

## Analysys Of Factors Affecting Customer Satisfaction and Loyalty Of Mobile Banking At Private Bank Company

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### Abstrak

Mempertahankan pelanggan dianggap penting dibandingkan dengan menarik pelanggan baru, karena dapat dianggap lebih murah daripada menarik pelanggan yang telah pergi, loyalitas pelanggan akan mengurangi biaya bank untuk mencari pelanggan baru. Oleh karena itu, kepuasan dan loyalitas nasabah sangat penting bagi dunia perbankan. Ini dapat diukur dengan menggunakan metode TAM. Nasabah akan sangat puas dan loyal terhadap suatu bank, namun juga akan cepat berpindah ke bank lain yang dapat memberikan kepuasan lebih baik dari bank lain. Untuk itu perlu dilakukan peningkatan fasilitas layanan mobile banking secara berkala sebagai faktor ketertarikan nasabah dalam melakukan self service.

**Kata Kunci:** *Mobile, Pelanggan, TAM, Loyalitas, Kepuasan, Perbankan*

### Abstract

Retaining customers is considered important compared to attracting new customers, because it can be considered cheaper than attracting customers who have left, customer loyalty will reduce bank costs to find new customers. Therefore, customer satisfaction and loyalty are very important for the banking world. This can be measured using the TAM method. Customers will be very satisfied and loyal to a bank, but will also quickly move to another bank that can provide better satisfaction than other banks. For this reason, it is necessary to periodically improve mobile banking service facilities as factors of customer interest in performing self-service.

**Keywords:** *Mobile, Customers, TAM, Loyalty, Satisfaction, Banking*

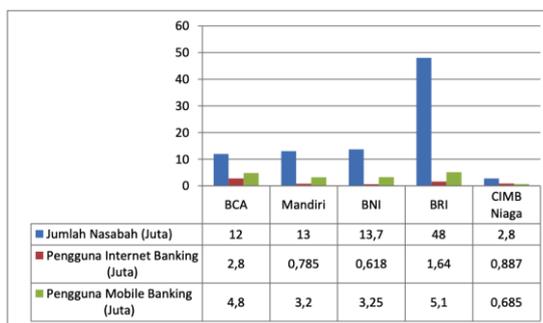
### INTRODUCTION

The development of Information System technology is very rapid. The successful use of information systems can help in making good decisions for the organization McHaney & Cronan, (2001). The percentage of mobile banking penetration reached 41.20%, while the percentage of internet banking penetration was only 8.1% in a survey conducted by MARS Research Specialist Indonesia.

One application that relies on the internet in it and plays an important role in the banking process is mobile banking. Mobile banking allows customers to perform banking tasks such as paying bills, monitoring account balances, finding ATM locations or making money transfers online (Oliveira, Faria, Thomas, & Popovič, 2014). With mobile banking, customers can perform banking activities in real-time without having to come to a branch office or ATM, except for cash withdrawal and deposit activities.

Since the pandemic the value of electronic money transactions has increased by 30.17%, digital banking transactions have increased in volume even up to 60%. So, this shows that in the midst of all the downturn, there is an upward trend in digital payments. The Financial Services Authority (OJK) noted that at least 80

banks have tried to provide digital banking services for their customers.



**Figure 1 Comparison of the number of customers and users of internet and mobile banking at the five major banks in Indonesia in 2020.**

### Banking Industry

Based on Law No. 7 of 1992 concerning banking, it is stated that a bank is a business that collects funds from the public in the form of savings and distributes them to the public in order to improve the standard of living of many people. The definition of a bank is based on Law No. 10 of 1998 which enhances Law no. 7 of 1992, is: "Bank is a business entity that collects funds from the public in the form of savings and distributes it to the public in the form of credit and other forms in order to improve the standard living of the people at large." Banks are institutions engaged in the financial sector. The main activity of the bank is to collect funds from the public in the form of savings or deposits and the bank will channel it back to the community in the form of loans or credit.

### Mobile Banking

Mobile banking can be defined as the implementation of financial services using cellular communications in conjunction with mobile devices. According to OJK, Mobile Banking, or commonly abbreviated as mBanking, is defined as banking transactions through mobile media, either in the form of the m-Banking application or the mobile operator's default application. (OJK, 2018).

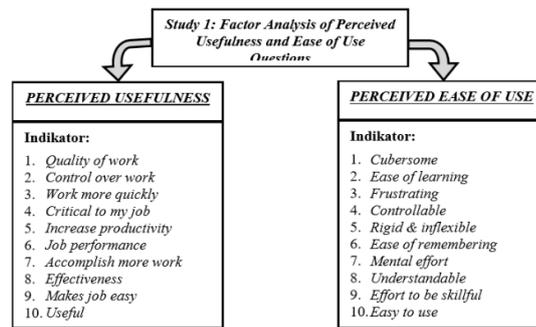
### Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is one model that can be used to analyze the factors that influence the acceptance of an information system.

