

FACTORS WHICH INFLUENCE THE ACCEPTANCE OF INTERNET BANKING (Case Study of Mandiri Internet Banking in Bandung, 2015)

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Abstract

The purpose of this research is to determine the customer perception toward Mandiri internet banking and to determine the factors influencing acceptance level of Mandiri internet banking by Bank Mandiri customer in Bandung. There are six dimensions being used in this research to measure the customer acceptance level of Mandiri internet banking. The dimensions are perceived usefulness, perceived ease-of-use, perceived enjoyment, amount of information on online banking, security and privacy, and quality of internet connection. The data were collected using purposive sampling by choosing the individuals which met the certain characteristics, in this case Bank Mandiri customer in Bandung. There were 400 respondents were taken in this research. The analysis method is by means of descriptive analysis and path analysis using the program of SPSS ver. 17. The study find that the customer perception toward Mandiri internet banking is good and all of the six dimensions are significantly influencing the behavioral intention. Perceived ease-of-use dimension has the greatest influence on behavioral intention. Therefore, Bank Mandiri should focus and make an improvement on this dimension.

Keywords: Internet Banking, Technology Acceptance Model, Behavioral Intention

1. Introduction

The development of electronic commerce industry or e-commerce, especially in Indonesia has spurred competition in providing a product and services in a virtual world. The development of online business is supported by a significant improvement of the internet users. That caused a lot of business people were interested in doing online business by looking at prospective internet users in Indonesia. Electronic commerce is now hold the promise of a new commercial revolution by offering an inexpensive and direct way to exchange information and to sell or buy products and services. This revolution in the market place has made a revolution in the banking sector for the provision of a payment system that is compatible with the demands of the electronic marketplace. The term "electronic banking" or "e-banking" covers both computer and mobile banking. It refers to the use of information and communication technology by banks to provide services and manage customer relationship more quickly and most satisfactorily (Charity-Commission, 2003). Electronic banking according to Al-Abed (2003) is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick and mortar institution.

Although the number of Internet users has increased significantly during recent years, Internet banking has not yet become popular among Indonesian bank customers. It can be seen by looking at a survey conducted by Nielsen in 2012, only 7% of Internet users had used the Internet for banking transactions and the growth of Mandiri internet banking is small compared to the Mandiri mobile banking based on the Bank Mandiri analyst meeting in 2013.

This small growth of internet banking motivate the researcher to conduct this research. This study analyze the factors in which influencing the acceptance of Mandiri internet banking in

Bandung. The approach of this research is based on the extension of the original technology acceptance model (TAM) developed by Davis (1986). The extended TAM developed by Pikkarainen, Pikkarainen, Karjaluoto, and Pahlila (2004) consists of six factors which are; *perceived usefulness*, *perceived ease-of-use*, *perceived enjoyment*, *information on online banking*, *security and privacy*, and *quality of internet connection* which would be used in this research.

Research Questions

Based on the above discussion, the research questions are as follows:

- 1) What is the perception of the customer on perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection?
- 2) Are there any influence of perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection to behavioral intention?

Research Purposes

- 1) To determine the customer perception on perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection.
- 2) To determine the influence of perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection to behavioral intention

2. Literature Review, Conceptual Framework and Hypotheses

Internet Banking

Internet banking is defined as the use of internet to deliver banking activities such as funds transfer, paying bills, viewing current and savings account balance, paying mortgages and purchasing financial instruments and certificates of deposits (Singhal and Padhmanbhan, 2008). According to Henry (2000), in Thulani, Tofara and Langton (2009), internet banking refers to system that enable banking customers to get access to their account and general information on bank products and services through the use of bank's websites, without the intervention or inconvenience of sending letters, faxes original signature and telephone confirmations.

Technology Acceptance Model (TAM)

TAM was originally proposed by Davis in 1986. TAM is considered as an influential extension theory of reasoned action (TRA), according to Jcen and Fishbein (1980). Davis (1989) and Davis, Bagozzi, and Warshaw (1989) proposed TAM to explain why a user accepts or rejects information technology by adapting TRA. According to Davis, TAM is an information system theory that models how users come to accept and use a technology. Meanwhile, there are two main variables in TAM, "*perceived usefulness* (PU) is the degree to which an individual believes that using particular system would enhance his/her job performance", and "*perceived ease-of-use* (PEOU) is the degree to which an individual believes that using a particular system would be free of physical and mental effort" (Davis, 1986).

The Conceptual Framework

The conceptual model of this research is a modified technology acceptance model (TAM) by Pikkarainen *et al.* (2004). This research consists of six independent factors which considered to have influence on acceptance of internet banking.

