

The Effect of Self-Service Technology on Customers' Trust and Loyalty (Case Study at Terminal 3 Self-Service Technology Soekarno-Hatta International Airport)

Ramos Purba¹, Yevis Marty Oesman², Rita Komaladewi³

^{1,2,3}Universitas Padjadjaran, Indonesia

ramos.purba@gmail.com, yevis.marty@unpad.ac.id, rita.komaladewi@unpad.ac.id

Abstract

This study aims to analyze the effect of self-service technology (SST) on customer's trust and loyalty at PT. Angkasa Pura II (Persero) by taking the object of study at Terminal 3 of Soekarno-Hatta International Airport. This study uses service performance report data and self-service complaint reports for the period 2019 and 2020 to February 2020. The research method in this study is a quantitative method with SEM analysis tools - Partial Least Square (PLS). The results show that self-service technology (SST) has a significant effect on customer's trust. Self-service technology (SST) does not necessarily have a direct and significant effect on customer's loyalty, but through new customer's trust, it is able to increase customer's loyalty. The results show that customer's trust has a significant effect on customer's loyalty. The increase in customer's loyalty is occurred in line with the increasing trust of PT. Angkasa Pura II (Persero) customers in the quality of the performance of self-service operating services at the airport.

Keywords

self-service technology;
customer's trust; customer's
loyalty



I. Introduction

Developments in the adoption of digital media/channels allow airports to gain a competitive advantage through innovative offerings for passengers. With the growing consumer market that understands digital technology, airport passengers are now looking for special functions and self-contained mobile solutions to further simplify the passenger experience at the airport. Terminal 3 of Soekarno-Hatta International Airport (hereinafter referred to as Terminal 3) is managed by PT. Angkasa Pura II (Persero). Terminal 3 officially opened to the public starting on August 9, 2016. Terminal 3 serves 30.4 million domestic and international departures in 2018 or an average of around 84 thousand passengers per day.

Self-service is a concept of an ease service for service users at airports by using all digital facilities at airports which aim to provide convenience to every process of passengers' departure and arrival at the airport (PT. Angkasa Pura II Directors Regulation Number PD.13.01/09/2019/0081 dated 18th of September 2019 concerning the Standardization of Self-Service Journey Experience at PT. Angkasa Pura II (Persero) Airport). In its application, not all self-service technology can help facilitate the needs of service users at the airport. Therefore, they are often unable to solve problems which customer experienced while at the airport.

Based on the results of data collection of service user complaints managed by Contact Center Airport 138, self check-in and autogate immigration services are included in the Top 5 categories of Other Facility Complaints. These problems are recorded to be the most complained problems by service users at the airport. Some of the self check-in problems which are experienced by customers at terminal 3 include the difficulties in using the self check-in machine and the problems in undetected booking code so that it failed to print the boarding pass. This fact raises concerns that it will reduce the level of customer's trust and loyalty. Likewise with the autogate service, there are still a few passengers who use the autogate at the international departure Terminal 3 of Soekarno-Hatta Airport. Some other complaints from airport service users are related to the damage of the autogate machine which causes queuing of passports at immigration counters and to the self check-in machines which causes long queues at check-in counters.

The minimal use accompanied by the failure to use self-service technology will indicate the suspicion that the airport service users will not believe in the ability of self-service technology which it should make it easier for airport service users to use these services. These problems will decrease the level of customer's trust and it also will have the implications for customer's loyalty.

Thus, the objectives of this study are: (1) to identify and analyze the effects of technology related to the self-service (SST) on the level of trust of customers, (2) to identify and analyze the effects of technology related to the self-service (SST) on the level of customer's loyalty, (3) to study and examine the influence that comes from the level of customer's trust on the level of customer's loyalty, and (4) to evaluate and assess the influence that comes from technology related to the self-service (SST) mediated by customer trust on the level of loyalty from customers. According to Priansa in Nusjirwan (2020) "Implementation of communication activities to customers within the company is carried out formally, however, currently there are also companies that practice their communication activities to consumers in an informed manner so that they can explore in-depth information from customers". Regarding the background, this research considers the customer value as an important element for an industry, both in service and manufacture. Moreover, the maximum customer value can be made only if positive influence of marketing and individual environment association does exist (Kusumadewi, 2019). The quality of products that are in great demand by consumers can be seen from several factors including packaging, price, quality, and benefits obtained by consumers (Romdonny, 2019).

II. Review of Literature

2.1 Service Quality

The service quality is a measure owned by the customer and it is related to the expectations with the reality that customers receive based on the quality of the service they receives. (Lewis & Booms, 1983). According to Parasuraman, Zeithaml, and Berry (1990), it is known that the quality of service is related to the condition of the differences between the expectations and the experienced or felt reality experienced by customers regarding the service they receive or feel from the service provider.

Self-Service Technology Quality (SSTQUAL). Self-service technology has functions to help customers with the use of a service, but it is done independently or done by oneself (Meuter, Ostrom, Roundtree, & Bitner, 2000). Lin (2011) described that seven dimensions, that shape consumer expectations of service quality in self-service technology (SST), are including:

1. Functionality

This dimension represents the functional characteristics of self-service technology (SST), namely:

- a. Reliable related to the capability in terms of providing consistent reliable services.
- b. Responsive related to the ability of the SST device to respond to commands that are entered into the system by the user.
- c. Simple and easy to use and this device can be operated easily and requires very little effort.
- d. Quick respond to request and the service on SST devices can be completed in a short time.