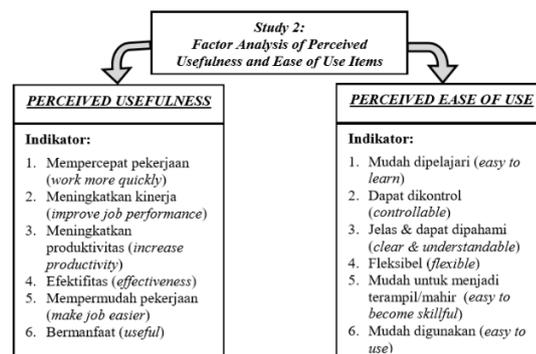
Before the TAM model appeared, there was a theory known as Theory of Reasoned Action (TRA) which was developed by Martin Fishbein and Icek Ajzen (1975, 1980). Derived from previous research that started from the theory of attitudes and behavior, the emphasis of TRA at that time was on attitudes that were viewed from a psychological point of view. The principles are: determining how to measure the relevant behavioral components of behavior, distinguishing between beliefs or attitudes, and determining external stimuli. So that the TRA model causes user reactions and perceptions of the information system to determine the user's attitudes and behavior.

Then in 1986 Davis conducted dissertation research by adapting the TRA. Then in 1989 Davis published the results of his dissertation research in the journal MIS Quarterly, thus giving rise to the TAM theory with an emphasis on perceived ease of use and usefulness which have a relationship to predict attitudes in using information systems. So, in its application, the TAM model is clearly much broader than the TRA model. Davis explained that the behavioral intention of technology use (behavioral intention) is determined by the perceived ease of use and perceived usefulness of the technology. [8] Perceptions related to ease of use are defined as a person's level of belief in using technology, that technology can bring them to feel easier without

having to spend excessive energy.



**Figure 2 Factor Analysis of TAM Questions**



**Figure 3 Factor Analysis of TAM Items**

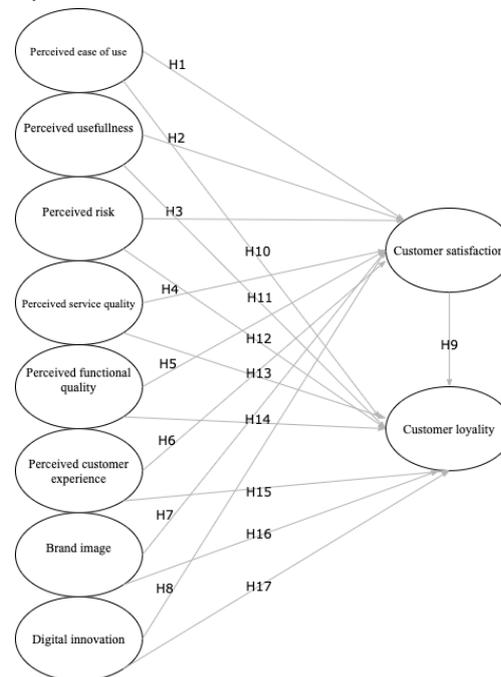
Based on previous research on the acceptance system model. The UTAUT model is the most aggressive model that suits any model evaluation of the acceptance system. In this research, there is some variables are used. The variable that will be used in this research such as Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavioral Intention, Use Behavior, and Sales Application Quality.

## METHOD

This chapter describes the methods used in research which include research processes, research models, hypotheses, research variables, operational variables, population, methods, data collection tools, research instruments, validity and reliability, analytical methods, and hypothesis testing methods.

## Theoretical Framework

The theoretical framework study is used to this research can be seen in Figure:



**Figure 4 Acceptance Model**

The following is a description of the hypothesis in Figure:

- a. Perceived ease of use has a positive influence on customer satisfaction.
- b. Perceived Usefulness has a positive influence on customer satisfaction.
- c. Perceived Risk has a positive influence on customer satisfaction.
- d. Perceived Service Quality has a positive influence on customer satisfaction.
- e. Perceived Functional Quality has a positive influence on customer satisfaction.
- f. Perceived Customer Experience has a positive influence on customer satisfaction.
- g. Brand Image has a positive influence on customer satisfaction.
- h. Digital Innovation has a positive influence on customer satisfaction.
- i. Customer satisfaction has a positive influence on customer loyalty.
- j. Perceived ease of use has a positive influence on customer loyalty.
- k. Perceived Usefulness has a positive influence on customer loyalty.
- l. Perceived Risk has a positive influence on customer loyalty.
13. Perceived Service Quality has a positive influence on customer loyalty.
- m. Perceived Functional Quality has a positive influence on customer loyalty.
- n. Perceived Customer Experience has a positive influence on customer loyalty.
- o. Brand Image has a positive influence on customer loyalty.
- p. Digital Innovation has a positive influence on customer loyalty.

