



The effect of information technology and service quality on customer loyalty of Bank Mandiri Jakarta Patra Jasa Branch

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ABSTRACT

The formulation of the problem in this study is whether there is a simultaneous influence of information technology and service quality on customer loyalty at Bank Mandiri's Jakarta Patra Jasa branch. The aim is to determine the effect of information technology and service quality simultaneously on customer loyalty at Bank Mandiri's Jakarta Patra Jasa branch. This research includes associative research which states the relationship between two or more variables. The sample taken in this study uses Simple Random Sampling with a total sample of 100 samples who are customers at PT Bank Mandiri (Persero), Tbk Patra Jasa Jakarta Branch. The data analysis method used was qualitative analysis, validity and reliability tests, multiple linear regression, f test (together test), and t test (partial test). The results of the study using multiple linear regression there is an influence between information technology and service quality simultaneously on customer loyalty. F test has an effect between information technology and service quality simultaneously on customer loyalty. The t test (partial test) has an influence between information technology on customer loyalty and there is an influence between customer satisfaction and customer loyalty.

Keywords: Information Technology, Service Quality, Customer Loyalty

1. INTRODUCTION

The era of technological development is very broad, covering almost every line among human beings in the world. Both of them from among the parents, teenagers and children today are very good at playing technology. Technology is designed to help and simplify human life. The objectives of information technology (IT) include solving a problem, and increasing the effectiveness and efficiency of a job.

The development of IT does not only affect the business world, but also other fields, such as health, education, government, and others. The development of technology is also felt in the banking world by creating a tool to assist bank services to its customers. Improving customer service is an attempt to make up for the limitations of space and time that can only be done with the help of computer and telecommunications technology.

Banking advances in the field of information technology will make it easier for customers to make transactions wherever they are, without the need for long queues and without being limited by space and time to make transactions with the current state of technology. Banking technology includes a system that allows bank customers, both individuals and businesses, to access accounts, conduct business transactions, or obtain balance information, bank products and services through private or public networks, including the internet network. Customers can access information technology through electronic smart devices such as ATMs, computers and smartphones. Various kinds of technologies that deal directly with customers include: ATM (Automated Teller Machine), SMS Banking (Short Message Service Banking), and Internet Banking.

A. Information Technology

Understanding information technology in general is a study of the design, implementation, development, support or management of computer-based information systems, especially hardware and software. Various facilities consisting of hardware and software

to support and improve the quality of information for the public quickly and with quality. Information technology is not only important as a means of communication via electronic, but an important tool that should be owned in business as a means to coordinate and archive important documents.

According to Roger (Syukur, 2005) technology is a design or design for action tools that reduce uncertainty with causal relationships in achieving a desired result. While the opinion of Jacques Ellul (Syukur, 2005) defines technology as a whole method that rationally leads and has efficient characteristics in every human activity.

Information in the Indonesian language dictionary is a number of data that have been processed through data processing in order to test the level of truth and achievement according to needs. Information is also a fact that can be used as input in generating information.

According to O'Brien (2005) information technology is a technology that combines computing (computers) with high-speed communication lines that carry data, voice, and video. According to McLeod (2007), information technology is one of the tools used by managers to cope with the changes that occur. In this case the change in question is a change in information that has been processed and previously stored in the computer.

According to Indriantoro (2000) is a technology used to process data, including processing, obtaining, compiling, storing, manipulating data in various ways to produce quality information, namely information that is relevant, accurate and timely, which is used for personal purposes, business, and government and is strategic information for decision making. Technology that utilizes computers as the main device to process data into useful information.

Mulyadi (2014) defines information technology as follows: Information technology includes computers (both hardware and software), various electronic office equipment, factory equipment and telecommunications.

Information Technology Association of America (ITAA) (2000) Information technology is the process of processing, storing, and disseminating pictorial, vocal, text, and numerical information through micro-electronics based on a combination of telecommunications and computing.

Meanwhile, according to Richardus Eko Indrajit (2011) defines information technology as "A technology related to processing data into information and information dissemination procedures listed on the lines of space and time.

B. Service quality

The customer is the main focus in carrying out excellent service, therefore, in this case the customer plays an important role in measuring the services provided by the company (Frimayasa, 2017).

Service quality according to (Arief, 2007) is "an effort to fulfill customer needs and desires and the accuracy of delivery to balance customer expectations". Parasuraman in (Arief, 2007) adds that "there are two main factors that affect the quality of services, namely expected service and perceived service.

Service is an activity or series of activities that are invisible (cannot be touched) that occur as a result of interactions between consumers and employees or other things provided by service providers that are intended to solve consumer or customer problems (Suratriadi, Suparman, 2018).