To suit this research, the researcher modified the Pikkarainen *et al* (2004) model by changing the dependent variable from *online banking use* to *behavioral intention* because the targeted respondents are the prospective user of Mandiri internet banking. *Behavioral intention* is an important factor in predicting someone's actual behavior in adopting technologies. According to Ajzen (1985), *behavioral intention* is an individual's subjective probability of performing a specified behavior, and is the major determinant of actual usage behavior. Davis and Warshaw (1989) defined *behavioral intention* as a measure of the likelihood that a person will adopt the application. Ajzen (2006) stated that *behavioral intention* indicates a person's readiness to perform the given behavior, which makes it main predictors of the actual behavior. Some previous researches (Ajzen, 1985; Ajzen & Fishbein, 1980; Yi, Jackson, Park, & Probst, 2006) has noted that behavioral intention is the major determinant of actual usage behavior. Thus, the researcher decided to end the construct with behavioral intention as the dependent variable.

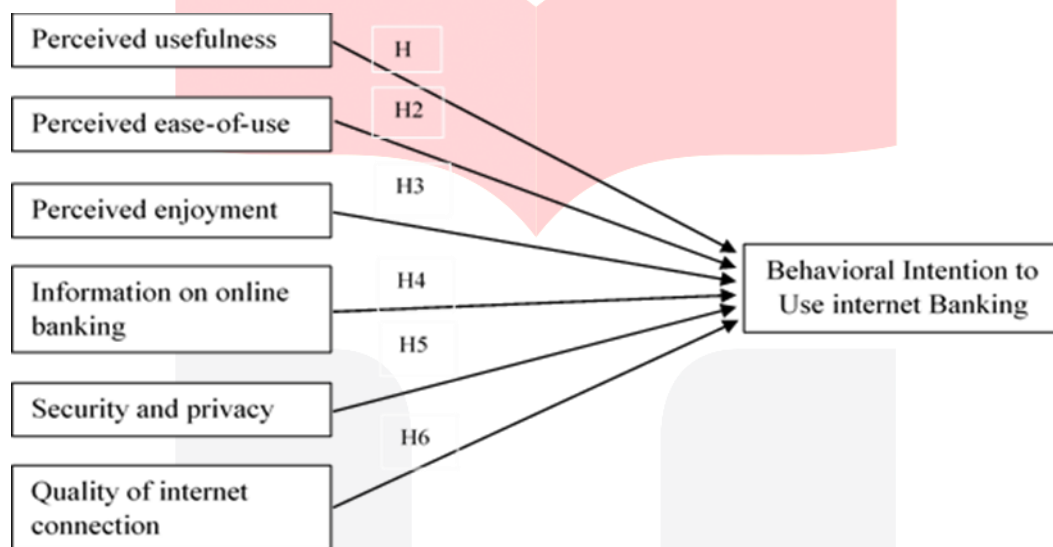


Figure 1: Conceptual Framework

Based on the Figure 1, there are six independent variables which influence the dependent variable which is *behavioral intention*. The independent variables are; *perceived usefulness*, *perceived ease-of-use*, *perceived enjoyment*, *information on online banking*, *security and privacy*, and *quality of internet connection*.

Perceived usefulness according to Davis (1986) is the degree to which and individual believes that using particular system would enhance his/her job performance.

Perceived ease-of-use is the degree to which an individual believes that using a particular system would be free of physical and mental effort (Davis, 1986).

Perceived enjoyment According to Davis, Bagozzi and Warshaw (1992) refers to the extent to which the activity of using computer is perceived to be enjoyable in its own right.

Information on online banking is the amount of information that consumers have about online banking (Pikkarainen *et al.* 2004).

Security and privacy based on Shan Lu, Lai and Cheng (2006) is the level of security offered by the internet banking service provider to each user. Privacy can be defined as the claim of individuals, groups, or institutions to determine when, and to what extent, information about them is communicated to others (Agronoff, 1991).

Quality of internet connection according to Al-Shomali, Gholami, and Clegg (2008) is the level of connection quality used to access internet banking by customers.

Hypothesis

In line with the definition of each variable and the conceptual framework as shown in Figure 1, the hypotheses of this research are as follows:

- H1: Perceived usefulness (PU) has a positive influence on behavioral intention (BI) to use internet banking.
- H2: Perceived ease of use (PEOU) has a positive influence on behavioral intention (BI) to use internet banking.
- H3: Perceived enjoyment (PE) has a positive influence on behavioral intention (BI) to use internet banking.
- H4: The amount of information a consumer has about online banking has a positive influence on behavioral intention (BI) to use internet banking.
- H5: Security and privacy have a positive influence on behavioral intention (BI) to use internet banking.
- H6: The quality of the Internet connection has a positive influence on behavioral intention (BI) to use internet banking.

3. Methodology

Research Type

In this research, the method that applied by the author is Quantitative Method. According to Zickmund, Babin, and Griffin (2010:134), quantitative research can be defined as a business research that addressed research objectives through empirical assessment that involve numerical measurement and analysis.