2. Enjoyment;

Enjoyment represents the perceived enjoyment and interest that users encounter while using and after using SST devices.

3. Security/Privacy

This dimension refers to the freedom from the risk or doubt that the user will feel. The facilities which are provided by SST devices in building will give a sense of security and comfort to the customers while operating it.

4. Design

The design embraces the overall appearance of SST, which gives off a good aesthetic appearance. The beauty of the shape and arrangement of the SST devices to create an appearance that attracts customers to use.

5. Assurance

Assurance illustrates the confidence because of the reputation and competence of SST devices because it can provide a sense of security to its customers. The guarantee dimension has a role in the service industry especially when consumers lack of confidence in the capabilities of the industry because they have a high risk.

6. Convenience

This dimension describes the accessibility of SST services, with the ease and convenience of SST services to use.

7. Customization

Customization is a dimension in which SST devices can be changed to suit consumer's preferences and desires. This dimension aims to understand and meet customer's needs by not being fixated on the system structure.

2.2 Customer's Trust

Mayer et al. (1995) emphasized that a person's trust is formed by three things, namely ability, benevolence, and integrity. These three things can be described as follows:

1. Ability

The ability must have a reference of the competence and characteristics of the organization. How the organization is able to make, provide, deliver, and ensure that there is no interference from other parties. The ability to have indicators, namely competence, experience, institutional approval, and knowledge in science.

2. Benevolence

Benevolence is the desire and intention of the organization in providing mutual satisfaction between the organization and consumers. Benevolence has indicators, namely attention, empathy, confidence, and acceptance.

3. Integrity

Integrity relates to the manner and behavior or habits of the organization in carrying out its activities. Integrity has indicators, namely fairness, fulfillment, loyalty, candor, linkage, and reliability.

The choice of variables is based on the dimensions that they have according to the described expert's understanding above. The measurement uses the three dimensions of trust because they are in accordance with the characteristics of the study. Phenomena related to trust variables includes the low use of SST services such as autogate and self check-in, as well as failure to use Wi-Fi services.

2.3 Customer's Loyalty

Kotler and Keller (2013: 57) described that the dimensions of customer loyalty are as follows:

1. Repeat Purchase, namely a repeat purchase by a customer which indicates the loyalty of the customer himself.
2. Retention, namely the resilience that customers have against negative influences about the company.
3. Referrals, namely referring or recommending to others.

An explanation of the dimensions of customer's loyalty from Kotler and Keller (2013: 57), namely repeat purchases (repeated use) and referrals (give recommendations) is in accordance with the characteristics of this study. This explanation is also supported by Griffin's statement (2005) which explains that loyal consumers have characteristics, namely: repeated use related to services, recommend SST services to others, and provide feedback to companies. The measurement of this research uses the dimensions of repeated use, recommendations, and feedback.

As the purpose of this study, a frame of mind that describes the flow of thinking in this study is made as in the following figure:

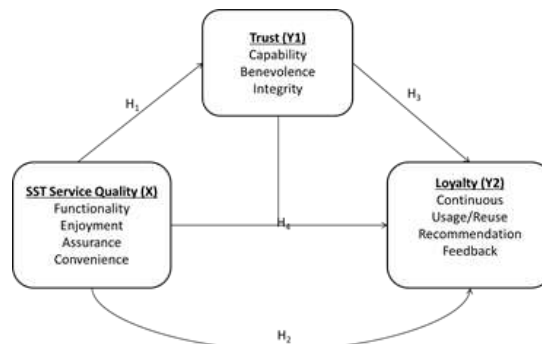


Figure 1. Research Paradigm

2.4 Hypothesis

The Influence of Self-Service Technology on Customer's Trust and Customer's Loyalty, H1: Self Service Technology (SST) has an influence on the trust of customers H2: Self Service Technology (SST) has an influence on customer's loyalty, H3: Trust from customers has an influence on the loyalty of customers, and H4: Self Service Technology (SST) has an impact on customer loyalty through customer's trust.

III. Research Methods

In the implementation of this research, carried out by means of descriptive-verification. The purpose of the descriptive approach is to provide an explanation regarding the characteristics of self-service technology, trust and loyalty from customers, namely service users from Soekarno-Hatta International airport at terminal 3. Meanwhile the verification approach is carried out to find out the truth related to the hypothesis from research through the process of collecting field data. In the implementation of the research, an analysis was carried out and related to the influence of the variable self-service technology as a variable with an independent type on the trust loyalty from customers as variables with the dependent type. After that, several stages of statistical tests were carried out which were the results of the research and materials to make conclusions about the research.

