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Peran Penelitian dan Inovasi di Era Industri 4.0 Dalam Mewujudkan
Pembangunan Berkelanjutan Menuju Kemandirian Bangsa

The Roles of E-Service Quality, E-Trust, and E-Satisfaction on Online Retail Loyalty

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ABSTRACT

The concept of customer loyalty is complex and difficult to define, as it encompasses a number of interactions with other variables. In addition, creating customer loyalty in the online business setting is more problematic than in the offline business. Several studies have examined a number of antecedent variables of customer loyalty, but how online retail business makes their customer stay loyal is not much understood. The objectives of this study are to identify the roles of service quality, customer trust and customer satisfaction on customer loyalty in an online retail setting. Using 480 online retail customers in Bandung as respondents, this study reveals that all of the antecedent variables on customer loyalty have positive and significant relationships toward customer loyalty in retail online. In addition, there is a positive and significant interrelationship between customer satisfaction and customer trust. However, service quality has the largest effect on customer trust, and customer trust has a higher value than customer satisfaction as mediation variable between service quality and customer loyalty. The findings of this study are of benefit for online retail business in determining the best strategy to achieve customer loyalty.

Key Words
E-Service Quality, E-Trust, E-Satisfaction, E-Loyalty, Online Retail

1. BACKGROUND

The progress of technology, computer and telecommunication have supported the development of the internet. The Internet has a great influence on science and worldview about many things. Also, the internet has brought up the changes in the business world. Today, the internet can be used as a marketing tool to generate transactions. Furthermore, the internet supports other business activities such as provides valuable information, and assists to penetrate the global market [1, 2]. This symptom drives the rising of e-commerce trend as every business player pay much attention to getting the valuable customer through online media in hand [3]. Thus, this trend may encourage most of the business players to create competitive advantages in online media. As a result, the competition in online business including online retail will be tight either at a domestic or global market.

In a competitive online business environment, gaining customer loyalty is more problematic than in offline business [4]. As the transaction takes place in a virtual environment through the website interface, therefore, online shopping has a higher risk than the others [5]. Also, as online shoppers can compare product and access information through the internet easily, the switching behavior accidents among online shopper is greater than offline ones [6]. In addition, although the sites of online retailers have a high level of visitors, most of them are search the

product information and then choose to buy the product in the offline store [7]. It was found as many as 45% of customers search online for a product visited online retail stores, but only 40% of them purchased products or services through online transaction. However, more than half of them probably purchased it in other ways [8]. To sum up, an online retailer has a more significant challenge to gain customer loyalty in their business.

Regarding the challenging of achieving customer loyalty in the online business area, researchers have conducted a couple of studies to examine loyalty [9]. Other studies explain that loyalty construct is dynamic and complex [10]. Regarding the antecedents of customer loyalty, the literature shows that customer satisfaction and customer trust are related to customer loyalty. Previous studies found the influences of customer satisfaction [11], customer trust [12], also customer satisfaction and customer trust sequentially [13] toward customer loyalty. Moreover, it was found that service quality in the online setting has significant roles in creating customer loyalty [14]. As a result, service quality, trust and satisfaction are the antecedent variables of customer loyalty.

The difficulty of gaining customer loyalty in online business makes every online business player focus their attention on how to create customer loyalty. However, the explanation of how these three

antecedent variables influence customer loyalty simultaneously in an online retail setting is still not well known. Therefore, this paper aims to assess the relationship between these three variables on online retail loyalty, both direct and indirect impact. Thus, conducting research in the context of online retail loyalty is reasonable to do.