Operational Variable

According to Zikmund et al., (2010:42), “a variable is anything that may assume different numerical values; the empirical assessment of a concept”. Based on Sekaran and Bougie (2010:126), operational variable is done by looking at the behavioral dimensions, facets, or properties denoted by the concept. These are then translated into observable and measurable elements so as to develop an index of measurement of the concept.

There are six independent variable which are perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE), information on online banking (INFO), security and privacy (SP), and quality of internet connection (QIC). While the dependent variable is behavioral intention (BI).

Data Type, Source, and Collection Method

Primary data and Secondary data were used in this research

Primary data is a source of data that directly provide data to the data collector. In this research, the source of the data was acquired from the questionnaires which were distributed to 400 respondents. The respondents were the Bank Mandiri customer in Bandung

Secondary data is a source of data that indirectly provide data to the data collector. The data obtained in this study is by collecting data from reference books, articles, journals, and websites associated with the selected variables.

Population and Samples

Population in this research is Bank Mandiri customer in Bandung in accordance to a survey conducted by MARS Indonesia in 2013. Based on the survey, Bank customer in Bandung are much more aware with the existence of internet banking. Thus, the population in this research is Bank Mandiri customer in Bandung. *Non-probability Sampling* is used in this research which is purposive sampling. According to Zikmund et al., (2010:396) purposive sampling is a sampling technique in which an experienced individual selects the sample based on personal judgment about some appropriate characteristic of the sample member. The researcher choose purposive sampling because the criteria that being use in this research is Bank Mandiri customers in Bandung.

Data Analysis Technique

In this research, descriptive analysis and path analysis method were used as data analysis technique. According to Sekaran and Bougie (2010), a descriptive study is undertaken in order to ascertain and be able to describe the characteristics of the variables of interest in a situation. Descriptive analysis was performed to obtain the percentage of the factors influence. Based on Hair (2010), path analysis is an approach that employs simple bivariate correlations to estimate relationship in structural equation modeling (SEM). Path analysis used to determine the strength of the paths shown in path diagrams.

4. Data Analysis and Result

Based on the questionnaire, these are the general description of the data analysis. The data in this research is processed using the SPSS v.17 software.

This research used six independent variables which are; *perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection*, and one dependent variable which is *behavioral intention*.

The Table 1 shows the descriptive analysis of the six dimensions and the dependent variable being used in this research. Descriptive analysis result is used to analyze the customer perception towards the factors being used in this research.

Table 1: Descriptive Analysis

| Dimensions | Total Index | Category |
|-------------------------------|-------------|----------|
| Perceived usefulness | 79.75% | GOOD |
| Perceived ease-of-use | 76.34% | GOOD |
| Perceived enjoyment | 75.47% | GOOD |
| Information on online banking | 71.75% | GOOD |

| | | |
|--------------------------------|--------|------|
| Security and privacy | 74.73% | GOOD |
| Quality of internet connection | 72.06% | GOOD |
| Behavioral intention | 74.84% | GOOD |

According to the Table 1, the descriptive analysis result is the overall dimensions in this research were categorized as “GOOD” by the respondents. These result is categorized based on the continuum line.

Data collected from 400 respondents then are processed by using SPSS v.17 software. The partial test results are shown by the Table 2 below.

Table 2. The Path Analysis Result

| Paths | Path Coefficients | t-Values |
|------------|-------------------|----------|
| PU -> BI | 0.157 | 2.881 |
| PEU -> BI | 0.176 | 2.837 |
| PE -> BI | 0.135 | 2.831 |
| INFO -> BI | 0.120 | 2.585 |
| SP -> BI | 0.170 | 3.317 |
| QIC -> BI | 0.187 | 4.844 |

According to the Table 2, all the paths are significant, it means that all the hypotheses in this research are supported by the data. All of the data are partially influenced the behavioral intention.

In Table 3, the data also processed by using SPSS software.

Table 3: Coefficient Determination

| Model Summary ^b | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .732 ^a | .535 | .528 | .561 | 1.849 |

