanwhile, the research model that will be used can be seen in the figure below:

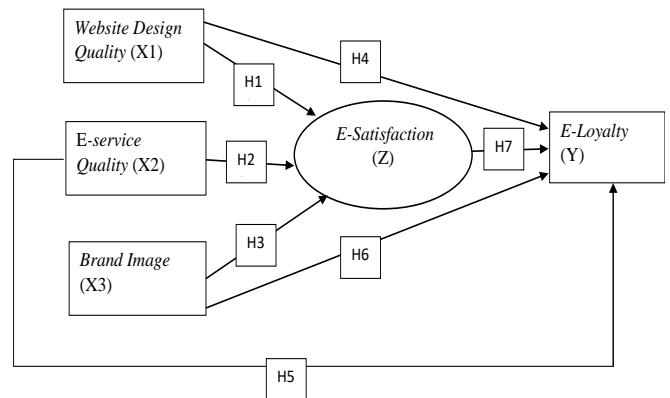


Figure 1. Research Model

III. METHODOLOGY

This research was conducted in Sumatra and Java. The population is Indonesian e-commerce consumers and customers. The sample of this research is consumers and e-commerce customers who use Shopee, Tokopedia, Bukalapak, Lazada, JD.id, Blibli and other e-commerce companies. The number of samples is determined with a maximum $(33 + 5) \times 10 = 380$ and a minimum $(33 + 5) \times 5 = 190$. For this study, a sample of 300 respondents was taken.

The sample in this study was taken with a non-probability sampling approach. Distributed by convenience sampling method to those who can be found on social media and willing to give answers as respondents. Data was collected through a questionnaire using Google Form. This study uses a Likert scale with five scales, namely Strongly Agree (SS), Agree (S), Disagree (KS), Disagree (TS), Strongly Disagree (STS).

While the indicators used to measure each variable are as follow:

Table 1. Measurement Variable

Website Design Quality (Dianne et., al 2008; Nazirah & Utami, 2017)
<ol style="list-style-type: none"> 1. The menu is neatly and arranged 2. Product information can be found easily 3. Website looks more professional with good design. 4. Product information is displayed consistently and sensibly. 5. The appearance of the website (colours, boxes, menus, navigation tools, etc.) looks good and is displayed well 6. Websites are easy to browse 7. Grouping, ordering, and overall arrangement are understandable and easy to use 8. All product options, product attributes, and product information are well designed and displayed 9. Product availability and product diversity are well explained
E-Service Quality (Zeithaml et al. 2009)
<ol style="list-style-type: none"> 1. Efficiency 2. Fulfilment 3. System availability 4. Privacy 5. Responsiveness 6. Compensation 7. Contact Canter
Brand Image (Wulandari et al., 2018)
<ol style="list-style-type: none"> 1. Quality of products 2. Produced by a trusted company 3. Brands are easy to get 4. A strong brand in the minds of consumers 5. A trustworthy brand 6. Brands are easy to identify 7. Brands provide more benefits
E-Satisfaction (Ranjbarian et al., 2012; Prayitno, 2015)
<ol style="list-style-type: none"> 1. Satisfied with the quality of service 2. Recommend products/services to others 3. the desire not to switch to another product/service 4. Proud to use the service/product 5. Satisfied with the final product/service received
E-Loyalty (Anderson dan Srinivan, 2003)
<ol style="list-style-type: none"> 1. Consumers don't want to switch to other online sites 2. Consumers try to use this online site when making a purchase 3. When consumers want to place an order, this online site is the first choice

4. Consumers feel happy to use this online site
5. For consumers, this online site is the best
6. Consumers believe that this site is the consumer's favourite online site

The analytical method used to test the hypothesis is the Structural Equation Model (SEM). The analytical procedures carried out are: first, data evaluation consisting of sample size, normality and outliers. Second, testing the suitability of the model against various goodness of fit criteria, namely $X^2 - Chi-Square$ of $p > 0.05$ or $p > 0.10$, $CMIN/DF$ where the value is good if it has a value < 2.0 and finally GFI , $AGFI$, TLI , CFI where the value is good if it has a value > 0.90 .