IV. Discussion

4.1 Evaluation of the Outer Model

Convergent Validity

Below is a picture of the convergent validity of the indicator against the SST variable:

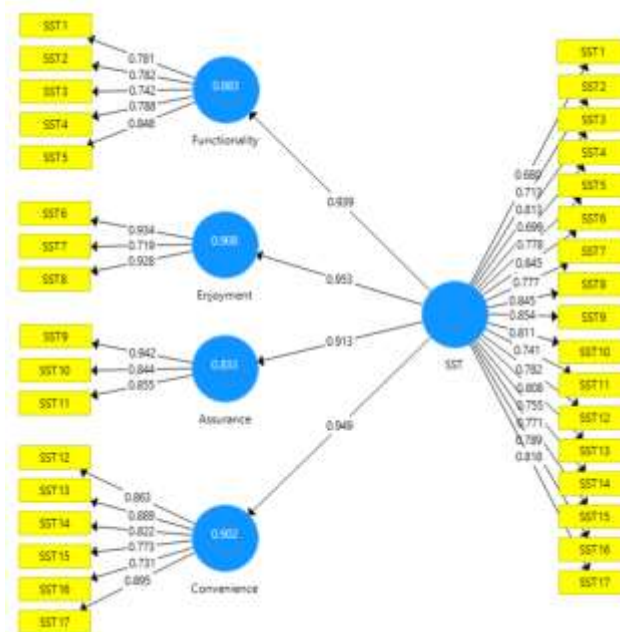


Figure 2. Convergent Validity of Indicators on SST Variables

Figure 2 is the result of the evaluation of the model with the convergent validity of the indicator against the SST variable. The following is the loading factor value of the indicator on the SST variable.

Table 1. Value of Loading Factor Indicator against Variable SST

Validity	Test Result	
	Effect	Loading Factor
Convergent Validity (Outer Loadings)	SST1 <- X1	0.781
	SST2 <- X1	0.782
	SST3 <- X1	0.742
	SST4 <- X1	0.788
	SST5 <- X1	0.848
	SST6 <- X2	0.934
	SST7 <- X2	0.719
	SST8 <- X2	0.928
	SST9 <- X3	0.942
	SST10 <- X3	0.844
	SST11 <- X3	0.855
	SST12 <- X4	0.863
	SST13 <- X4	0.889
	SST14 <- X4	0.822
	SST15 <- X4	0.773
	SST16 <- X4	0.731
	SST17 <- X4	0.895
Average		0.832

Information:

X1 = Dimension of Functionality

X2 = Enjoyment Dimension

X3 = Assurance Dimension

X4 = Convenience Dimension

Table 1 is the loading factor of indicator value for the SST variable. Based on Figure 2 and Table 1, it can be explained that the average loading factor value of 0.832 describes the overall indicator with the SST variable having a strong relationship. The strongest relationship is found in the enjoyment dimension with a loading factor of 0.953 by indicating that the relationship between these dimensions is very strong on the SST variable.

The strongest relationship is found in the indicator of self-service which guarantees a sense of security with a loading factor of 0.942, indicating that the relationship between these indicators is very strong on the assurance dimension. This condition illustrates that SST service guarantees are still a concern and what customers need from SST services.

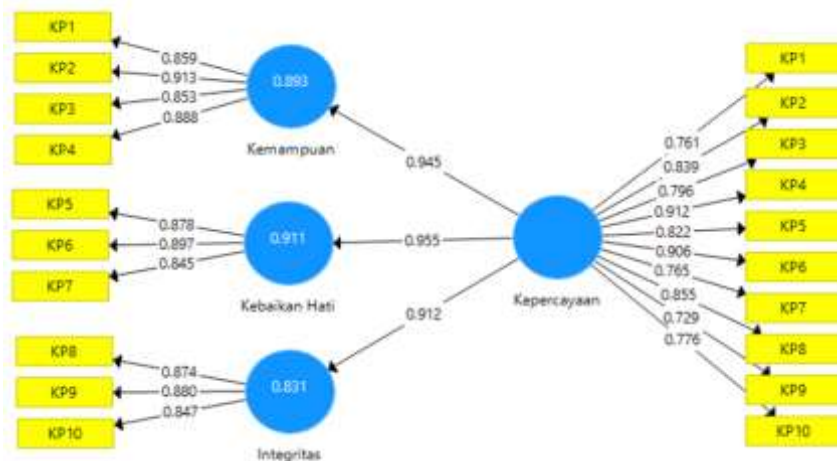


Figure 3. Convergent Validity of Indicators on Customer's Trust Variables

Figure 3 is the result of model evaluation with convergent validity of indicators on customer's trust variables. The following is the loading factor value of the indicator on the customer's trust variable.

Table 2. The Value of Loading Factor Indicators on Customer's Trust Variables

Validity	Test Result	
	Effect	Loading Factor
Convergent Validity (Outer Loadings)	KP1 <- Y1.1	0.859
	KP2 <- Y1.1	0.913
	KP3 <- Y1.1	0.853
	KP4 <- Y1.1	0.888
	KP5 <- Y1.2	0.878
	KP6 <- Y1.2	0.897
	KP7 <- Y1.2	0.845
	KP8 <- Y1.3	0.874
	KP9 <- Y1.3	0.880
	KP10 <- Y1.3	0.847
Average		0.873

Information:

Y1.1 = Ability Dimension

Y1.2 = Dimension of Kindness

Y1.3 = Dimension of Integrity

Table 2 is the value of loading factor indicators on customer's trust variables. Based on Figure 3 and Table 2, it can be explained that the average loading factor value of 0.873 describes the overall indicator with the customer's trust variable having a strong relationship. The strongest relationship is in the dimension of kindness with a loading factor of 0.955, indicating that the relationship between these dimensions is very strong on the variable of customer's trust.