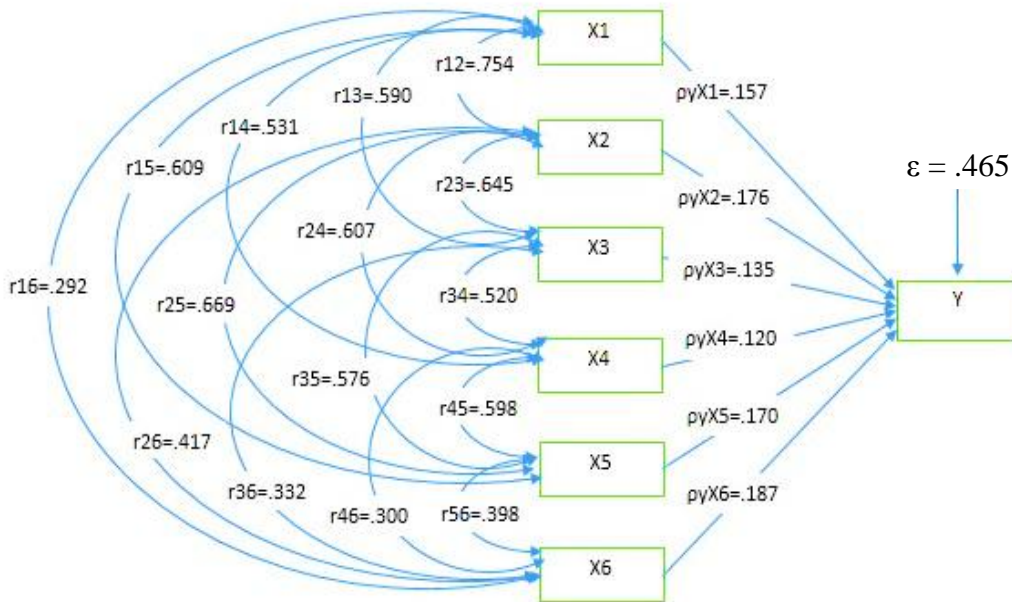
a. Predictors: (Constant), PU, PEU, PE, INFO, SP, QIC

b. Dependent Variable: BI

From the SPSS calculation, it can be seen in Table 3 that the R-square value in this research is .535. It means that 53.5% of behavioral intention are simultaneously influenced by perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection while the rest of 46.5% of the influence

may come from the other factors which are not included in this research. The direct and indirect influence on the behavioral intention can be seen in the path diagram below:

Figure 2. Path Diagram



From the path diagram in Figure 2, it come into following formula:

$$y = 0.157 X_1 + 0.176 X_2 + 0.135 X_3 + 0.120 X_4 + 0.170 X_5 + 0.187 X_6 + 0.465$$

Where:

pyx_1 = Regression coefficient of variable X1

pyx_2 = Regression coefficient of variable X2

pyx_3 = Regression coefficient of variable X3

pyx_4 = Regression coefficient of variable X4

pyx_5 = Regression coefficient of variable X5

pyx_6 = Regression coefficient of variable X6

ϵ = Another factor that affects behavioral intention beyond the research variables

The Table 4. Below is showing the total influence of each factors in this research.

Table 4. Summary of Influence

| Variable | Direct Influence | Indirect Influence | | | | | | Total Influence |
|----------|------------------|--------------------|------|------|------|------|------|-----------------|
| | | PU | PEU | PE | INFO | SP | QIC | |
| PU | 2.5% | 0 | 2.1% | 1.3% | 1.0% | 1.6% | 0.8% | 9.3% |
| PEU | 3.1% | 2.1% | 0 | 1.5% | 1.3% | 2.0% | 1.4% | 11.4% |
| PE | 1.8% | 1.3% | 1.5% | 0 | 0.8% | 1.3% | 0.8% | 7.5% |
| INFO | 1.4% | 1.0% | 1.3% | 0.8% | 0 | 1.2% | 0.6% | 6.3% |

| | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|-------|
| SP | 2.9% | 1.6% | 2.0% | 1.3% | 1.2% | 0 | 1.3% | 10.3% |
| QIC | 3.5% | 0,8% | 1.3% | 0.8% | 0.6% | 1.3% | 0 | 8.3% |
| Total Influence | | | | | | | | 53.5% |

From the Table 4, it can be seen that the total influence of perceived usefulness (X1), perceived ease-of-use (X2), perceived enjoyment (X3), information on online banking (X4), security and privacy (X5), and quality of internet connection (X6) on behavioral intention is have the same value with the R-square in the table 3 which is 0.535 or equal with 53.5%. It can be seen that perceived ease-of-use (X2) has the highest influence on behavioral intention (Y) as much as 11.4%, followed by security and privacy (X5) with 10.3%, perceived usefulness (X1) with 9.3%, quality of internet connection (X6) with 8.3%, perceived enjoyment (X3) with 7.5%, and information on online banking with 6.3%.

5. Conclusion and Suggestion

Conclusion

Based on the descriptive analysis, the customer perception on perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection is good. From the path analysis, it can be seen that all of the factors in this research have significant influence to the behavioral intention. The R-square value in this research is .535 or the same as 53.5%. It can be concluded that all of the factors in this research is significantly influencing the behavioral intention by 53.5%.

Suggestion

Although the perceived ease-of-use has the greatest influence in this research, Bank Mandiri should focus on all of the factors make an improvement since all of the factors which are; perceived usefulness, perceived ease-of-use, perceived enjoyment, information on online banking, security and privacy, and quality of internet connection were have positive significant influence to the behavioral intention to use Mandiri internet banking.

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