2. LITERATURE REVIEW
2.1 Electronic Service Quality
Electronic service quality is service quality in an online setting. Electronic service quality is the assessment and evaluation service delivered through the internet [15]. A number of studies have been conducted in developing the scale for measuring electronic service quality. First, Loiacono, Eleanor [16] created a scale called WebQual to measure the quality of a website. Second, Barnes and Richard [17] advanced the scale named WebQual. This scale uses four dimensions, including design, empathy, information trust, and usability. Third, Yoo and Donthu [18] created a scale called SITEQUAL with four dimensions, which are security, aesthetic design, ease of use, and processing speed. Fourth, Wolfinbarger and Gilly [19] developed a scale named eTailQ. This scale uses four dimensions. Then, Zeithaml, Parasuraman [20] compare the dimensions of E-SERVQUAL and ES-QUAL. It was based on the assumption that some aspects of SERVQUAL can be used in measuring service quality in an electronic setting. Finally, Parasuraman, Zeithaml [21] developed the E-S-Qual scale with seven dimensions that separated into two focuses, which are electronic service quality (E-S-Qual) and electronic recovery service quality (e-RecS-Qual). In this study, E-S-Qual scale with its four dimensions (effectiveness, system availability, fulfillment, and privacy) is used. Service quality found has an apparent relationship to profitability, customer retention, and behavioral intention. Also, it is the most significant factor influencing customer buying decision [22]. Due to the importance of service quality, it becomes one critical thing in determining the failure or success of most businesses. E-S-Qual and those dimensions have a direct impact on customer trust because they are able to indicate the ability of sites concerning building customer trust Gefena and Straub [23]. Moreover, a study conducted by Lee and Lin [24] shows that the dimensions of E-S-Qual influence customer satisfaction directly. Then, an indirect impact between the quality of services offered and level of customer loyalty in an e-commerce context has been identified by Sigala and Sakellaridis [25]. As consequent better service quality will encourage customers to conduct online shopping, therefore, customer loyalty can be expected. To summarize this section, it can be said that service quality has a positive impact on customer trust, customer satisfaction, and customer loyalty.

2.2 Customer Satisfaction
Oliver [26] defined customer satisfaction in traditional context as the customer perception of their transaction experience which is leveled or exceeds their expectation. Customer satisfaction is a fundamental variable in business activities, as it can lead to customer trust and customer loyalty [27]. However, several determinants of this construct have been widely studied. For example, Anderson & Srinivasan argue that the effect of satisfaction in online retail business is influenced by numerous variables such as trust and perceived value. Also, customer satisfaction is one of the essential mediation variables on customer loyalty, either in an online transaction or offline transaction [28]. Thus, customer satisfaction has either a direct impact on customer trust or an indirect effect and customer loyalty.

2.3 Customer Trust
Trust can be defined as the confidence or credibility. Thus, customer trust defined as the customer promises that a service provider can be trusted and relied upon in fulfilling their promises effectively [29]. Regarding creating customer loyalty, business player especially online business have to aware about the importance of establishing customer trust before [27]. Past research by Lien, Wen [3] shown that service quality has a positive relationship with customer loyalty. Then, customer trust becomes a factor that influences customer loyalty. Other study explained that trust not only gives the impact directly but also indirectly on loyalty through customer satisfaction [30]. Moreover, customer trust has a powerful effect on satisfaction. For example, the study by Kim, Jin [27] shows that trust has a positive impact on satisfaction, because logically, if someone trust with a product or service, it can be confirmed that these product or service exceed their expectation. As a result, customer trust as antecedent variables of customer loyalty has a direct and indirect effect on loyalty.

2.4 Customer Loyalty
Customer loyalty can be defined as the valuable attitude and promise that lead to repeat purchase behavior [31]. It means that customer loyalty is customer attitude and commitment to be loyal in use of a product or service. There is three elements outcome of customer loyalty, which are behavioral, attitudinal and cognitive loyalty [32]. According to Jones and Taylor [33], behavioral loyalty will produce repeat buying intentions from customers and lead to customer retention. Attitudinal loyalty refers

to relative attitudes from customer evaluation of the product or services, for example, recommend the other to use the product. Cognitive loyalty is customer assessment consciously about the advantages of being loyal in some products, so the products become the first preference in the customer mind. This study does not differentiate both of the types of loyalty. It is because the measurement of customer loyalty using one of those elements will not be able to capture the true customer loyalty. In an e-commerce setting, customer loyalty was known as e-loyalty.

3. RESEARCH MODEL AND HYPOTHESIS

This study aims to examine the roles of e-service quality, e-satisfaction, and e-trust in online retail loyalty. In addition, this study also will evaluate the direct and indirect effect of e-service quality, e-trust and e-satisfaction toward e-loyalty. Based on the literature explained before, the research model and hypotheses are illustrated in Figure 1
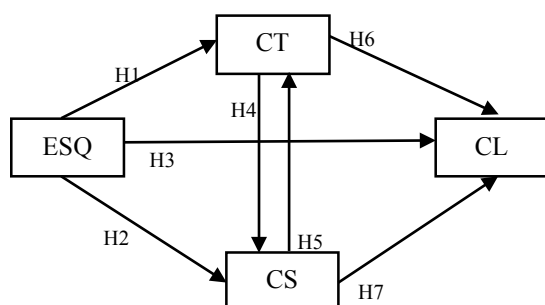

