The influence of the self-service technology service quality, e-satisfaction, and e-trust on e-loyalty

DevitaRizkiTahtaKuswanto¹, Tantri YanuarRahmat Syah².
¹Economic Business Faculty, Esa Unggul University, Jakarta, Indonesia
²Economic Business Faculty, Esa Unggul University, Jakarta, Indonesia

Abstract: Changes in the industrial revolution are developing rapidly and bringing about new changes in the pattern of community life in banking. Thus, in this study, we examine the role of Self-service Technology Service Quality, E-Satisfaction, and E-Trust on E-Loyalty. In addition, the purpose of this study is to obtain the effect of Self-service Technology Service Quality, E-Satisfaction, and E-Trust on the E-Loyalty of bank customers. Here, the population in this study was taken from bank customers who accommodated 200 respondents. This study is causality research using a quantitative approach where the data observation was collected using a questionnaire. The analytical method, e.g., Structural Equation Model (SEM) and Lisrel, was performed in this study. The results show the excellent Self-service Technology Service Quality will increase customer E-Satisfaction. Here, good Self-service Technology Service Quality will increase customers’ E-Loyalty. Thus, the highest E-Satisfaction will increase customer’s E-Loyalty while a good customer Self-service Technology use Service Quality and increase customer’s E-Trust. Furthermore, the high value of customer E-Trust will increase customer’s E-Loyalty. Finally, the main contribution of this study is to enrich the literature on Self-Service Technology Service Quality, Electronic-Satisfaction, Electronic-Trust and E-loyalty in the banking industry.

Keywords: Self-service technology service quality, e-trust, e-satisfaction, e-loyalty

Abstrak
Kata kunci: Self-service technology service quality, e-trust, e-satisfaction, e-loyalty

I. INTRODUCTION

Our society is in an industrial revolution that is growing exponentially, marked by a technological process with breakthroughs in robotics, artificial intelligence, the internet of things, and more. The very high number of internet users in Indonesia and the increasing number of customers from year to year have encouraged banks to make innovations to make it easier for customers to make payment transactions and transfer money between customers and between banks. Continuous service improvement and making consumers meet their needs will create high customer loyalty in online transactions (Saputro and Dihan, 2013). The quality of service in online business affects customer satisfaction and loyalty (Sundaram, Ramkumar, & Shankar (2017). Here, the effects of customer satisfaction and trust on loyalty and identifies the factors that affect commitment result from all of these variables being interrelated (Brilliant and Achyra (2016). Among all these services, e-service quality and e-trust, which are very near where the customer's importance is the e-service quality, will be referenced in the e-commerce-based internet and will be discovered to represent the whole scope of the self-service technology the service quality in banking improves online satisfaction (Kushwaha et al. 2017, Gunawardana et al. 2015).

*Corresponding Author: DevitaRizkiTahtaKuswanto¹ www.aijbm.com 89 | Page
Customer loyalty is directly affected by e-trust and e-satisfaction, determined by the quality of electronic services (Ghalandari, 2012). One of the ways to increase electronic service satisfaction is to provide quality electronic services—the positive effects of electronic services, namely confidence in the loyalty of customers who have been proven. By increasing trust in electronic services, consumers tend to use these services more (Molaei et al., 2013).

Here, e-trust and e-security together affect the development of e-loyalty directly (Afsar, Nasiri, and Zadeh, 2013). Furthermore, the results show that security or privacy is a driving dimension of e-trust, which ultimately leads to e-loyalty (Kim et al. 2009). However, this research found no positive influence between service quality and loyalty (Nurlitasari and Syah, 2016). This is not following other studies that state a close relationship between service quality and satisfaction. Thus, customer e-satisfaction directly affects customer e-loyalty and is not mediated by e-trust (Hoq et al., 2010). Here, e-trust does not affect consumer e-loyalty negatively (Sativa and Astuti, 2016). Here, the negative influences indicate that e-trust on the site does not affect e-loyalty to the site. These phenomena demonstrate the difference in the effect of e-trust on e-loyalty, where e-trusts can be the independent variable and as a mediator in the study. This study will clarify the gaps in existing research results by examining the effect of e-trust as a mediating variable in the relationship between e-service quality and e-loyalty.