The strongest relationship is found in the indicator of the experience of airport managers in providing quality self-service with a loading factor of 0.913, indicating a very strong relationship between these indicators on the capability dimension. This condition illustrates that the experience of airport managers in providing quality independent services is still a concern and the main thing of customer's trust.

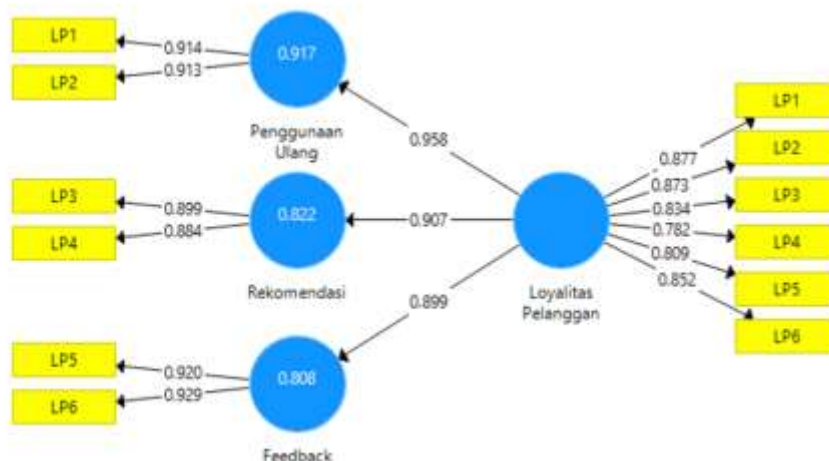


Figure 4. Convergent Validity of Indicators on Customer's Loyalty Variables

Figure 4 is the result of the evaluation of the model with the convergent validity of the indicator on the customer's loyalty variable. The following is the loading factor value of the indicator on the customer's loyalty variables.

Table 3. The Value of Loading Factor Indicators on Customer's Loyalty Variables

Validity	Test Result	
	Effect	Loading Factor
Convergent Validity (Outer Loadings)	LP1 <- Y2.1	0.914
	LP2 <- Y2.1	0.913
	LP3 <- Y2.2	0.899
	LP4 <- Y2.2	0.884
	LP5 <- Y2.3	0.920
	LP6 <- Y2.3	0.929
Average		0.910

Information:

Y2.1 = Reuse Dimension

Y2.2 = Recommended Dimensions

Y2.3 = Feedback Dimensions

Table 3 is the value of loading factor indicators on customer's loyalty variables. Based on Figure 4 and Table 3, it can be explained that the average loading factor value of 0.910 illustrates the overall indicator with the customer's loyalty variable having a strong relationship. The strongest relationship is in the reuse dimension with a loading factor of 0.958, indicating that the relationship between these dimensions is very strong on the customer's trust variable.

The strongest relationship is found in the indicator of customer's commitment regarding the reuse of self-service at terminal 3 with a loading factor of 0.914, indicating that this indicator is very strong in the relation to the dimension of reuse. This condition illustrates that the customer is strongly committed to reusing self-service at terminal 3.

4.2 Average Variance Extracted (AVE)

Table 4. Average Variance Extracted (AVE)

Variable	AVE	Test Criteria > 0.5
Self Service Technology (X)	0.611	Valid
Customer's Trust (Y1)	0.669	Valid
Customer's Loyalty (Y2)	0.611	Valid

Table 4 is the AVE value of each latent variable in this study. According to the regulations, the AVE value must be above 0.5 (Hair, 2014). Based on the data in the table above, it is known that all latent variables have an AVE value above 0.5. Therefore, the model has a decent convergent validity and can represent all indicators in their respective variables.

a. Discriminant Validity

Cross loading factor used to determine whether the latent variable has sufficient discriminant or not by comparing the correlation of the indicator with the latent variable. And, it must be greater than the correlation of the indicator with other latent variables.

Table 5. Cross Loadings of Self Service Technology Variables

Indikator	X	Y1	Y2
SST1	0.704	0.474	0.353
SST2	0.707	0.409	0.293
SST3	0.800	0.422	0.364
SST4	0.714	0.506	0.470
SST5	0.803	0.558	0.444
SST6	0.833	0.480	0.414
SST7	0.801	0.559	0.452
SST8	0.832	0.468	0.391
SST9	0.849	0.567	0.457
SST10	0.798	0.466	0.381
SST11	0.728	0.423	0.340
SST12	0.766	0.361	0.260
SST13	0.791	0.395	0.246
SST14	0.756	0.502	0.484
SST15	0.795	0.541	0.416
SST16	0.795	0.494	0.468
SST17	0.802	0.412	0.246
KP1	0.654	0.774	0.548
KP2	0.639	0.847	0.635
KP3	0.535	0.804	0.670
KP4	0.408	0.907	0.667
KP5	0.490	0.816	0.599
KP6	0.412	0.902	0.671
KP7	0.367	0.759	0.504
KP8	0.458	0.854	0.753
KP9	0.437	0.725	0.527
KP10	0.578	0.771	0.496
LP1	0.437	0.595	0.863
LP2	0.423	0.750	0.890
LP3	0.374	0.615	0.834
LP4	0.434	0.683	0.805
LP5	0.487	0.534	0.797
LP6	0.370	0.535	0.833

Information:

X = Self Service Technology

Y1 = Customer's Trust

Y2 = Customer's Loyalty

Table 5 is the data cross loadings of each indicator and its variables. Based on the data above, all correlation values between indicators and their variables are greater than the correlation values between indicators and other variables.

b. Composite Reliability

Composite reliability measures internal consistency and the value must be greater than 0.708, but in explanatory research 0.60 to 0.70 is acceptable (Hair, 2014). The following is the result of the Composite Reliability calculation.

