

## Research Paper

# How Far Do Mobile Banking Apps Support Digital Finance Inclusion?

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**ORCID**Vidya Purnamasari: <https://orcid.org/0000-0002-1846-4087>**Abstract.**

Banking is a big part of economic driving factors. To move and advance the economy, banks must follow existing developments. There have been various world developments, one of which is technology. Banks' concrete step in utilizing technology is implementing online customer service using Internet banking or m-banking (mobile banking). This research aims to see the effect of perceived convenience, usefulness, risk, and trust on the interest in using mobile banking applications. This study uses primary data collected from Bank customers in Malang. This study uses a quantitative research method and a questionnaire instrument. Using technology acceptance model (TAM) as the grand theory, this study tried to capture the customers' acceptance of m-banking. The results of this study indicate that perceived convenience, usefulness, risk, and trust influence the intention to use m-banking simultaneously. However, partially, perceived usefulness does not affect the interest in using m-banking.

**Keywords:** -banking, perceived convenience, perceived usefulness, perceived risk, perceived trust, interest of use

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## 1. Introduction

Technology allows the possibility of facilities and speed of access in every aspect of human life [1]. Many sectors worldwide have begun transforming their activities using digital technology, including banking. Currently, banks take advantage of existing technology to introduce their products and services by using digital marketing. According to Indriyani & Fahlevi (2020), digital marketing is one of the impacts of technological developments [2]. Besides conducting digital marketing, banks also use technology to develop digital services. Digitalisation is expected to make banks easier to meet customer needs effectively and efficiently.

Customer transaction activities began to be carried out online using Internet banking or well known as m-banking (mobile banking). M-banking is a banking service to facilitate

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and speeds up customers' transactions using smartphones [3]. The trend of public m-banking usage has increased every year, as shown by the following data:



**Figure 1:** Indonesian Fintech Transactions 2017-2021. Source: Kata Data, 2022 [4].

Based on the data above, fintech transactions in Indonesia continue to increase every year, so that by 2021 they have reached 37.1 billion. the increase in transactions indicates an increase in banking users as well.

Mobile banking is made as good as possible by taking various aspects, such as convenience, benefits, minimal risk, and customer trust. The increase in fintech transactions requires banks to improve their mobile banking performance. To improve m-banking services, the bank must pay attention to various things, including customer needs and service quality. In addition, banks need to pay attention to competitors so that their services are not seen as trivial compared to competitors. Therefore, this research examined various customer perceptions related to banking services. Perception is the customer's experience of relationships, events, or objects by interpreting a message into conclusions [5]. In this study, the perceptions used are convenience, benefits, risks and trust in mobile banking. This research is expected to see whether the services offered by banks are following the needs of customers or not

## 2. Literature Review

## 2.1. Financial Technology

Financial technology (fintech) is a facility for obtaining and providing financial services by using technology. Fintech is also defined as the utilization of technology for financial services to operate effectively and efficiently. Fintech is an innovation and a breakthrough because it can modernize traditional financial services [6]. Fintech and banking can collaborate to maximize financial services. The bank can take the role of an investor to distribute credit funds, especially to hard-to-reach parties. Collaboration between banks and fintech makes it easier to do their services by utilizing technology and low costs [7]. In addition, Fintech provides benefits for customers with conveniences, a variety of products, and low prices.

## 2.2. Perceived Convenience

Perceived convenience can be interpreted as the amount of customer trust in the use of information technology to facilitate their activities. In making decisions, customers consider the existence of trust related to ease of use and vice versa [8]. According to Adhiputra (2015), several variables of perceived convenience are (1) Ease of controlling work, (2) Ease of learning and understanding, (3) Ease of mastering and using, and (4) Flexibility [9].

According to Venkatesh and Davis (2000), The indicators of convenience are (1) It does not require a lot of effort, (2) It is easy to run, (3) It is in accordance with the wishes of the user, (4) It is easy to understand and clear [10]. The existence of convenience influences customers' interest in using technology. This is following research conducted by Priambodo and Prabawani (2016) which states that perceived convenience has a positive and significant effect on the interest of using electronic money services [11]. Higher convenience of technology makes higher customer interest in Electronic Money Services. When a technology has clear guidelines for running or operating, the customer will find it helpful to learn quickly.

## 2.3. Perceived Usefulness

The perception of usefulness can be interpreted as customers' believe in technology to improve their quality of life. In making decisions, customers consider their belief in the usefulness of a product or service [8]. According to Adhiputra (2015), some of the usefulness variables are (1) speed of doing work and (2). Increased Productivity, (3)

Effectiveness, (4) Beneficial, (5) Improved work performance [9]. Customer perception of usefulness is related to the productivity and effectiveness of an existing system [12]. The perception of usefulness in this study looks at how much Mbanking generates benefits for customers. Research conducted by Andhika Bayu and I Dewa Gede (2019) entitled “The Influence of Perceived Benefits, Perceived Ease of Use and Level of Trust in Interest in Using e-Money” states that perceived benefits have a positive and significant effect on interest in using e-money [13]. In addition, the theoretical construct of TAM also states that the benefits of technology can affect the acceptance of customers.