II. LITERATURE REVIEW

Relationship Between Variables and Hypothesis Development

Relationship between Self-service technology, service quality, and E-Satisfaction

Self Service Technology (SST) is a technology intermediary that allows consumers to produce their services without depending on employees, for example, services via the internet. Here, the SST explained that there had been a lot of evidence that technological innovation will continue to increasingly influence consumer interactions with companies, where this interaction will be an essential criterion for long-term corporate business success. Thus, the seven dimensions that shape consumer expectations of service quality in self-service technology (SST), namely functionality, enjoyment, security or privacy, design, assurance, convenience, and customization.

The four dimensions of E-SQ (ease of use, website design, security, and reliability) positively impact user satisfaction. When customers get the service they want and met, they will feel the e-satisfaction of banks in retaining customers and encouraging e-loyalty (Al-hawary and Americanian, 2018). Furthermore, e-service quality in online business and its effect on customer e-satisfaction and e-loyalty is revealed that service quality factors such as responsiveness and trust positively affect e-satisfaction and e-loyalty (Sundaram et al. (2017)). The determinants of self-service technology service quality influence e-satisfaction and show that all five determinants of self-service technology service quality have a positive and significant effect on e-satisfaction (Bansal and Singh, 2018). From all the descriptions above, it can be concluded that self-service technology service quality has a positive impact on e-satisfaction. Based on the above literature, we propose a hypothesis as follows:

**H1:** Good self-service technology service quality has a positive effect on e-satisfaction.

Relationship Self-service technology, service quality, and E-Loyalty

The improvement relationship between buyers online and sellers online and mutual benefits (Ting et al., 2016) efficiency, privacy, and customer service are the main factors for e-servicequality. Furthermore, satisfaction was also found to mediate the relationship between e-service quality and e-loyalty of behavior and attitudes (Obeidat et al., 2017). The findings further confirm that the application of self-service technology service quality is oriented towards customer service to meet the long-term impact on e-loyalty (Dijajanto et al. 2014). From all the descriptions above, it can be concluded that self-service technology, service quality has a positive effect on e-loyalty. Based on the literature above, we propose a hypothesis as follows:

**H2:** Self-service technology service quality good influence positively on e-loyalty

E-Satisfaction and E-Loyalty Relationship

In the online context, e-satisfaction is defined as the cumulative result of one party or someone who has different experiences with a product or service within a certain period (Szymanski and His, 2000). E-satisfaction is defined as the experience felt after using a product and compares the perceived quality with the expected rate (Gounaris et al., 2005). E-satisfaction measures the overall level of customer satisfaction from an online shopping experience (Gounaris et al. 20.05). Here, e-satisfaction is the affective state of customers to the website obtained from evaluating all aspects that makeup customer relationships.

Here, customer satisfaction and trust have a significant effect on customer loyalty. Thus, the fulfillment of products, services, and the purchase have an influence positive and powerful. The impacts of e-satisfaction and e-trust on e-loyalty and identifies the factors that affect e-satisfaction. The results show that e-
service quality, e-trust, and e-satisfaction positively affect e-loyalty (Aytekin and Tunali, 2018). In this context, banks must provide online transaction procedures, information on how to deal with security issues, and instructions on using internet banking services safely (Amin, 2016). From all the descriptions above, it can be concluded that e-satisfaction has a positive impact on e-loyalty. Based on the literature above, we propose a hypothesis as follows:

**H 3:** Good e-satisfaction has a positive effect on e-loyalty

**Self-service technology, service quality and e Trust relationship**

Self-service e-service quality will affect e-trust when making transactions. The main factor affecting e-trust is security in the transaction. If consumers know that any information they provide to companies when using online services will make consumers not hesitate to giving this information. Here, a credit card has a good level of e-trust needed in an online service to make payments via cred. There's there is a concern that hacks on credit cards will harm consumers.

Furthermore, the quality of content is an essential determinant of e-trust on a website. At the same time, users need to be provided with helpful content on the website for them to be accepted by them. Usability influences the user's intention to use the website in the future. Self-service -Service-Service has an influence, self-e-Service-Service service impacts customer satisfaction, and trust have an e-satisfaction as customers, e-satisfaction customers have an impact loyalty(Fajarini, 2016). In the SST service line, customers with a high level of banking activity have a higher level of trust (Dimtriadis et al., 2011). From all the descriptions above, it can be concluded that e-service quality has an impact on e-trust. Based on the literature above, we propose a hypothesis:

**H 4:** Self-service technology service quality good influence positively on e-trust.

**E-Trust and E-Loyalty Relationship**

E-trust or consumer knowledge involves believing that a product has various attributes and the benefits of these various multipletributor company can be trusted because they have high integrity associated with consistency, competence, honesty, fairness, and responsibility. A person is looking for products and services that will solve problems and fulfill their needs. In other words, they have attributes that will provide recognizable benefits.