The results of the AMOS calculation will be taken to test whether the hypothesis can be accepted or not. The hypothesis can be accepted if the p-value is less than 0.05 (5%).

IV. RESULT AND DISCUSSION

4.1. Statistical Result

Structural modelling is done by connecting latent constructs, both endogenous and exogenous.

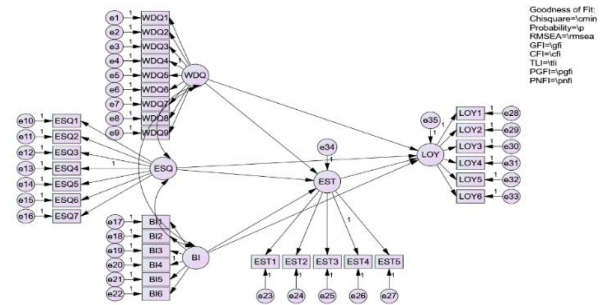


Figure 2. SEM Model

As we can see on the figure above, this step is to determine the model by connecting endogenous and exogenous latent constructs with indicator variables.

Outlier Test

The next stage is to see the presence of outliers. The results of the outlier test found 30 data that had outliers. Therefore, the 30 data must be deleted so that the data analyzed in the next process is 270 data.

Table 2. Mahalanobis Distance Test After Dropped Outliers

Observation number	Mahalanobis d-squared	p1	p2
39	62,999	,001	,000
110	62,407	,001	,000
145	62,336	,002	,000
91	62,271	,002	,000
130	61,626	,002	,000
113	61,018	,002	,000
27	60,512	,002	,000
75	60,149	,003	,000

186	59,933	,003	,000
13	59,732	,003	,000
107	59,600	,003	,000
51	59,551	,003	,000
199	59,192	,003	,000
218	59,118	,003	,000
14	59,098	,003	,000
173	59,014	,004	,000

In the table above, it can be seen that the highest value of Mahalanobis d Square is 62.999, below c-square value of 63.01. From these results, it can be concluded that there are no outliers in the data.

Normality Data

The assumption of data normality must be met so that the data can be processed for SEM modelling. Normality testing is done by observing the value of Critical Ratio (CR) data, if the value of CR multivariate data is between the range of ± 2.58 , then the data can be normal.

The results of the data normality test showed that the multivariate CR value was 49,914 which was still above 2.58. This result showed that the data is not normally distributed. To overcome normality in SEM, Ghozali (2008) suggested the bootstrap method through AMOS software. The bootstrap method is resampling-based. In this study, resampling was carried out 500 times with a bias-corrected confidence interval of 90%. The results of the skewness calculation show that the skewness number is less than ± 2.58 , thus the data meets the normal requirements.

Validity and Reliability

The following table is the result of testing the validity and reliability:

Table 3. Validity And Reliability Test

	Standar Loading	Standar Loading ²	Measurement Error	CR	VE
WDQ4	0,663	0,440	0,560	0,9	0,5
WDQ3	0,778	0,605	0,395		
WDQ2	0,685	0,469	0,531		
WDQ1	0,753	0,567	0,433		
WDQ5	0,758	0,575	0,425		
WDQ6	0,652	0,425	0,575		
WDQ7	0,711	0,506	0,494		
WDQ8	0,717	0,514	0,486		
WDQ9	0,764	0,584	0,416		
ESQ5	0,748	0,560	0,440	0,9	0,5
ESQ6	0,701	0,491	0,509		
ESQ7	0,641	0,411	0,589		
ESQ4	0,825	0,681	0,319		