In providing services that aim to provide satisfaction to customers, there are several advantages that can be taken. The first biggest advantage is customer trust, because customers judge product quality by what they see and understand. The second advantage is that customers get maximum value from their purchases and allow customers to quickly and easily use all the benefits of the products they have purchased (A Frimayasa, 2017).

The best service from a bank provided to customers is the most important thing that banks must do, if a bank provides poor service to a customer, then the bank may experience complex problems. Customers who are dissatisfied with the services of a bank tend to share their bad experiences with others. Therefore, a bank is obliged to plan, organize, and be able to implement good service quality in order to be able to provide services that satisfy its customers (Kotler, 2012).

(Tjiptono, 2016) defines service as a system consisting of two main components, namely service operations which are often not available or are not known to the customer (back office or backstage) and service delivery which is usually visible (visible). or known to the customer (often also called the front office or frontstage).

If a bank is considered to have poor or unsatisfactory service for a customer, it is highly likely for that customer to switch to another bank that is considered to have better service quality. Therefore, banks must continue to strive to improve the quality of their services in order to compete with other banks.

Basically, customers expect everything they want from service providers, therefore companies and business entities should have different service qualities so that they distinguish their business from the businesses of others. Service quality is very important, not just service, but there must be distinguishing characteristics. The definition of quality according to the views of producers and customers (Rangkuti, 2006) namely: According to the producer's view, quality is conformity to specifications, in this case the manufacturer provides certain tolerances specified for critical attributes of each part produced. From the customer's point of view, quality is value, namely how well a product or service provides the intended purpose with the level of price that customers are willing to pay in assessing quality, which includes hardware in the form of physical form or equipment, supporting products or services, and psychological effects.

B. Loyalty

Having loyal customers is the ultimate goal of banking, because customer loyalty can guarantee the continuity of the Bank in the long term. Basically customer loyalty can be interpreted as someone's loyalty to something.

According to Hermawan (Hurriyati, 2010) loyalty is a manifestation of the fundamental human need to have, support, gain a sense of security and build attachment and create emotional attachments. Meanwhile, loyalty in the Oxford English dictionary is: "a strong feeling of support and

aperson showing firm and costant support”. From this definition there is the word strong feeling, meaning the depth of human feelings towards something, whether family, friends, organizations, or brands. This feeling is the main element and the closeness and loyalty of customers.

According to Berry(Tjjiptono, 2005), stated that customer loyalty (customer loyalty) can be defined as a response that is closely related to a pledge or promise to uphold the commitment that underlies the sustainability of the relationship, and is usually reflected in consistent repeat purchases.

Loyalty measurement includes an instrumental conditioning approach. The instrumental conditioning approach states that consistent purchases over time show brand loyalty (A Frimayasa, 2017).

According to (Durianto, 2001) , loyal consumers will generally buy the brand even though they are faced with many alternative brands of competing products that offer characteristics superior product is seen from various angles. Viewed from various angles attributes. If many consumers of a brand fall into this category, it means they have strong brand equity. Brand equity is a set of brand assets and liabilities associated with a brand, name, symbol, which can increase or decrease the value provided by a product or service both to the company and to customers.

2. RESEARCH METHODS

The form of research used in this study is associative with a quantitative approach. Research in associative problems is research that aims to determine the relationship between two or more variables. This research will form a theory that can function to explain, predict and control a symptom.

The sampling technique used is incidental sampling, that is, anyone who coincidentally meets with the researcher can be used as a sample, if it is deemed that the person who happened to be met is suitable as a data source (Sugiono, 2010).

This research was conducted at PT Bank Mandiri (Persero), Tbk Jakarta Branch Patra Jasa. The sample taken in this study used Simple Random Sampling with a total sample of 100 samples who were customers at PT Bank Mandiri (Persero), Tbk Jakarta Patra Jasa Branch.

3. DISCUSSION

A. Validity test

Validity test was conducted to measure whether the indicators or questionnaires were valid or not from each variable. The test was carried out by comparing Thuung and rtabei using the SPSS program, then testing the validity of the data using a two-sided test with a significant level of 5%. This validity test was carried out on 100 respondents, so rtable df = n-2 with a significant level of 5%, df ~ 100-2- 98, then rtable = 0.197.