Table 6. Composite Reliability

Variable	Composite Reliability	Test Criteria > 0.7
Self Service Technology (X)	0.964	Valid
Customer's Trust (Y1)	0.953	Valid
Customer's Loyalty (Y2)	0.934	Valid

Table 6 is the data value of the composite reliability for each variable. Based on the table above, it is known that the model in this study is in accordance with the standard composite reliability value above 0.708 so that the model has high reliability and can be tested further. The composite reliability value on each variable is summarized as follows:

1. The 17 used indicators consistently depict 96.4% of the information from self-service technology variables.
2. The 10 used indicators consistently describe 95.3% of information from customer's

trust variables.

3. The 6 used indicators consistently describe 93.4% of information from customer's loyalty variables.

c. Cronbach Alpha

The reliability test was further strengthened by Cronbach alpha where the expected value was above 0.708 (> 0.708) for all constructs (Hair, 2014).

Table 7. Cronbach Alpha

Variable	Cronbach Alpha	Test Criteria > 0.7
Self Service Technology (X)	0.960	Valid
Customer's Trust (Y1)	0.944	Valid
Customer's Loyalty (Y2)	0.915	Valid

Table 7 is the Cronbach alpha value data for each variable. Based on the table above, it is known that the model in this study is in accordance with the standard Cronbach alpha value above 0.708. Therefore, the model has high reliability and can be tested further. The Cronbach alpha value for each variable is summarized as follows:

1. The 17 used indicators consistently describe 96% of the information from the self-service technology variable.
2. The 10 used indicators consistently describe 94.4% of information from customer's trust variables.
3. The 6 used indicators consistently describe 91.5% of information from customer's loyalty variable.

4.3 Evaluation of Inner Model

a. R-Square

R-Square is the coefficient of determination in endogenous constructs. The R-Square value is used to measure the degree of variation in exogenous variable changes to endogenous variables. The criteria for the R-Square value are 0.67 (strong), 0.33 (moderate), and 0.19 (weak) (Chin, 1998).

Table 8. R-Square Value

Variable	R- Square
Self Service Technology (X)	-
Customer's Trust (Y1)	0.379
Customer's Loyalty (Y2)	0.565

Table 8 is the data on the R-Square value of each variable. Based on the table above, it is known that the effect of self-service technology (X) on customer's trust (Y1) is 0.379 or 37.9%. Thus, it can be interpreted that the variation of changes in customer's confidence, which can be explained by self-service technology, is 37.9%. However, the remaining 63.1% is explained by other factors outside the proposed model in this study. The R-Square value of 0.379 is included in the moderate category.

The effect of self-service technology (X) on customer's loyalty (Y2) is 0.565 or 56.5%. Thus, it can be interpreted that the variation of changes in customer's loyalty, which can be explained by self-service technology, is 56.5%. However, the remaining 43.5% is explained by other factors outside the proposed model in this study. The R-Square value of 0.565 is included in the moderate category.

b. Path Coefficients

Table 9. Path Coefficients

Variable	Path Coefficients
SST - KP	0.616
SST - LP	0.066
KP - LP	0.708
SST - KP - LP	0.436

Information:

SST = Self Service Technology

KP = Customer's Trust

LP = Customer's Loyalty

Table 9 is the value data for the path coefficients between variables. Each value of the path coefficients in the table is above 0 and below 1. Based on the data above, it is known that the direction of the relationship between the variables has a positive direction. However, the relationship between the variable self-service technology (SST) and the customer's loyalty variable can be interpreted as having no positive relationship because the value is close to zero. Thus, it can be interpreted as follows:

1. Self-service technology (SST) has a positive influence on customer's trust. The results of the path coefficient indicate that the self-service technology owned by PT. Angkasa Pura II (Persero) is able to have a positive influence on increasing customer's trust in PT. Angkasa Pura II (Persero).
2. Self-service technology (SST) has no effect on customer's loyalty. Thus, it can be interpreted that the use of PT. Angkasa Pura II (Persero) self-service technology does not necessarily directly increase customer's loyalty.
3. Customer's trust has a positive influence on customer's loyalty. The results of the path coefficient above can be interpreted that if the customer believes, it will increase customer's loyalty directly. The higher the level of customer's trust, the higher customer's loyalty as well.
4. Self-service technology (SST) has a positive influence on customer's loyalty mediated by customer's trust. The results of the path coefficient above can be interpreted that the level of customer's loyalty will increase if customers have a strong belief in the quality of self-service services at the airport.

c. T-Statistics (Bootstrapping)

The t-statistics value must be above 1.96 for the two-tailed hypothesis and above 1.64 for the one-tailed hypothesis for testing the hypothesis at 5 percent alpha (Hair, 2010).