ESQ3	0,776	0,602	0,398	0,9	0,6
ESQ2	0,684	0,468	0,532		
ESQ1	0,677	0,458	0,542		
BI5	0,77	0,593	0,407		
BI6	0,83	0,689	0,311		
BI4	0,8	0,640	0,360		
BI3	0,723	0,523	0,477	0,9	0,6
BI2	0,796	0,634	0,366		
BI1	0,751	0,564	0,436		
EST5	0,791	0,626	0,374		
EST4	0,797	0,635	0,365		
EST3	0,828	0,686	0,314	0,9	0,6
EST2	0,711	0,506	0,494		
EST1	0,757	0,573	0,427		
LOY1	0,675	0,456	0,544	0,9	0,6
LOY2	0,746	0,557	0,443		
LOY3	0,774	0,599	0,401		
LOY4	0,846	0,716	0,284		
LOY5	0,824	0,679	0,321		
LOY6	0,809	0,654	0,346		

From the table above, it can be seen that the construct reliability of all variables is more than 0.7. While the variance extracted value for each variable is more than 0.5. Hence, it can be concluded that the data used is reliable.

Model Modification

This model must be modified because several indicators have high modification index (MI). Modifications are done by providing a covariance relationship or eliminating indicators that have a high MI value.

Table 4. Goodness Of Fit Value After Modification

Fit Index	Goodness of Fit	Criteria	Cut-off value	
Absolute Fit	Chisquare	Small	277,211	Fit
	Probability	≥ 0.05	0,031	Marginal Fit
	RMSEA	≤ 0.08	0,026	Fit
	GFI	≥ 0.90	0,931	Fit
Incremental Fit	CFI	≥ 0.90	0,991	Fit
	TLI	≥ 0.90	0,988	Fit
Parsimony Fit	PGFI	≥ 0.60	0,656	Fit
	PNFI	≥ 0.60	0,720	Fit

Hypothesis Testing

The following table is the result of hypothesis testing using SEM.

Table 5. Hypothesis Testing Result

			Estimate	S.E.	C.R.	P	
EST	<-	WDQ	,635	,144	4,419	***	Significant
EST	<-	ESQ	,279	,081	3,427	***	Significant
EST	<-	BI	,056	,104	,538	,591	Not
LOY	<-	WDQ	-,330	,266	-1,241	,215	Not
LOY	<-	ESQ	-,230	,134	-1,723	,085	Not
LOY	<-	BI	,515	,135	3,810	***	Significant
LOY	<-	EST	1,015	,273	3,713	***	Significant

Website Design Quality has a positive and significant effect on the e-satisfaction of E-commerce customers. The estimation value is 0.635, the t-statistic value is above 1.96, which is 4.419 and the P-Value value is below 0.05, which is 0.000. So that the first hypothesis is supported.

E-service quality has a positive and significant effect on the e-satisfaction of e-commerce customers. The estimation value is 0.279, the t-statistic value is above 1.96, which is 3.427 and the p-value value is below 0.05, which is 0.000. Therefore, the second hypothesis is accepted.

Brand image has no significant effect on e-commerce customer e-satisfaction. The estimation value is 0.056, the t-statistic value is below 1.96, which is 0.538 and the P-Value value is above 0.05, which is 0.591. Thus, the third hypothesis is not supported.

Website design quality has no significant effect on the e-loyalty of e-commerce customers. The estimation value is -0.330, the t-statistic value is below 1.96, which is -1.241 and the p-value is above 0.05, which is 0.215. Therefore, the fourth hypothesis is not supported.

E-service quality does not have a significant effect on the e-loyalty of e-commerce customers. The estimation value is -0.230, the t-statistic value is below 1.96, which is -1.723 and the p-value is above 0.05, which is 0.085. Thus, hypothesis 5 is not accepted.

Brand image has a positive and significant influence on the e-loyalty of e-commerce customers. The estimation value is 0.515, the t-statistic value is above 1.96, which is 3.810 and the p-value is below 0.05, which is 0.000. So that hypothesis 6 is supported.

E-satisfaction of e-commerce customers has a positive and significant effect on the e-loyalty of e-commerce customers. The estimation value is 1.015, the t-statistic value is above 1.96, which is 3.713 and the P-Value value is below 0.05, which is 0.000. So that hypothesis 7 is supported.

