

Effect of e-Service Quality on e-Trust and e-Satisfaction: A Study on Online Learning during the Covid-19 Pandemic



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ABSTRACT: Online learning was applied during the COVID-19 pandemic in almost all universities in Indonesia. Online learning needs to be evaluated for its effectiveness, especially regarding the responses from students. This study examines the effect of e-Service Quality on e-Trust and e-Satisfaction during the covid-19 pandemic. The study was conducted on 1,212 students who have participated in online learning by distributing online questionnaires. The analytical tools used are SPSS and WarpPLS. The results of this study indicate that e-service quality has a significant positive effect on e-trust, e-service quality has a significant positive effect on e-satisfaction, and e-trust has a significant positive effect on e-satisfaction.

KEYWORDS: e-Service Quality, e-Trust, e-Satisfaction, Covid-19 pandemic

I. INTRODUCTION

Online learning has become a reliable method during the COVID-19 pandemic in universities. This is because face-to-face learning cannot be carried out due to restrictions on direct interaction during the pandemic. The Minister of Education and Culture of the Republic of Indonesia has determined online learning to prevent the spread of Corona Virus Disease (Covid-19). Since March 2020 all state universities in Indonesia have held online lectures as a substitute for face-to-face lectures.

Online learning is still relatively new to be applied massively at all levels of education so that the effectiveness of learning needs attention. Research that examines the effect of the quality of online learning on student satisfaction is still relatively minimal. Students as online learning participants are in a position that is vulnerable to loss, so a study of trust is very important to do. Online learning should not harm students so that students feel satisfied with the quality of online learning. This study examines student satisfaction as college customers. Research on the effect of online learning quality on trust and satisfaction is still very limited. This research is needed to evaluate the role of e-service quality in online learning in creating trust and student satisfaction.

II. LITERATURE REVIEW

E-Service Quality

Online learning has encouraged universities to provide excellent e-service quality to students. E-service quality is a development of service quality in general. E-service quality was developed to evaluate a service provided on the Internet network. Rowley (2006) describes E-service quality as an interactive information service. E-service quality provides a mechanism for companies to differentiate their service offerings and develop their competitive advantages (Santos, 2003). Chase et al. (2006) reveal e-service quality as an extension of the ability of a site to facilitate shopping, purchasing, and distribution activities effectively and efficiently. Electronic service quality is the extent to which a website facilitates efficient and effective shopping, purchasing and delivery (Zeithaml et al., 2002). Thus, the authors define e-service quality in the context of online learning as the ability of an online learning method to facilitate learning activities.

According to Wolfinbarger & Gilly (2003), there are still differences in determining the dimensions of e-service quality. Neuner & De Landtsheer (2005) and Toots (2006) offer four antecedent constructs of e-service quality, namely content, interactivity, ease of use and aesthetics. Meanwhile Ho and Lee (2007) revealed 5 dimensions of e-service quality measurement, namely: information quality, security, website functionality, customer relationship, and responsiveness. Ladhari (2010) proposes six dimensions of e-service quality which include reliability, responsiveness, privacy/security, usefulness/quality of information, and ease of use/usability. Parasuraman et al. (2005) and Luo and Lee (2011) measure e-service quality with dimensions of

Effect of e-Service Quality on e-Trust and e-Satisfaction: A Study on Online Learning during the Covid-19 Pandemic

efficiency, system availability, promise fulfillment, and privacy. Vlachos et al. (2011) proposed seven antecedents of e-service quality including ease of use, usability, aesthetics, content, privacy, customization and customer service.