Figure 1. Research Model

Notes:
ESQ = E-Service Quality
CT = Customer Trust (E-Trust)
CS = Customer Satisfaction (E-Satisfaction)
CL = Customer Loyalty (E-Loyalty)
The hypothesis in this study are as follows
H1: E-Service Quality has a positive and significant effect on E-Trust.
H2: E-Service quality has a positive and significant effect on E-Loyalty.
H3: E-Service quality has a positive and significant effect on E-Satisfaction.
H4: E-Trust has a positive and significant effect on E-Satisfaction.
H5: E-Satisfaction has a positive and significant effect on E-Satisfaction
H6: E-Trust mediates the relationship between E-Service Quality and E-Loyalty.
H7: E-Satisfaction mediates the relationship between E-Service Quality and E-Loyalty.

4. RESEARCH METHOD

The variables used in this study are adapted from previous studies. The objective of this research is to identify the direct and indirect effect of E-Service Quality, E-Trust and E-Satisfaction on E-Loyalty in online retail. These variables and indicators are adapted from the past study [27].

This study using E-Service Quality scale from Parasuraman, Zeithaml [21] encompasses four dimensions including effectiveness, system availability, fulfillment, and privacy. Meanwhile, other variables adapted from a number of the previous studies. Satisfaction and loyalty adapted from Pham and Ahammad [34] while Trust adapted from Kim, Jin [27].

To achieve the objectives, this study uses primary and secondary data. Primary data was obtained by means of questionnaires, and secondary data was retrieved from the related literature. The questionnaires distributed to online customers in Bandung who have made at least an online transaction in the previous two months. A pretest on the questionnaire was conducted on twenty online retail shoppers to identify clarity and conformity of the statements. Since the number of online customer population is not available, convenience sampling technique was then used. This sampling technique was also known as accidental sampling. Although this sampling technique has been criticized for lacking generalization, previous studies [27, 35, 36] used this technique in the same scope of the research. Therefore, using convenience sampling technique in this research is reasonable. According to Malhotra [37], the number of respondents required is at least 200 respondents. The data collected, was analyzed using SEM-PLS (Structural Equation Modeling-Partial Least Square) technique in WarpPls 6.0 software program.

5. ANALYSIS DATA AND RESULT
a. Respondent Description
This study uses 480 respondents who have made online transactions in the last two months in Bandung. The respondents' demographic characteristics are presented in Table 1.

Table 1. The Respondent Demographic Characteristic

Variable	Description	Frequency	%
Gender	Female	280	58.3
	Male	200	41.7
Age	<20 Years	109	22.7
	21-30 Years	308	64.2
	>30 Years	63	13.1
Job	Student	62	12.9
	University Student	209	43.5
	Employee	146	30.4

	Others	62	12.9
Last Transaction	Last 2 Weeks	186	38.8
	Last 1 Month	100	20.8
	Last 1-2 Months	194	40.4

b. Measurement Model

Regarding evaluate the measurement model, both validity and reliability test need to be identified. Based on Urbach and Ahlemann [38] the measurement model can be assessed using individual item reliability analysis, convergent validity and discriminant validity to make sure the higher quality of findings.

Table 2. *Combined Loading,* CR, Cronbach Alpha and AVE

	Loadings	Composite Reliability	Cronbach Alpha	AVE
Effectiveness		0.902	0.875	0.536
EF1	0.7330			
EF2	0.6260			
EF3	0.7470			
EF4	0.7600			
EF5	0.7320			
EF6	0.7610			
EF7	0.7350			
EF8	0.7530			
System Availability		0.842	0.749	0.572
SA1	0.6770			
SA2	0.7570			
SA3	0.7960			
SA4	0.7900			
Fulfillment		0.897	0.861	0.591
F1	0.7770			
F2	0.7800			
F3	0.8050			
F4	0.7000			
F5	0.7310			
F6	0.8150			
Privacy		0.905	0.843	0.762
P1	0.8700			
P2	0.9000			
P3	0.8470			
Customer Satisfaction		0.904	0.858	0.734
CS1	0.8370			
CS2	0.8640			
CS3	0.8670			
CS4	0.8590			
Customer Trust		0.917	0.879	0.704
CT1	0.7640			
CT2	0.8760			
CT3	0.8950			
CT4	0.8150			
Customer Loyalty		0.880	0.836	0.551
CL1	0.7450			
CL2	0.7860			
CL3	0.7840			
CL4	0.7600			
CL5	0.6910			
CL6	0.6830			