Table 10. T-Statistics

Variable	T-Statistics	Status
SST - KP	11.197	Significant (>1.65)
SST - LP	1.655	Not Significant (=1.65)
KP - LP	19.727	Significant (>1.65)
SST - KP - LP	8.535	Significant (>1.65)

Information:

SST = Self Service Technology

KP = Customer's Trust

LP = Customer's Loyalty

Table 10 is the t-statistics value data between variables. Based on the data above combined with the results of the path coefficients in table, the results of the hypothesis testing can be interpreted as follows:

1. Self-service technology (SST) has a positive and significant effect on customer's trust.
2. Self-service technology (SST) has no effect on customer's loyalty.
3. Customer's trust has a positive and significant impact on customer's loyalty.
4. Self-service technology (SST) has a positive and significant impact on customer's loyalty mediated by customer's trust.

d. Predictive Relevance

Prediction relevance testing is carried out by using the following formula:

$$\begin{aligned} Q^2 &= 1 - (1 - R_{12})(1 - R_{22}) \\ &= 1 - (1 - 0.379)(1 - 0.563) \\ &= 1 - 0.271 \\ &= 0.729. \\ &= 73\% \end{aligned}$$

Model error $100\% - 73\% = 27\%$.

Based on the above calculations, it can be interpreted that the model results of the analysis, namely 73% of the diversity of data, are able to study the phenomena used in the study, while 27% explain other components that are not observed in this model.

e. Goodness of Fit

The value of Goodness of Fit is obtained from the square root of the average communalities index multiplied by the average R² of the model. GoF values ranged from 0 to 1 with interpreted values: 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF).

$$GoF = \sqrt{comm. R^2}$$

Information:

Comm: average communalities

R² : average R² model

Based on the data in the previous table, the average value of the R² model is 0.472.

Table 11. Average Communalities

Variable	Communalities
Self Service Technology (X)	0.556
Customer's Trust (Y1)	0.594
Customer's Loyalty (Y2)	0.577
Average	0.576

Table 11 is the average communalities value which is used to calculate the GoF value. The average value of communalities was 0.576. Thus, the calculation of the GoF value is as follows:

$$GoF = \sqrt{0.576 \times 0.472}$$

$$GoF = 0.521$$

Based on the calculations above, it is known that the GoF value obtained is 0.521, which means it is included in the large category.

4.4 The Effect of Self Service Technology on Customer's Trust

The variable self-service technology (SST) consists of 4 dimensions, namely functionality, enjoyment, assurance, and convenience with 17 question indicators. Customer's trust variables consist of 3 dimensions, namely ability, kindness, and integrity with 10 question indicators. The effect of self-service technology on customer's trust has been shown in the previous analysis. The path coefficient value of the self-service technology variable on the customer's trust variable is 0.616 which means that it has a positive effect (value of 0 to 1). Then, the t-statistics value of the self-service technology variable on the customer's trust variable is 11,197 (above 1.65) with significance at the 95% confidence level. Furthermore, the first hypothesis H0 is rejected. The first hypothesis is that self-service technology has an influence on the accepted customer's trust variables. Furthermore, from this study it is known that self-service technology has a positive and significant effect on customer's trust variables.

The results of the above research support previous research conducted by Hou (2005). In the results of his research, Hou stated that the quality of technology-based services was able to build trust.

The results of the study illustrate that the self-service at PT. Angkasa Pura II (Persero) as a whole function is well and has a positive and significant effect on the level of customer's confidence in PT. Angkasa Pura II (Persero). Self-service, which includes error free, smooth operation, as well as clear service processes, increases customer's trust. It is supported by the commitment of PT. Angkasa Pura II to always have the best interest in providing the best service and have good faith in providing satisfaction for the self-service provided to customers.

4.5 The Effect of Self Service Technology on Customer's Loyalty

The customer's loyalty variable consists of 3 dimensions, namely reuse, recommendations, and feedback with 6 question indicators. The effect of self-service technology on customer's loyalty has been shown in the previous analysis. The value of the path coefficient of the self-service technology variable on the customer's loyalty variable is 0.066. This means that it has a positive direction (values of 0 to 1), but the value is still close to zero or it can be interpreted that it has no relationship. Then, the t-statistics value of the self-service technology variable on the customer's loyalty variable is 1.655 (= 1.65) with a significance at the 95% confidence level, which means it is not significant. Thus, the second hypothesis H0 is accepted. The second hypothesis is that self-service technology does not have an influence on the accepted customer's loyalty variables. The results of this study show that self-service technology has no direct effect on customer's loyalty.

The results of the research above do not support previous research conducted by Hou (2005). In the results of his research, Hou (2005) stated that the quality of

technology-based services was able to build loyalty. Similar to research conducted by Iqbal (2017) which the results state that the relationship between the quality of self-service technology and loyalty is positive and significant.

Result the research illustrates that the self-service at PT. Angkasa Pura II (Persero) as a whole functions is well but does not necessarily have a positive and significant effect on the level of customer's trust of PT. Angkasa Pura II (Persero) directly. This condition explains that the level of customer's loyalty not only cannot increase by itself but also by relying only on PT. Angkasa Pura II (Persero) self-service technology, even though the service in its overall operation can function well.