## 2.4. Perceived Risk

Perceived risk can be explained as a sense of uncertainty consumers face when making decisions. There are two points in the perception of risk: uncertainty and consequences [14]. This study shows risk indicators from the bank’s action to reduce the consequences of using M-banking. According to Arofah (2016), several indicators of perceived risk are (1) Price, (2) Convenience, (3) Time, (4) Product Quality, (5) Personal information[15].

Risk has an impact on the use of technology. This statement follows research by Laksana (2015), which shows that perceived risk has a positive and significant effect on the use of Internet banking facilities [16]. The more customers understand the risks of the technology used, the higher customer’s interest in using the technology.

## 2.5. Perceived Trust

Trust is the customer’s confidence in a feature or system to provide functions and benefits in the expected quality and reliability. Trust is a customer’s preference to depend on something reliable based on experience. Perceived trust refers to the level of customer perception of technology as a safe and reliable application [17]. According to Chen and Chang (2012), several indicators of perceptions of trust are (1) Trust in the security of transactions, (2) trust in a good reputation, (3) trust in legal activity, (4) trust for reliable work [18]. Trust is related to the use of technology, where trust involves an individual’s willingness to depend on technology with existing risks. Customer trust in technology can grow when these customers feel that technology can meet their needs. Likewise, when customers believe that technology cannot meet their needs, they decide not to use existing technology [19].

### 3. Methodology

This research uses a purposive sampling technique, where the sampling is limited to certain types of groups to provide the information needed [20]. This study collected primary data from 60 respondents using a Likert scale, where:

1 = strongly disagree

2 = disagree

3 = quite agree

4 = agree

5 = strongly agree.

The dependent variable used in this study is interested in using M-banking. In contrast, the independent variables used are perceived convenience, perceived usefulness, perceived risk and perceived trust with quantitative research methods. The analytical method used in this study is multiple linear regression analysis using the Ordinary Least Squares (OLS) method. The data were processed by using E-views 9 software application program. Regression analysis uses the following model [21]:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon_i$$

Where:

Y = Interest of Using the M-banking

$\alpha$  = constant

$\beta_1$ - $\beta_3$  = independent variable regression coefficient

$X_1$  = Perceived Convenience

$X_2$  = perceived usefulness

$X_3$  = perceived risk

$X_4$  = perceived trust

$\epsilon$  = Error

### 4. Results and Discussion

#### 4.1. Results

To analyse the effect of perceived convenience ( $X_1$ ), perceived usefulness ( $X_2$ ), perceived risk ( $X_3$ ) and perceived trust ( $X_4$ ) on the Interest in using M-banking ( $Y$ ), this research is conducted by the OLS method using Eviews 10 software. The F test simultaneously estimates the influence of the independent variable on the dependent variable.

Using a 5% level of significance, the F Test done with compare the value of the F table and F statistic obtained as follows:

1. The Number of Respondents (n) = 60
2. The Number of Parameters, k = 4
3. df numerator (k) = 4
4. denominator (n – k – 1)= 55
5. F value from F table = 2.54

TABLE 1: F Test Analysis.

R2	F stat	F table	Prob	Information
0.8210	63.08 906	2.54	0.00000	Significant

Source: Processed Data, 2023

From the table above, the number of probability is 0.0000. This number is less than the significance level of 5% (0.05). So it can be interpreted that simultaneously, all of the independent variables (perceived convenience, perceived usefulness, perceived risk, and perceived trust) have significant effects on the interest using M-banking.

Table 1 also contains the R-squared column that represents Determination Coefficient. R-squared is used to see the correctness of the models used in research. The result shows that the value of R squared is 0.8210, meaning the perceived convenience, usefulness, risk, and trust can show the customer’s interest in using M-banking by 82.10%. Other variables outside the model influence the remaining 17.90%.

In this study, T-test is also carried out to analyse the effect of independent variables partially on the dependent variable. The t-test is estimated by comparing the t-table value with the t-statistic value. If the t statistic is greater than the t table value, it means that the independent variable has a significant effect on the dependent variable. Conversely, if the t statistic is less than the t table value, the independent variable has no significant effect on the dependent variable. Here the results of the test:

1. Degree of Freedom (df) = n-k
2. Degree of Freedom (df) = 60-5 = 55
3. T table value = 1,673

Based on the table above so can concluded as following:

TABLE 2: T Test Analysis.

Variable	t statistic	t table	Probability
Perceived Convenience (X1)	2.500264	1,673	0.0154
Perceived Usefulness (X2)	1.063546	1,673	0.2922
Perceived Risk (X3)	3.972512	1,673	0.0002
Perceived Trust (X4)	2.264158	1,673	0.0275

Source: Processed Data, 2023

1. Perceived convenience

Based on table 2, the value of T statistic (2.500264) is more significant than T-table (1.673). The results of the test state that perceived convenience have a positive and significant effect on the interest in using M-banking.

2. Perceived Usefulness

Based on Table 2, the T statistic value (1.063546) is smaller than T-table (1.673). The results of the test state that perceived usefulness do not affect the interest in using M-banking.