E-Trust

Trust has a long-term impact on the relationship between customers and service providers. Long-term relationships are determined by the extent to which customers are always satisfied and customers do not feel disadvantaged. Thus, trust is an important element in maintaining the sustainability of a service. Customer trust is defined as customers feel confident that service providers can be trusted and relied on to fulfill their promises effectively (Ganesan, 1994). Gefen, Karahanna, & Straub (2003) define trust in the online environment as a distinct set of beliefs in one's integrity, virtue, and abilities. Trust was a willingness to be vulnerable to another party based on a separate set of trustworthiness beliefs in ability, benevolence, and integrity (Mayer & Davis, 1999). Generally, e-trust depends on assurance of security, reputation, web search, compliance (e.g., willingness to customize), presentation (e.g., web quality), technology, and interactions such as e-forums (McKinney, Yoon, & Zahedi, 2002). Singh & Sirdeshmukh (2000) stated that the interests of customers are one of the building blocks of trust. Someone will believe in a service if the service product is consistently able to meet their needs.

E-Satisfaction

Referring to disconfirmation theory, e-satisfaction occurs when an online product or service exceeds consumer expectations. E-satisfaction is represented as customer satisfaction that comes from previous purchases with certain electronic services (Ong, et al., 2014). In the context of online shopping, e-satisfaction as customer satisfaction with online shopping which consists of happiness in the buying process and user appreciation in using information technology (Tang and Huang, 2015). Anderson and Srinivasan (2003) describe e-satisfaction as customer satisfaction that comes from previous real purchasing experiences with a particular e-commerce company. In the context of online learning, e-satisfaction is defined as the level of feeling of users of online learning services after comparing expectations and performance of online learning.

Relationship between e-Service Quality and e-Trust

McKinney, Yoon, & Zahedi (2002) have revealed that e-trust depends on e-Service Quality which includes security assurance, reputation, web search, compliance (e.g., willingness to customize), presentation (e.g., web quality), technology, and interactions such as e-forums. e-Service Quality fosters trust for users regarding the ability of online learning as an effective learning method, provides benefits for students and students feel confident that they will not feel disadvantaged while participating in online learning. Thus, the hypothesis can be determined as follows:

H1. e-service quality has a significant effect on e-trust.

Relationship between e-Service Quality and e-Satisfaction

E-service quality encourages e-satisfaction (Zhu & Lin, 2010). Eid (2011) asserts that online customer satisfaction is determined by the performance of the website and the products provided by the website. Zha & Wang (2006) revealed that the dimensions of e-service quality as a predictor of online consumer satisfaction. Many studies have found a relationship between e-service quality and online customer satisfaction (Yang & Tsai, 2007; Zhang & Prybutok, 2005). E-service quality is predicted to determine the level of e-satisfaction of students participating in online learning. Thus, the hypothesis can be determined as follows:

H2. e-service quality has a significant effect on e-satisfaction.

Relationship between e-Satisfaction Quality and e-Trust

E-Trust is predicted to have a positive effect on e-satisfaction. This is supported by previous studies which revealed that e-trust is a strong predictor of e-satisfaction (Hidayat & Anasis, 2018). When students feel confident in the ability of online learning as a learning method and do not feel disadvantaged, students feel satisfied. hypothesis can be formulated as follows:

H3. e-trust has a significant effect on e-satisfaction.

III. RESEARCH METHOD

This explanatory research aims to examine and explain the causal relationship between e-service quality, e-trust, and e-satisfaction in the context of online learning. Measurement of e-service quality refers to Vlachos et al. (2011). The measurement of e-trust is in accordance with the opinion of Doney & Cannon (1998), Giffin (1967), Luhmann (1988), and Mayer & Davis (1999). Meanwhile the measurement of e-satisfaction refers to Ting et al. (2016). A quantitative approach is used in analyzing this research (Kerlinger, 2003). Questionnaires were distributed online to 2000 students at the Yogyakarta Veterans National Development University who were actively participating in online lectures. The number of respondents who filled out the questionnaire were 1,212 students. The measurement scale used in this study is attitude scales. The type of scale used is a Likert

Effect of e-Service Quality on e-Trust and e-Satisfaction: A Study on Online Learning during the Covid-19 Pandemic

scale graded between a score of 1-5 (1=strongly disagree to 5=strongly agree). The analytical tool used to test the instrument is SPSS, while the analytical tool used to test the effect between variables is WarpPLS.