Information Technology Validity Test Results

NO	Items	r -count	r -table	Description
1	Question 1	0.831	0.197	Valid
2	Question 2	0.756	0.197	Valid
3	Question 3	0.776	0.197	Valid
4	Question 4	0.550	0.197	Valid

Source: data processed by SPSS version 21

Service Quality Validity Test Results

NO	Items	r -count	r -table	Description
1	Question 1	0.770	0.197	Valid
2	Question 2	0.776	0.197	Valid
3	Question 3	0.860	0.197	Valid
4	Question 4	0.582	0.197	Valid

Source: data processed by SPSS version 21

Customer Loyalty Validity Test Results

NO	Items	r -count	r -table	Description
1	Question 1	0.740	0.197	Valid
2	Question 2	0.625	0.197	Valid
3	Question 3	0.785	0.197	Valid
4	Question 4	0.565	0.197	Valid

Source: data processed by SPSS version 22.0

From the table, the results of the validity test show that the calculated r value for each indicator of the information technology variable, service quality and customer loyalty is greater than the r table value. Thus the indicators or questionnaires used by each variable of information technology, service quality and customer loyalty are declared valid to be used as a variable measuring instrument.

B. Reliability Test

Reliability test is used to determine whether the indicators or questionnaires used can be trusted or reliable as a variable measuring instrument. Cronbach's Alpha is very suitable for use on scores in the form of a scale (eg 1-4, 1-5) or range scores (eg 0-20, 0-50), for testing usually using a limit of 0.6.

Reliability Test

Variabel	Cronbach's Alpha	Reliability Standard	Information
Information Technology	0.709	0.60	Reliabel
Service quality	0.767	0.60	Reliabel
Customer Loyalty	0.70	0.60	Reliabel

Source: data processed by SPSS version 22.0

The value of Cronbach's alpha for all variables is greater than 0.60, so it can be concluded that the indicators or questionnaires used by the variables of customer loyalty, service quality and customer satisfaction are all declared reliability or can be trusted as a variable measuring instrument.

C. Multiple Linear Regression Analysis

This multiple linear regression analysis was used to determine the effect of Information Technology and Service Quality on customer loyalty at Bank Mandiri Jakarta Patra Jasa Branch.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.155	.776		2.488	.000
	X1 (Information Technology)	.423	.072	.559	5.845	.000
	X2 (Service quality)	.415	.066	.169	5.757	.000

Dependent Variable: Y

Source: data processed by SPSS version 22.0

Based on the table, the regression coefficient of each variable is obtained, namely the constant value of 1.155, the regression coefficient of the Information Technology variable is 0.423 and the regression coefficient of the service quality variable is 0.415.

From these coefficients a regression equation can be formed as follows:

$$Y = 1.155 + 0.423 X_1 + 0.415 X_2$$

Based on the regression equation, the constant value is 1.155 (positive), indicating that if Information Technology and Service Quality are 0 then the Customer Loyalty of Bank Mandiri Jakarta Patra Jasa Branch is 1.155.

The coefficient value of the information technology variable is 0.423 (positive), meaning that if the information technology variable increases by 1 then the customer loyalty of Bank Mandiri's Jakarta Patra Jasa branch will increase by 0.423 and vice versa if the information technology variable decreases by 1 then the customer loyalty of Bank Mandiri's Jakarta Patra J

branch will decreased by 0.423 with the assumption that the service quality variable remains.

The coefficient value of the service quality variable is 0.415 (positive), meaning that if the service quality variable increases by 1 then the customer loyalty of Bank Mandiri's Jakarta Patra Jasa branch will increase by 0.415 and vice versa if the service quality variable decreases by 1 then the customer loyalty of Bank Mandiri's Jakarta Patra Jasa branch will decreased by 0.415, assuming the information technology variable remains.

D. F Uji test

Anova (F test) aims to determine whether the variables of service quality and customer satisfaction (simultaneously) affect the customer loyalty variable. The results can be seen in the following table.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130.153	2	65.078	41.087	.000 ^b
	Residual	153.637	97	1.584		
	Total	283.790	99			

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Source: data processed by SPSS version 22.0

Based on the ANOVA table, it can be seen that the F-count for the variables of information technology quality and service quality on customer loyalty is 41.087 while the F-table with 95% confidence level, error rate (a) is 5% and degrees of freedom (df) = $n - k - 1 = 100 - 2 - 1 = 97$ is 3.94.

In this study, Fcount (41.087) > Ftabci (3.94), then Ho is rejected and Ha is accepted. This shows that there is an effect of the quality of information technology and service quality on customer loyalty simultaneously on customer loyalty. Thus simultaneously the hypothesis is proven.