Table 3. Correlation Among Latent Variables with Square Roots of AVE

	EF	SA	F	P	CT	CS	CL
EF	0.732						
SA	0.667	0.756					
F	0.601	0.567	0.769				
P	0.548	0.453	0.535	0.873			
CT	0.581	0.472	0.604	0.596	0.839		
CS	0.667	0.562	0.667	0.539	0.681	0.857	
CL	0.515	0.451	0.516	0.407	0.627	0.600	0.742

Individual item reliability was assessed for measuring the reflective latent variable indicators. It can be identified by looking at the result of Combined Loading. The construct can be stated valid, and indicators are internally consistent if the indicator-loading value is higher than the cut-off value 0.5 [39]. The result of Table 2 shows that each value on the combined-loadings factor falls between 0.6 and 0.8. Thus, the measurement items are reliable. Moreover, Cronbach Alpha value can be used to measure the reliability for each latent variables. All of the Cronbach Alpha exceeded the recommended value 0.7 [40]. Therefore, the latent variables used are reliable.

Convergent validity can be assessed by measuring Factor Loading, Composite Reliability and Average Variance Extracted (AVE). However, in this study, the value of Cronbach Alpha was included for examining the convergent validity as Cronbach alpha has a similar interpretation with composite reliability [41]. Based on the result presented in Table 2, all of the Factor Loadings, Composite Reliability, Cronbach's Alpha and AVE were greater than the cut-off value. Therefore, the convergent validity of the instrument is fulfilled.

Another validity test is discriminant validity. It is determined by comparing the square root of AVE in diagonal with the correlation among latent variables. The results show in Table 3 that the square root of the AVE is larger than any of the correlations of latent variables thus suggesting evidence of discriminant validity.

c. Model Fit

The research model test is conducted to identify whether the model formed in the research is suitable or not.

Table 4. Model fit and quality indices

Model Fit and Quality Indices	Value	Ideal
Average path coefficient (APC)	0.383 P<0.001	< = 0.05
Average R-squared (ARS)	0.518 P<0.001	< = 0.05
Average adjusted R-squared (AARS)	0.516 P<0.001	< = 0.05
Average block VIF (AVIF)	2.193	< = 3.3
Average full collinearity VIF (AFVIF)	2.378	< = 3.3
Tenenhaus GoF (GoF)	0.588	Small > = 0.1 Medium > = 0.25 Large > = 0.36
Sympson's paradox ratio (SPR)	1.000	1
R-squared contribution ratio (RSCR)	1.000	1
Statistical suppression ratio (SSR)	1.000	1
Nonlinear bivariate causality direction ratio (NLBCDR)	1.000	1

The research model was fit shown by general information that has fulfilled 10 requirements of the fit model as shown in Table 4. All of the values are fulfill the ideal criteria, so it means that the model is acceptable.

d. Structural Model

This study uses second-order latent variables. It was developed based on the four dimensions of effectiveness, system availability, fulfillment and privacy. Then, the variable is the E-Service Quality.

Table 5. Path Coefficient

H	Path	Coefficient	P Value	Effect Size	Result
H1	ESQ=>CT	0.686	< 0.001	0.471	Significant
H2	ESQ=>CL	0.16	< 0.001	0.093	Significant
H3	ESQ=>CS	0.518	< 0.001	0.388	Significant
H4	CT=>CS	0.323	< 0.001	0.224	Significant
H5	CS=>CT	0.382	< 0.001	0.260	Significant
H6	ESQ=>CT=>CL	0.275	< 0.001	0.158	Significant
H7	ESQ=>CS=>CL	0.178	< 0.001	0.102	Significant

Table 5 illustrates the result of path analysis which is all significant. These findings show E-Service quality has a positive and significant effect on E-Trust, E-Loyalty and E-Satisfaction with path coefficient respectively of 0.686, 0.160 and 0.518 significant at p<0.001, so H1, H2, and H3 accepted. Then, e-Trust affected significantly toward e-Satisfaction with coefficient value (0.323) significant at p<0.001; thus H3 accepted. Likewise, the e-Satisfaction relationship that has a positive and significant influence on e-Trust with coefficient value (0.382) is significant at p<0.001, so H4 accepted. The result also found an indirect relationship. E-Service Quality

indirectly influenced E-Loyalty via E-Trust and E-Satisfaction. Both of the indirect relationships are significant at p<0.001, so H6 and H7 accepted.