IV. RESULT AND DISCUSSION

Table 1 shows the results of instrument testing on 100 students using SPSS. The test results show that all indicators have a correlation coefficient of 0.30 and Cronbach's Alpha 0.6). Thus, this research instrument is declared valid (Sekaran, 2011) and reliable (Malhotra, 2010).

Table 1: Result of instrument validity test

Variable	Indicator	Correlation Coefficient	Cronbach's α
e-Service quality	Easy to use	0.664	0.721
	Benefits	0.677	
	Aesthetics	0.540	
	Content	0.559	
	Privacy	0.662	
	Customization	0.735	
	Customer service	0.793	
e-Trust	Ability	0.777	0.762
	Credibility	0.759	
	Benevolence	0.732	
	Don't feel harmed	0.779	
e-Satisfaction	Interesting experience	0.771	0.886
	Enjoy online learning	0.788	
	Performance as expected	0.844	

Table 2. Characteristics of the sample (% of respondents, n = 1.212)

Gender	Male	50.66
	Female	49.34
Online learning experience	Yes	77.06
	No	22.94
Network used	Wi-Fi	35.31
	Connection from smart phone	42.24
	Other	22.45

Profile of Respondents

Table 2 shows that the number of male and female students is comparable, however, the number of male students is dominant. Most of the respondents had experience (77.06%) in taking online lectures before the covid-19 pandemic. The majority of respondents use a connection from a smart phone as the first choice (42.24%). Furthermore, the use of wifi is 35.31% and using other networks is 22.45%.

Final Structural Model

Measurement of model fit and quality indices refers to the WarpPLS analysis tool (Kock, 2015). The measurement results show the followings. Average Path Coefficient (APC) was 0.886, $p < 0.001$; average R-squared (ARS) was 1.323, $p < 0.001$; average adjusted R-square (AARS) was 1.326, $p < 0.001$; average block VIF (AVIF) was 4.429, acceptable if ≤ 5 ; average full collinearity VIF (AFVIF) was 4.427, acceptable if ≤ 5 ; Tenenhaus GoF (GoF) was 0.833, acceptable if ≥ 0.36 ; Sympton's Paradox Ratio (SPR) was 1,000, acceptable if ≥ 0.7 ; Statistical Suppression Ratio (SSR) was 1,000, acceptable if ≥ 0.7 ; Nonlinear Bivariate Causality Direction Ratio (NLBCDR) was 0.782, acceptable if ≥ 0.7 . These results indicate that the model is supported by good data and has quality indicators that meet the requirements in the WarpPLS.

Table 3. Hypothesis testing results

Relations between variables		Coefficient	p-value	Description	Hypothesis Decision
e-Service Quality	e-Trust	0.642	< 0.000	Significant	Accepted
e-Service Quality	e-Satisfaction	0.702	< 0.000	Significant	Accepted
e-Satisfaction	e-Trust	0.773	< 0.000	Significant	Accepted

Hypothesis Testing

Hypothesis 1 states that e-Service Quality influences e-Trust. The results (Table 3) show that *p* value is <0.000, so hypothesis is accepted. Positive coefficients indicate that e-Service Quality has a significant positive effect on e-Trust.

Hypothesis 2 states that e-Service Quality influences e-Satisfaction. The results (Table 3) show that *p* value is <0.000, so hypothesis is accepted. Positive coefficients indicate that e-Service Quality has a significant positive effect on e-Satisfaction.

Hypothesis 3 states that e-Trust influences e-Satisfaction. The results (Table 3) show that *p* value is <0.000, so hypothesis is accepted. Positive coefficients indicate that e-Trust has a significant positive effect on e-Satisfaction.