Self-service and e-service quality directly affect e-trust and e-satisfaction and indirectly affect e-satisfaction through e-trust. This means that the betters the Service e-servicequality, the more many e-trust and e-satisfaction, e-trust and e-satisfaction jointly affect e-loyalty (Ghalandari, 2012). E-trust and e-security jointly affect the development of e-loyalty directly. If they do not abuse consumer accounts, customers will trust the website because they trust that they will not share data with other parties, harming customers (Afsar et al., 2013). The company must consider factors such as after-sales support, to show interest in resolving the problems faced by customers and to respond rapidly to the needs of the customer so that the customer will have an e-trust from all the above descriptions can be concluded that the e-trust have a positive impact on e-loyalty. Based on the literature above, we propose a hypothesis as follows:

**H 5:** E-trust has a positive effect on e-loyalty.

### III. SCIENCE RESEARCH METHOD

**Population and Sampling Techniques**

This study obtains the data taken from Bank Mandir customers at Regional Office 4, Central Jakarta, who used Mandiri online. We use a precise method to object accurate samples and a representative sample to describe the population optimally while collecting the data observation. The minimum sample size ranges from 100 to 200 observation comments on the number of indicators estimated. The guideline to collect the data reached 5-20 times with an estimated number of indicators around 36 questions. In this study, the questionnaires are taken 36 times with 5 question indicators with 180 plus and 10% for indications of dropout from the study, so the total is 198 samples. So, this study using purposive sampling, namely customers who actively use online independent banking services at Bank Mandiri. Regional Office 4, Central Jakarta, with a total of 200 customers.

**Measurement**

There are four independent variables (exogenous) in our study: self-service technology, service quality, e-satisfaction, e-trust, and one dependent variable (endogenous), namely e-loyalty. We measure the variable self-service technology service quality by using indicators of 20 indicators and then to e-satisfaction as many as five indicators (Herington and Weaven, 2009). E-trust in the adoption has six indicators to assess the value (Jarvenpaa et al., 2000). As for the e-loyalty variable, usesfiveindicateneed the measurement scale uses the Likert scale method (Amin, Isa, & Fontaine, 2013). Furthermore, from the measurement dimensions displayed in the form of a questionnaire, we tested the validity and reliability tests.

*Corresponding Author: DevitaRizkiTahtaKuswanto*  
[www.aiibm.com](http://www.aiibm.com)
This study uses confirmatory factor analysis to test the validity by looking at the Kaiser-Meyer-Olkin measure of sampling (KMO) value and the measures of sampling adequacy (MSA). The small KMO value indicates that factor analysis cannot be used because other variables cannot explain the correlation between the variable pairs. If the KMO value is below 0.5, then factor analysis cannot be used or accepted. Meanwhile, the acceptable KMO value has a minimum value limit of 0.5 to 0.9 (Malhotra, 2010). A reliability test with a Cronbach alpha value > 0.5 means reliable (Azwar, 2012). We process the data using the SEM (Structural Equation Modeling) analysis method in the next stage. SEM can explain the relationship of variables in a complex manner and the direct or indirect effects of one or more variables on other variables (Hair et al. 2014).

IV. RESULTS AND DISCUSSION

We focus this research on the effect of self-service technology service quality, e-trust, and e-satisfaction on e-loyalty. The results show that all hypotheses have meaningful influence.

As the SEM test that we have done, it can be seen in Figure 1.1 below:

Figure 1.1 Path Diagram T-Value

Image Caption 1:
SST (self-service technology service quality), ES (e-satisfaction), ET (e-trust), and LOY (e-loyalty) Based on Figure 1.1 Path Diagram T-Value above, which is the hypothesis in this study, is presented in the following structural equation:

Table I. Hypothesis Testing for the Research Model

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Hypothesis statement</th>
<th>Value T-Value</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁</td>
<td>Self-service technology, good service quality has a positive effect on e-satisfaction</td>
<td>12.58</td>
<td>The data support the hypothesis</td>
</tr>
<tr>
<td>H₂</td>
<td>Self-service technology, good service quality has a positive effect on e-loyalty</td>
<td>3.18</td>
<td>The data support the hypothesis</td>
</tr>
<tr>
<td>H₃</td>
<td>Good e-satisfaction has a positive effect on e-loyalty</td>
<td>1.98</td>
<td>The data support the hypothesis</td>
</tr>
<tr>
<td>H₄</td>
<td>Self-service technology, good service quality has a positive effect on e-trust</td>
<td>13.72</td>
<td>The data support the hypothesis</td>
</tr>
<tr>
<td>H₅</td>
<td>E-trust has a positive effect on e-loyalty.</td>
<td>4.59</td>
<td>The data support the hypothesis</td>
</tr>
</tbody>
</table>

Source: SEM Lisrel data processing results

V. DISCUSSION

Here, the result obtained for the first hypothesis in this study was obtained that self-service technology service quality is good to impact e-satisfaction to customer Mandiri Online positively.
The influence of the self-service technology service quality, e-satisfaction, and ...  

The result of this study is in line with the resulting development of previous studies, which state that good self-service technology service quality has a positive effect on e-satisfaction. However, this is not in line with the outcome which in their research found that there was no positive influence between service quality and loyalty.

Then the two hypothesis testing results show that the self-service technology service quality positively influences e-loyalty in customers' Mandiri Online. The results of this study are in line with the results of previous studies, which state that good self-service technology service quality has a positive effect on e-loyalty. Testing the third hypothesis shows that there is a relationship between e-satisfaction and e-loyalty of Mandiri Online customers. The results of this study are in line with the results of previous studies, which state that good E-satisfaction has a positive effect on e-loyalty.

Then the results of testing the hypothesis of four show that self-service technology service quality positively influences the e-trust of customers Mandiri Online. But he did not follow the results of research HOQ, which found that customers' e-satisfaction directly affects e-loyalty and is not mediated by e-trust. Keep in mind that satisfaction can arise quickly in several times of use, but trust arises in a long time, and confidence must have decreased. It will be challenging to increase again. The results are consistent with previous research which states that Self-service technology service quality good influences positively e-trust.

The results of the last hypothesis in this study, namely the fifth hypothesis, indicate that E-trust has a positive influence on the e-loyalty of Mandiri Online customers. Here confidence boosts loyalty, but many models in which these have a central role. In a model of this, the belief directly affects loyalty, and quality of service affects loyalty through satisfaction and trust. The results of this study are in line with the results of previous studies which state that E-trust has a positive effect on e-loyalty.

VI. MANAGERIAL IMPLICATIONS

Rapid technological advances have shifted the banking service model for customers, especially in online services. Online banking services have become a basic necessity for everyone who has the right to get it. Changes in technology in everyday life have pushed the need for faster banking services and reduced direct customer participation with banks where everything can be done through an online application. So, banks need to continue to improve service quality which is currently at the forefront of serving customers. The increase in the first place to start is by increasing the functionality of applications Independent Online. To increase SST in this dimension, banks can simplify the stages in conducting transactions so that customers can make transactions easily and quickly, for example, by providing shortcuts for frequent transactions and reducing transaction failure rates that can occur when customers make transactions. Another thing that can be done is facilitating login access, namely by using face and fingerprint access to feel more and more speed in transactions.

VII. CONCLUSION

The results that can be concluded from this research are, firstly, there is a relationship between self-service technology service quality and e-satisfaction with Mandiri Online customers. Second, there is a relationship between self-service technology service quality and e-loyalty to Mandiri Online customers. Third, there is a relationship between e-satisfaction with e-loyalty to Mandiri Online customers, fourth there is a relationship between self-service technology service quality and e-trust in Mandiri Online customers. Fifth, there is a relationship between e-trust and e-loyalty to Mandiri customers Online.

Research limitations refer to several weaknesses in this study. Some of the restrict of this study are that this study only discusses the variables of self-service technology, service quality, e-satisfaction, e-trust, and e-loyalty. Furthermore, there is a possibility that the respondents did not fill in or only filled in based on the ideal conditions that were expected and not the actual conditions that were happening. The development of future research can add other variables that can influence self-service technology, service quality, e-satisfaction, e-trust, and e-loyalty to Mandiri Online customers to maintain e-loyalty towards Mandiri Online. Further research can be carried out on research objects in other companies or industries, or other organizations to obtain more objective results with a broader scope. Further research can also add variables to perceived brand value and others.

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The influence of the self-service technology service quality, e-satisfaction, and …

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