In brief, based on the findings of this study, it can be concluded that all paths both direct and indirect path between E-Service Quality, E-Trust, E-Satisfaction and E-Loyalty are positive and significant.

6. DISCUSSION AND CONCLUSION

Online shopping becomes an alternative way for every customer for conducting a transaction. However, how online business including online retail creates customer loyalty is little understood. This study tries to identify the relationship between three of antecedents variables of customer loyalty in online retail. So, it can be known what factors that have higher or lower impact on creating customer online retail loyalty.

Based on the result, E-Service Quality has a positive and significant effect on E-trust, E-Satisfaction, and E-Loyalty directly. However, the relationship between E-Service Quality and E-Trust is the big ones. It means that E-Service Quality becomes the most critical variables regarding create customer trust in electronic service. From a theoretical respective this finding supports a previous study by Gronroos, Heinonen [42] that states e-service quality elements are assumed to influence e-trust directly, as they represent trustworthiness of the system and site to the customer. This finding is reasonable because the better service quality perceived by the customer, the more they believe in the overall service from retail online.

This study found that E-Trust and E-Satisfaction are mediating positively and significantly the relationship between E-Service Quality and E-Loyalty. This finding confirms a study by Caruana [43] who has conducted his study in the online banking area and a study by Ribbink, Riel [30] in internet service. Their findings are proving that E-Trust and E-Satisfaction have essential roles as mediation between E-Service Quality and E-Loyalty. In this study, E-Trust is the most vital mediation variable. So that, in achieving customer loyalty, every online retail business have to make sure that their customer believes in them. However, in contrast, a study conducted by Akbar and Parvez [44] found that E-Satisfaction becomes essential mediation than E-Trust in a telecommunication company. Thus, both variables have their roles in link with E-Service Quality and E-Loyalty depend on the area of study and dimensions of service quality used. Concerning creating customer loyalty, this study confirms that E-Satisfaction and E-Trust have affected each other. It means that E-Trust has a

positive and significant impact on E-Satisfaction and E-Satisfaction also has a positive and significant effect on E-Trust. Based on the perspective theory, these findings support a study by Razzaque and Boon [45] and Soheila, Fathian [46] that found an interrelationship between E-Satisfaction and E-Trust. In conclusion, every antecedent variable of customer loyalty in this study has their role regarding creating customer loyalty in online retail. Thus, service quality offered, customer satisfaction and customer loyalty are some variables that have to consider for achieving customer loyalty. Every online retail business is able to determine some strategies that can produce the best service quality, satisfied customer, and customer evidence regarding achieving customer loyalty.

7. LIMITATION AND SUGGESTION

This study has a limitation. Based on the previous study by Parasuraman, Zeithaml [21], electronic service quality (E-S-Qual) scale divided into two focuses, first is electronic service quality or E-S-Qual and the other is electronic recovery service quality or e-RecS-Qual. In this study focus on E-Service Quality not both of them. As in this research, all of the respondents come from an online retail customer without determining that they are have been felt a problem or not. Meanwhile, e-RecS-Qual dimensions are used if only customers have a problem with their online transactions.

Although this study may confirm some of the previous studies and may provide new knowledge, this study still has weaknesses. First, this study was only addressed to a majority of teenagers as respondents from Bandung, so this study could not justify for the wider demographic respondents, and the result could not be generalized to online retail shoppers in other cities. Second, the relation between these antecedent variables of customer loyalty – service quality, trust, satisfaction- towards customer loyalty has been tested except the direct effect of trust and satisfaction on loyalty, so this relationship has not identified. Third, the findings of this study suggest that there will be another antecedent variables of customer loyalty that has to be included in examining the online retail loyalty, so it is essential to identify the other variables that can help online retail business to create customer loyalty. Thus, the further analysis has to enlarge the scope of respondents, examine the other relationship between variables used and identify other variables that may be lead to customer satisfaction, so it will be able to give more real description regarding customer online retail loyalty.

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