4.6 The Effect of Customer's Trust on Customer's Loyalty

The effect of customer's trust on customer's loyalty has been shown in the previous analysis. The path coefficient value of the customer's trust variable on the customer's loyalty variable is 0.708 which means that it has a positive effect (values 0 to 1). Then, the t-statistics value of the customer's trust variable on the customer's loyalty variable is 19,727 (above 1.96) with significance at the 95% confidence level. Furthermore, the third hypothesis H0 is rejected. The third hypothesis is that customer's trust has an influence on customer's loyalty received. The results of this study note that customer's trust has a positive and significant effect on customer's loyalty variables.

The results of the above research support previous research conducted by Hou (2005). In the results of his research, Hou (2005) stated that trust can form from loyalty. Similar to research conducted by Yap et al (2012) where the results of the study state that trust has a positive influence on customer's loyalty.

The results illustrate that the level of customer's trust in PT. Angkasa Pura II (Persero) as a whole is good and has a positive and significant effect on the level of customer loyalty of PT. Angkasa Pura II (Persero). The commitment of PT. Angkasa Pura II (Persero) to provide the best service and good faith to provide satisfaction with self-service, supported and provided by the company's integrity towards self-service resulting in increased customer loyalty, namely to always be loyal by using self-service at the airport, recommending self-service to friends, friends, family, or people around them, as well as providing feedback to PT. Angkasa Pura II (Persero), namely input suggestion to improve the quality of self-service at the airport.

4.7 The Effect of Self-Service Technology on Customer's Loyalty is Mediated by Customer's Trust

The results of the study illustrate that the self-service at PT. Angkasa Pura II (Persero) as a whole function well and has a positive and significant effect on the level of customer's confidence in PT. Angkasa Pura II (Persero). However, the results also state that the self-service at PT. Angkasa Pura II (Persero) as a whole function well but does not necessarily have a positive and significant effect on the level of customer's loyalty of PT. Angkasa Pura II (Persero) directly. This condition explains that the level of customer's loyalty cannot increase by itself and by relying on PT. Angkasa Pura II (Persero) self-service technology. Therefore it requires a level of customer's trust to influence the level of customer's loyalty.

V. Conclusion

Based on the results of research data analysis and discussion of the effect of self-service technology on customer's trust and loyalty, it can be concluded as follows:

1. Self-service technology has an influence on customer's trust. The resulting effect is positive and significant. This indicates that the good self-service technology of PT Angkasa Pura II provides and adds to the trust of airport service users in the services provided by PT Angkasa Pura II as airport managers.
2. Self-service technology does not have a direct influence on customer's loyalty. The resulting relationship is that there is no positive influence. This indicates that PT Angkasa Pura II's self-service technology has not been able to provide a service to airport service users which make direct service users will be loyal and indirect self-service users automatically become loyal when using self-service at airports.
3. Trust has an influence on customer's loyalty. The resulting effect is positive and significant. This indicates that the increasing trust of service users in the services provided by PT Angkasa Pura II will make service users loyal so that they continue to use the services of PT Angkasa Pura II.

References

- Abdillah, Willy, and Hartono, Jogiyanto. (2015). Partial Least Square (PLS) Alternatif Structural Equation Modelling (SEM) dalam Penelitian Bisnis. Yogyakarta: Penerbit ANDI.
- Agustiono, B. and Sumarno. (2006). *Majalah Ilmiah Kopertis*, 1(1): h; 1-18.
- Bogicevic, V., Wang, W., Cobanoglu, C., Bilgihan, A., & Bujisic, M. (2016). Travel Anxiety and Enjoyment: The effect of Airport Environment on Traveler's Emotions. *Journal of Air Transport Management*, 122-129.
- Bollen, K. A. (1989). *Structural Equations with Latent Variables*. John Wiley & Sons, Inc., Amerika.
- Briggs, S., Sutherland, J., & Drummond, S. (2007). Are hotel serving quality? An exploratory of service quality in the Scottish hotel sector. *Tourism Management*, 28(4), 1006-1019.
- Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. *Modern Methods for Business Research*, 295, 336
- Cristobal, Eduard, Carlos Flavián and Miquel Guinalú. (2007), "Perceived E-service Quality (PeSQ): Measurement Validation and Effects on Consumer Satisfaction and Web Site Loyalty," *Managing Service Quality*, 17 (3), 317–340.
- Ferdinand, A. (2000). *Structural Equation Modeling Dalam Penelitian Manajemen: Aplikasi Model-model Rumit dalam Penelitian untuk Tesis S-2 dan Disertasi S-3*. BP Universitas Diponegoro, Semarang.
- Fitzsimmons, J.A. 2003. "Is self-service the future of service?". *Journal Managing Service Quality*. Vol. 13 (6): 443-444.
- Griffin, Jill. 2005 *Customers' Loyalty: Menumbuhkan dan Mempertahankan Kesetiaan Pelanggan*. Edisi Terjemahan Indonesia. Jakarta: Penerbit Erlangga.
- Hair, Jr et. al. (2010). *Multivariate Data Analysis (7th ed)*. United States: Pearson
- Hair, Jr et. al. (2014). *Multivariate Data Analysis, New International Edition.*, New Jersey: Pearson.
- Hou, Younghai. 2005. "Service quality of online apparel retailers and impact on customers' satisfaction, customers' trust and customers' loyalty". Proquest Dissertations and Theses Publishing. North California, United States.
- Iqbal, Muhammad Shahid; Hassan, Masood Ul; Habibah, Ume. (2018). Impact of self-service technology (SST) service quality on customers' loyalty and behavioral intention: The mediating role of customers' satisfaction, *Cogent Business & Management*, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 5
- Jaffer, Suraya & Timbrell, Greg. (2014). *Journal Digital Strategy in Airports*.