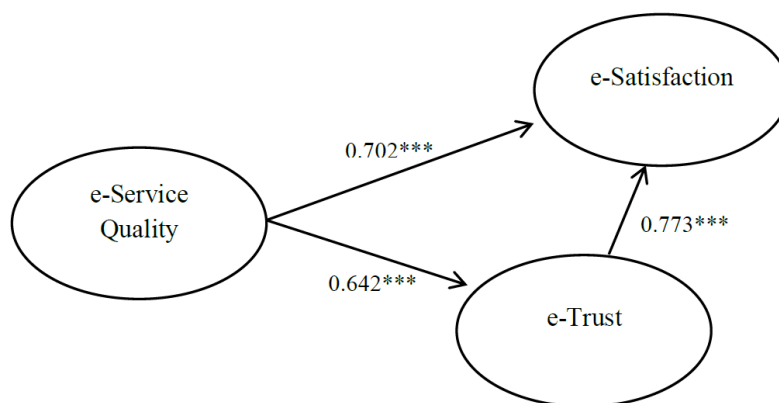


Figure 1. Final Model

DISCUSSION

The results of this study found that e-service quality has a significant positive effect on e-trust. This finding is consistent with McKinney, Yoon, & Zahedi (2002) have revealed that e-trust depends on e-Service Quality. Ease of use, usability, aesthetics, online learning media content, privacy, customization, and customer service form e-trust. Students feel confident that online learning has good abilities as a learning method, has good credibility, makes learning easier during a pandemic, and does not harm the interests of students.

The results of this study found that e-service quality had a significant positive effect on e-satisfaction. This finding is consistent with the results of Eid (2011) which states that online customer satisfaction is determined by the performance of the website and the products provided by the website. These results also support research by Zhu and Lin (2010) that e-service quality encourages e-satisfaction. In the context of online buying, the results of this study are also in line with previous research. e-service quality and e-satisfaction have a strong positive relationship with online shoppers on B2C sites (Yang and Tsai, 2007; Zhang and Prybutok, 2005). Zha and Wang (2006) asserted that the dimensions of e-service quality can be used to predict online consumer satisfaction.

The findings of this study indicate that e-trust has a significant positive effect on e-satisfaction. These results support previous studies which found that e-trust is a strong predictor of e-satisfaction (Hidayat & Anasis, 2018). Student confidence in online learning creates student satisfaction. Students get interesting experiences and enjoy online learning. In addition, students feel that online learning performance builds feelings of pleasure in students.

The results of this study are useful for universities in implementing technology-based online learning methods. Students want applications that are easy to use, have high usability, have a high level of aesthetics, complete content, well maintained privacy, can be adapted to user needs, and have fast and accurate services. These aspects are indicators of e-service quality that must be met by universities. The quality of online learning applications that are in accordance with the wishes of students gives high trust and satisfaction to students. Students as college customers do not mind if online learning is forced to do when offline learning is not possible.

Effect of e-Service Quality on e-Trust and e-Satisfaction: A Study on Online Learning during the Covid-19 Pandemic

The limitation of this research lies in the scope of the research. This research is still being carried out in the Yogyakarta area, Indonesia so that further research is recommended to expand the scope of research by involving universities in other areas. In addition, the e-learning applications used in each university are also different (google meet, zoom, webex, etc.) so that further researchers can examine more deeply the relationship between e-learning applications and learning performance. This research is a cross sectional study conducted at the beginning of the Covid-19 pandemic, so a longitudinal study is needed to compare the results of research at different times.

V. CONCLUSION

The main findings of this study indicate that there is a significant effect of e-service quality on online learning on e-trust and e-satisfaction. E-trust has also been shown to have a significant positive effect on e-satisfaction. The results of this study contribute to improving the quality of online learning through e-service quality. Universities need to design online services in learning to increase student trust and satisfaction as future customers.

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Effect of e-Service Quality on e-Trust and e-Satisfaction: A Study on Online Learning during the Covid-19 Pandemic

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