4.2. Discussion

This study analysed 5 variables related to transactions in e-commerce, namely website design quality (WDQ), e-service quality (ESQ), brand image (BI), e-satisfaction (EST) and e-

loyalty (LOY). This research model is built based on theory and previous research and is divided into 7 hypotheses.

Website design quality has a positive and significant influence on the e-satisfaction of e-commerce customers. This result is supported by several previous researchers such as Bernardo et al (2019) and Indriyani (2018). This study found a positive influence of website design quality on customer satisfaction. Thus, e-commerce platform managers should pay attention to the website design quality because it can affect customer satisfaction.

E-service quality has a positive and significant impact on e-commerce customer e-satisfaction. Research by Permana et al (2018) showed that there is a significant influence of each dimension of e-service quality, namely efficiency, system availability, fulfilment, privacy, responsiveness, compensation, and contact simultaneously on Shopee customer satisfaction in Bandung. The e-commerce company needs to pay attention and improve e-commerce e-service quality. The better the service quality, the better consumer satisfaction toward e-commerce platforms.

Brand image has no significant effect on e-commerce customer e-satisfaction. This result is in line with research by Mulyono (2016) which found that brand image does not affect e-satisfaction. This result is also in line with research from Kurniawan & Hidayanti (2019) which also found that brand image does not significantly affect consumer satisfaction for Grab in Palembang. This study teaches us that a good brand image is not the main parameter of e-commerce customer satisfaction in Indonesia.

Website design quality has no significant effect on e-loyalty of e-commerce customers. This result is in line with research by Abou-Shouk and Khalifa (2017) which found that design quality and interactivity did not affect consumer loyalty. This negative effect is because consumers are more concerned with the ease of use than the quality of design. Research by Pahlopi & Arifin (2017) also found that website quality does not affect olx.com customer loyalty. This study showed that the quality of a good website design does not make e-commerce customers loyal. Some consumers prefer the ease of using a website rather than a good website design.

E-service quality does not have a significant effect on e-loyalty of e-commerce customers. This result is in line with research by Romadhan et al (2019) which found that the e-service quality has no significant effect on Lazada consumer loyalty. However, this finding contradicts Laurent (2016) which found that e-service quality has an influence on GOJEK consumer loyalty.

This study showed that there is no difference between customer expectations of the performance of the electronic services before using the service and their perception of the service received. This means that good service quality cannot affect the loyalty of Indonesian e-commerce consumers.

Brand image has a positive and significant influence on e-loyalty of e-commerce customers. This result is supported by the study by Wijayanto (2013) which found that brand image which consists of the strength of brand association, the advantages of brand association and the uniqueness of brand association partially has a significant influence on consumer loyalty. In addition, Pramudyo (2012) also found that there is a significant influence of brand image on loyalty. This study encourages e-commerce companies to maintain a good brand image because it has a significant impact on customer satisfaction.

E-satisfaction has a positive and significant effect on e-loyalty of e-commerce customers. This result is in line with the research by Akhter et al. (2011) and Lin and Sun (2009) which found that customer loyalty is directly and positively influenced by customer satisfaction. These results show the importance of a company to maintain customer satisfaction when transacting on e-commerce platforms. Satisfaction can increase the loyalty of Indonesian e-commerce consumers.

V. CONCLUSIONS

This study aims to analyze the variables that affect the satisfaction and loyalty of e-commerce customers. The result showed, of the 7 hypotheses analysed, it was concluded that hypotheses 1, 2, 6 and 7 were supported and the rest were rejected. Furthermore, this research found that e-satisfaction was influenced by website design quality and e-service quality. While e-loyalty was influenced by brand image and e-satisfaction. This research did not find any influence by brand image toward e-satisfaction.

For e-commerce companies, this research can be used as one of the considerations and sources of information for evaluation purposes. E-commerce companies should concern on website design, electronic service and brand image to increase customer satisfaction. Meanwhile, website design quality and e-service quality have no significant effect on customer loyalty. E-commerce companies can pay greater attention to indicators with low percentage values and then make improvements in the future.

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