## Data Collection Method

Primary data used in this study was obtained through distributing questionnaires to users of mobile banking by Banking industry in Indonesia. with the criteria of an adult age range from 18 years to 60 years. And has also used the mobile banking service of mobile banking more than 2 times, because it will be easier

to measure the satisfaction if the customer has used the service more than 2 times.

The analysis was carried out by means of two stages of testing. The first stage is testing the measurement model (outer model), followed by the second stage, namely testing the structural model (inner model).

### Data Analysis

The data analysis method used in this research is Partial Least Square (PLS). PLS was discovered by Herman Wold in 1974 and is a component or variant-based Structural Equation Modeling (SEM) analysis model. PLS is very suitable to be used as a data analysis method in this study because PLS has the ability to predict the relationship between variables, the relationship between variables and indicators, and measure the level of relationship between these variables.

The scale that will be used in this study is the Likert scale. The Likert scale uses several questions to measure individual behavior by responding to 5 choice points on each question item, namely strongly disagree, disagree, disagree, agree, and strongly agree.

## RESULTS AND DISCUSSION

### Research Object

This study focuses on identifying and analyzing the use of mobile banking with independent variables.

Processing and associating data to obtain conclusions with Structural Equation Modeling with the help of SMARTPLS 3.0 software.

The following is an example of the UI/UX display of mobile banking at private banking, in this study:



*Figure 4: Sample Application mobile banking at private banking*

### Hypothesis Test and Discussion

The research model in Figure can be translated into a statistical model, namely the regression equation as follows:

The regression equation of this research model can be written as follows:

$$KN = 10 + \beta_{11}PEoU + \beta_{12}PU + \beta_{13}PR + \beta_{14}PSQ + \beta_{15}PFQ + \beta_{16}PCE + \beta_{17}BI + \beta_{18}DI + \epsilon_1 \dots \dots (1)$$

Description:

KN: Customer satisfaction

10: Regression constant

11, 12, 13, .... 18: Regression coefficient

PEoU: Perceived Ease of Use, independent variable

PU: Perceived Usefulness, independent variable

PR: Perceived Risk, independent variable

PSQ: Perceived Service Quality, independent variable

PFQ: Perceived Functional Quality, independent variable

PCE: Perceived Customer Experience, independent variable

BI: Brand Image, independent variable  
DI: Digital Innovation, independent variable  
 $\epsilon_1$ : error

In addition, the authors will also examine whether the factors that influence customer satisfaction have an effect on customer loyalty. The regression equation can be written as follows:

$$LN = \beta_{20} + \beta_{21}PEoU + \beta_{22}PU + \beta_{23}PR + \beta_{24}PSQ + \beta_{25}PFQ + \beta_{26}PCE + \beta_{27}BI + \beta_{28}DI + \beta_{29}KN + \epsilon_2$$

Description:

LN: Customer loyalty  
20: Regression constant  
21, 22, 23, .... 29: Regression coefficient  
PEoU: Perceived Ease of Use, independent variable  
PU: Perceived Usefulness, independent variable  
PR: Perceived Risk, independent variable  
PSQ: Perceived Service Quality, independent variable  
PFQ: Perceived Functional Quality, independent variable  
PCE: Perceived Customer Experience, independent variable  
BI: Brand Image, independent variable  
DI: Digital Innovation, independent variable  
KN: Customer Satisfaction, independent variable  
 $\epsilon_2$ : error

Furthermore, these regression equations will be estimated using SmartPLS. The value of the path coefficient and t-statistics will later be used to analyze whether the proposed hypotheses can be accepted or rejected. From the regression model above, the statistical hypothesis from section 3.4 can be tested as follows:

**Hypothesis 1:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then Hypothesis H1 is accepted.

H0:  $\beta_{11} = 0$

H1:  $\beta_{11} > 0$

**Hypothesis 2:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then Hypothesis H1 is accepted.

H0:  $\beta_{12} = 0$

H1:  $\beta_{12} > 0$

**Hypothesis 3:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then Hypothesis H1 is accepted.

H0:  $\beta_{13} = 0$

H1:  $\beta_{13} > 0$

**Hypothesis 4:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then Hypothesis H1 is accepted.

H0:  $\beta_{14} = 0$

H1:  $\beta_{14} > 0$

**Hypothesis 5:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then the hypothesis H1 is accepted.

H0: 15 = 0

H1: 15 >0

**Hypothesis 6:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 16 = 0

H1: 16 >0

**Hypothesis 7:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 17 = 0

H1: 17 >0

**Hypothesis 8:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 18 = 0

H1: 18 >0

**Hypothesis 9:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then the hypothesis H1 is accepted.

H0: 21 = 0

H1: 21 >0

**Hypothesis 10:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 22 = 0

H1: 22 >0

**Hypothesis 11:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 23 = 0

H1: 23 >0

**Hypothesis 12:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 24 = 0

H1: 24 >0

**Hypothesis 13:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 25 = 0

H1: 25 >0

**Hypothesis 14:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 26 = 0

H1: 26 >0

**Hypothesis 15:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 27 = 0

H1: 27 >0

**Hypothesis 16:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $<0.05$ , then Hypothesis H1 is accepted.

H0: 28 = 0

H1: 28 >0

**Hypothesis 17:** If p-value  $\geq 0.05$ , then Hypothesis H0 is accepted, but if p-value  $< 0.05$ , then Hypothesis H1 is accepted.

H0: 29 = 0

H1: 29 >0

Based on 17 hypotheses tested, there are 5 accepted hypotheses and 12 rejected hypotheses. Which means, not all of the factors proposed in this study affect the satisfaction and loyalty of mobile banking customers in applying. The following will explain the effect of the independent variable on the dependent variable produced in this study.

**Table 1 result research from smart PLS, 2022**

Code	Hipotesis		Path Coefficient	P-Values	Result
	Variable	Effect			
H1	Perceived Ease of Use (PEOU) → Satisfaction Customer (SC)	Positif Signifikan	0,254	0,004361	Diterima
H2	Perceived Usefulness (PU) → Satisfaction Customer (SC)	Positif Signifikan	0,124	0,058750	Ditolak
H3	Perceived Risk (PR) → Satisfaction Customer (SC)	Negatif Signifikan	-0,061	0,002448	Diterima
H4	Perceived Service Quality (PSQ) → Satisfaction Customer (SC)	Positif Signifikan	0,298	0,000001	Diterima
H5	Perceived Functional Quality (PFQ) → Satisfaction Customer (SC)	Positif Signifikan	0,220	0,002448	Diterima
H6	Perceived Customer Experience (PCE) → Satisfaction Customer (SC)	Negatif Signifikan	-0,179	0,008189	Diterima
H7	Brand Image (BI) → Satisfaction Customer (SC)	Positif Signifikan	0,026	0,603717	Ditolak
H8	Digital Innovation (DI) → Satisfaction Customer (SC)	Positif Signifikan	0,206	0,000314	Diterima
H9	Satisfaction Customer (SC) → Loyalty Customer (LC)	Positif Signifikan	0,644	0,000000	Diterima
H10	Perceived Easy of Use (PEOU) → Loyalty Customer (LC)	Positif Signifikan	0,312	0,002908	Diterima
H11	Perceived Usefulness (PU) → Loyalty Customer (LC)	Positif Signifikan	0,249	0,001646	Diterima
H12	Perceived Risk (PR) → Loyalty Customer (LC)	Negatif Signifikan	-0,061	0,122488	Ditolak
H13	Perceived Service Quality (PSQ) → Loyalty Customer (LC)	Negatif Signifikan	-0,325	0,000000	Diterima
H14	Perceived Functional Quality (PFQ) → Loyalty Customer (LC)	Negatif Signifikan	-0,054	0,424158	Ditolak

H15	Perceived Customer Experience (PCE) → Loyalty Customer (LC)	Positif Signifikan	0,301	0,000000	Diterima
H16	Brand Image (BI) → Loyalty Customer (LC)	Negatif Signifikan	-0,121	0,006824	Diterima
H17	Digital Innovation (DI) → Loyalty Customer (LC)	Positif Signifikan	0,022	0,664074	Ditolak

## CONCLUSION

Based on the data obtained by researchers in quantitative research regarding what factors affect the satisfaction and loyalty of mobile banking customers at private bank, it can be concluded as follows:

What factors affect the satisfaction and loyalty of Mobile banking customers at PT Bank CIMB Niaga :

1. Factors that affect mobile banking customer satisfaction at PT Bank CIMB Niaga are Perceived Ease of Use (PEOU), Perceived Risk (PR), Perceived Service Quality (PSQ), Perceived Functional Quality (PFQ), Perceived Customer Experience (PCE), Digital Innovation (DI).
2. Factors that affect mobile banking customer loyalty at PT Bank CIMB Niaga are Satisfaction Customer (SC), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Perceived Service Quality (PSQ), Perceived Customer Experience (PCE), Brand Image (BI). The most influential factor is the Customer Satisfaction (SC) factor.

How much does customer satisfaction (SC) affect customer loyalty in using the mobile banking application more than 1 time at PT Bank CIMB Niaga? namely the customer satisfaction factor (SC) affects customer loyalty (LC) which is 0.644 which means that every increase in the customer satisfaction factor (SC) by 1 unit, the customer loyalty factor (LC) will also increase by 0.644.

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