3. Perceived Risk

Based on Table 2, the value of the T statistic (3.972512) is more significant than T-table (1.673). The results of the test state that perceived risk have a positive and significant effect on the interest in using M-banking.

4. Perceived Trust

Based on Table 2, the value of the T statistic (2.264158) is more significant than T-table (1.673). The results of the test state that perceived risk have a positive and significant effect on the interest in using M-banking.

## 5. DISCUSSION

### 5.1. The Effect of Perceived Convenience on Interest in Using M-banking Analysis

Convenience is a crucial aspect of implementing technology. When technology is easy to understand or operate, people tend to use that technology. This study proved that perceived convenience positively affects customer interest in using M-banking. This positive effect is due to the display of the M-banking, which is easy to understand

and operate. The convenience of the M-banking display makes it easier for customers to make transactions, especially for customers who are elderly and experience many difficulties regarding technology [22].

The results of this study are in line with the research of Giga Bawa Laksana et al. (2015) entitled “The Influence of Perceived Usefulness, Perceived Convenience, Perceived Risk and Perceived Suitability of Interest in Using Mobile Banking (Study on BRI Bank Rembang Branch Office Customer)” which proves that perceived convenience has a significant effect on customers interest of using mobile banking [16]. In addition, this research is also in line with research conducted by Muhammad Yamin Noch and Victor Pattisina (2017) entitled “Determinants of Perceived Convenience, Perceived Benefit, Perceived Risk and Taxpayer Satisfaction on Interest of Using the E-Filing System”, which shows that perceived convenience has a significant effect on taxpayer compliance at KPP Pratama Jayapura [23].

## **5.2. The Effect of Perceived Usefulness on Interest in Using M-banking Analysis**

Usefulness is what a technology user seeks. Usefulness is a mandatory thing that must be considered before launching a technology product. When technology is considered capable of bringing benefits, many users will continuously utilise the technology. In this study, perceived usefulness does not affect interest in using M-banking. The service features of the M-banking are still not optimal, so customers have to visit the bank to solve their problems.

The results of this research are consistent with research conducted by Rochmatul Anisa and Dwi Suprajitno (2020) with the title “The Influence of Perceived Usefulness, Convenience, and Taxpayer Satisfaction on E-Filing Usage in Kebumen”, which shows that perceived usefulness does not affect the E-Filing usage in Kebumen [24]. This research indicates that E-filing, especially in the Kebumen area, does not benefit the surrounding community.

## **5.3. The Effect of Perceived Risk on Interest of Using M-banking Analysis**

Risk is an action related to unexpected failures [25]. The existence of risks in technology is a serious consideration for technology users. This is because when using technology, there is a big risk it will have a bad impact on the user’s life, so the user decides to stop



using it. The results of this study state that perceived risk affect an interest in using the M-banking application. M-banking does not contain high risks, so customers' interest in using M-banking is also high. Regarding the risk itself, of course, banks have thought well about it because it involves the security of customer data.

The results of this study are in line with the results of research by Ni Putu Sulastini and I Gede Ketut Warmika (2014) with the title "TAM Application, Perceived Risk, and Trust Explaining Intentions to Use Internet Banking", which states that perceived risk affects the interest of using m-banking[26]. When the customer feels the big risk of Internet banking, there is a decrease in interest in using Internet banking. Vice versa, when someone feels the risk of Internet banking is low, their interest in using Internet banking will increase. In addition, this research is also in line with research by Syamsul Hadi and Novi (2015) with the title "The Influencing Factors of Mobile Banking Services Usages", which shows that risks can affect mobile banking usage [27].

#### **5.4. The Effect of Perceived Trust on Interest in Using M-banking Analysis**

Trust is an important criterion for banking bonafide. In banking, this term refers to customer trust related to the reliable service they get [28]. Perceived trust is important for the banking sector. The results of this study indicate that perceived trust influences customer interest in using M-banking. Customer trust using M-banking is related to the various services offered, customer confidentiality, and bank responsibilities.

This research is in line with research by Rizky et al. (2018) entitled "The Influence of Perceived Convenience, Perceived Trust and Knowledge on Interest of Using m-Banking Transaction in Buleleng District MSMEs" which indicates that customer trust can increase the use of m-banking [29]. This research, also supported by Tjini and Baridwan (2012), shows that high trust in customers will increase the loyalty of m-banking users [30].

## **6. Conclusions**

1. Partially, perceived convenience has a significant effect on Interest in using the M-banking because the appearance of M-banking is easy and simple and also easy to operate.
2. Partially, the perceived usefulness does not significantly affect the customer's interest in using M-banking. M-banking users don't get the significant benefits

from using the M-banking. In addition, the lack of diversity features in the M-banking application makes interest in using the M-banking application decrease.

3. Partially, perceived risk has a significant effect on the interest in using M-banking because M-banking's relatively low risk has led to increased interest in using M-banking.
4. Partially, the perceived trust significantly affects an interest in using the M-banking application. Customers trust BRI bank services and accountability for M-banking application
5. Simultaneously, perceived convenience, perceived usefulness, perceived risk and perceived trust have a significant effect on interest in using M-banking application

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