- Kim, D. J., Ferrin, D. L., and Rao, H. R., 2003a. Antecedents of Consumer Trust in B-to-C Electronic Commerce, *Proceedings of Ninth Americas Conference on Information Systems*, pp. 157-167.
- Knight, D. H.M, V. Choudhury, C. Kacmar. 2002. The Impact of Initial Consumer Trust on Intentions to Transact with a Website: a Trust Building Model. *Journal of Strategy Information System*.
- Kotler, Philip and Keller, Kevin Lane. 2012. *Principles of Marketing*. 14th ed. Boston: Pearson Education Limited
- Kusumadewi, R. (2019). The Role of Marketing and Individual Environment Association in Elevating the Customer Value. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* Vol 2 (4): 451-460.
- Lewis, Robert C. and Bernard H. Booms (1983), "The Marketing Aspects of Service Quality," in *Emerging Perspectives on Services Marketing*, L. Berry, G. Shostack, and G. Upah, eds., Chicago: American Marketing, 99-107.
- Lin, J.S.C. & Hsieh, P.L. (2011, February). Assessing the self-service technology e-counters: development and validation of SSTQUAL scale. *Journal of Retailing*, 87, 194-206
- Lociacono, Eleanor, Richard T. Watson and Dale Goodhue (2002), "WebQualTM: A Web Site Quality Instrument," in *American Marketing Association: Winter Marketing Educators' Conference*, 432-8.
- Mayer, R.C., Davis, J. H., and Schoorman, F. D., 1995. An Integrative Model of Organizational Trust, *Academy of Management Review*, 30 (3): 709-734.
- Meuter, M.L., Ostrom, A. L., Roundtree, R. I., and Bitner, M. J. (2000, March). Self-service technologies: Understanding customers' satisfaction with technology-based service e-counters. *Journal of Marketing*, 64(3), 50-64.
- Moorman, C., Zaltman, G., and Deshpande, R. 1992. Relationships between providers and users of market research: The dynamics of trust within and between organizations. *Journal of Marketing Research*, Vol. 29 (3): 314-328.
- Morgan, R. M. & Hunt, S. D. 1994. The Commitment-Trust Theory of Relationship Marketing, *Journal of Marketing*, Vol. 58. July. <http://sdh.ba.ttu.edu/commitment-trust-JM94.pdf>. Accessed 20 June 2015. Pp. 20 – 38.
- Muawanah, U. (2010). *Praktik Corporate Governance dan Spiritual Islami di Perbankan Syariah: Pendekatan Mixed Method*. Disertasi PDIA PPS FEUB.
- Nusjirwan, Regen, R., and Nardo, R. (2020). The Role of Service Quality and Trust in Building Customer Satisfaction and Loyalty. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* Vol 3 (4): 4059-4069.
- Parasuraman, A., Zeithaml, V. A., and Berry, L.L. (2000, February). A multiple item scale for measuring consumer perception of service quality. *Journal of the Academy of Marketing Science*, 30(4), 358-371.
- Parasuraman, Ananthanarayanan, Valarie A. Zeithaml and Arvind Malhotra (2005), "E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality," *Journal of Service Research*, 7 (3), 213-3.
- Romdonny, J., and Rosmadi, M.L.N. (2019). Factors Affecting Customer Loyalty in Products. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* Vol 2 (1): 337-343.
- Sembiring, I. J., Suharyono & Kusumawati, A. (2014, October). Pengaruh kualitas produk dan kualitas pelayanan terhadap kepuasan pelanggan dalam membentuk loyalitas pelanggan (Studi pada pelanggan McDonald's MT. Haryono Malang). *Jurnal Administrasi Bisnis (JAB)*, 15(1), 1-7.
- Widyaningtyas, R. (2010). Faktor-faktor yang Mempengaruhi Loyalitas dan Dampaknya pada Kepercayaan Nasabah dalam Menggunakan Jasa Kereta Api HARINA (Studi

- Pada PT. Kereta Api Indonesia DAOP IV Semarang). Skripsi Fakultas Ekonomi Universitas Diponegoro.
- Yap, Bee Wah. (2012). "Satisfaction and trust on customers' loyalty: a PLS approach". *Journal Business and Economics-Management*. Vol. 13 (4). 154-167.
- Yoo, Boonghee and Naveen Donthu. (2001), "Developing a Scale to Measure the Perceived Quality of an Internet Shopping Site (SITEQUAL)," *Quarterly Journal of Electronic Commerce*, 2 (1), 31-46.
- Zeithaml, V.A. 2000. Service Quality, Profitability, and the Economic Worth of Customers': What we Know and What We Need to Learn. *Journal of the Academy of Marketing Science*. 28(1). 67-85.
- Zeithaml, Valerie, Parasuraman A.A. & Leonard, Berry L., (1990). *Delivering quality service: balancing customers' perception & expectation*. New York.