E. T Uji test

The t-test aims to determine whether the variables of information technology and service quality are on customer loyalty variables. The results can be seen in the following table:

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.155	.776		2.488	.000
	X1 (Information Technology)	.423	.072	.559	5.845	.000
	X2 (Service quality)	.415	.066	.169	5.757	.000

Dependent Variable: Y

Source: data processed by SPSS version 22.0

The value of t-table with significant level (a) = 5% and df (n-2) - 100-2 = 98, is 1.684. Based on the Coefficients table above, it can be explained that the t-count value for the information technology variable on customer loyalty is 5.845, this means that t-count (5.845) > t-table (1.684) and sig (0.000) < 0.05 then HQ rejected and Ha accepted. This means that there is an influence between information technology on customer loyalty

is 5.845, this means that $t\text{-count} (5.845) > t\text{-table} (0.684)$ and $\text{sig} (0.000) < 0.05$ then H_0 rejected and H_a accepted. This means that there is an influence between information technology on customer loyalty at Bank Mandiri Jakarta Patra Jasa Branch.

Based on the Coefficients table above, it can be explained that the t value for the variable quality of customer service on customer loyalty is 5.757, this means that $t \text{ count} (5.757) > t \text{ table} (1.684)$ and $\text{sig} (0.000) < 0.05$ then H_0 is rejected and H_a accepted. It means that there is an influence between service quality and customer loyalty at Bank Mandiri Jakarta Patra Jasa Branch.

F. Coefficient of Determination

The coefficient of determination is used to determine how much the independent variable, namely information technology and service quality, contributes to the dependent variable of customer loyalty at Bank Mandiri Jakarta Patra Jasa Branch

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.677 ^a	.459	.447	1.260

a. Predictors: (Constant), Z, X1, X2
Source: data processed by SPSS version 22.0

Based on the table above, it can be seen that the R^2 value is 0.459, this figure illustrates that customer loyalty to Mandiri's children at the Jakarta Patra Jasa Branch. can be explained by the variables of information technology and service quality of 67.7% while the rest are other factors that are not included in this study.

The coefficient of determination is part of the diversity of the variable Y (bound) which can be explained or calculated by the diversity of the variable X (independent), namely the coefficient that measures the percentage contribution of variation X to Y. In this study, the value illustrates that information technology and service quality on customer loyalty of 67.7%, meaning that if there is an increase in the variables of information technology and service quality, the loyalty of customers to Bank Mandiri's Jakarta Patra Jasa branch will also increase. Conversely, if there is a decline in information technology and service quality, it will reduce customer loyalty to Bank Mandiri's Jakarta Patra Jasa branch.

According to the significant criteria for variable influence = 0.677 (67.7%) which means that this study has a significant effect, because $R^2 = 0.677$, the influence between information technology and service quality on customer loyalty is quite strong. However, the variables of information technology and service quality must be a concern for companies in order to increase customer loyalty.

Partially, information technology has an effect on customer loyalty. Information technology has its own plus value for customers, in other words technology is one of the important elements that encourage customers to be more loyal to Bank Mandiri's Jakarta Patra Jasa branch. The more information technology provided, the more interested customers will be to save at Bank Mandiri's Jakarta Patra Jasa branch, because

consumers think that a service with good and reliable information technology provides a sense of security when consumers save at Bank Mandiri. In addition, the better the information technology provided to customers, the stronger the customer's confidence to remain loyal or loyal to Bank Mandiri.

Partially the quality of service affects customer loyalty. Customer loyalty can also be formed from the satisfaction felt by customers. (Kotler, Keller, 2016) , states that satisfaction is a person's feeling of pleasure or disappointment that arises after comparing the performance (or results) of the product thought to the expected performance (or result). In other words, someone feels satisfied if the results obtained are minimal able to meet their expectations while someone feels dissatisfied if the results obtained are not able to meet their expectations. Satisfaction felt by someone will have an impact on continuous reuse behavior so that loyalty is formed.

Seen from table t, the most influencing variable is the information technology variable, this is because most customers become regular customers and become more loyal because they feel satisfied with the information technology provided.

4. CONCLUSION

Based on the results of the analysis with multiple linear regression, research conducted on the variables of information technology and service quality on customer loyalty with the equation $Y = 1.155 + 0.423 X_1 + 0.415 X_2$. The results of hypothesis testing F test shows F count (41.087) > $F_{table} (3.94)$ which means that technology and service quality simultaneously affect customer loyalty.

Based on the results of the t test, it shows that $t \text{ count} > t \text{ table}$ means that H_0 is rejected and H_a is accepted, which means that there is an influence between information technology and service quality partially on customer loyalty at Bank Mandiri Jakarta Patra Jasa branch.

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