THE INFLUENCE OF PERCEIVED EASE OF USE, PERCEIVED USEFULNESS, AND ATTITUDE TOWARD BEHAVIOR ON THE INTENTION TO USE OF INTERNET BANKING  
(Case Study at BNI 46 Bank Kln Brawijaya University Malang)

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Abstract

This research aims to determine the influence of ease of use, usefulness, and attitude of the users in the use of Internet Banking. This research intended for costumers who use Internet Banking in banking activities, are classified in several categories including age and gender. This research is based on two theories, that is Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM). This research uses quantitative methods using questionnaire to obtain data to be processed, the researcher collected the data in BNI 46 Bank KLN Brawijaya Universitas Malang with the and customers who use internet banking as a sample. The results of this research are two of the three factors giving influence to the user in the use of Internet Banking.

Keywords: Internet Banking, Influence of TAM and TRA, Bank.

I. INTRODUCTION

Role of technology today are irrsistable. Various activity now running with technology. One interesting phenomenon is the advent of internet technology. Internet as one of the implementation of informarion technology is a key technology that is being developed ad continously. The internet allows us to exchange information faster, easily and inexpensively.

Many institution or organization realize the benefits of the use of the interent, one of which is bank. Utilizing the internet as one of the assets that should be taken into account in meeting the needs of customers, known as internet banking. In 2000, the implementation of internet banking started by several bank in Indonesia. Bank of Indonesia began a marketing strategy in banking services through the use of internet banking technology. Financial transactions easier and faster done without the need for more employees and branch offices in various places.

Currently BNI also provides banking services using the Internet as a connection facilitate customers of BNI to use the services that available at the BNI. Bank Negara Indonesia (BNI) using the internet banking services to fulfill the wishes of customers who generally require the services of convenience, the availability of channel access which a lot, easy, safe, convenient, useful, and service 24 hours a day. One decision BNI in the
utilization of information technology (IT), is the open nature of mobile wireless application services, such as BNI Internet Banking which a service facility that provided to customers BNI to conduct banking transactions through the Internet network, anytime, anywhere, which easier for users than check balances, transaction history to transfer, bill payment and prepaid voucher purchase.

Previous research has been done by Pikkarainen, Karjaluoto, and Pahnila (2004) about how the consumer acceptance of Internet banking is studied based on the theory of TAM. So in this study there are six variables that affect customers in the use of internet banking. Perceptions about the ease of internet banking, security and privacy, perceptions of the usefulness of internet banking, information found on the internet banking, internet connection quality and perception of pleasure. There is also another study done by Padachi, Rojid, and Seetanah (2007) from the University of Technology, Mauritius. Suggested several variables that affect the customer in the use of internet banking. That ease of use, reluctance to change, trust and relationships, cost, ease of access, pleasure, and security.

Besides the using TAM in this research also use Theory Reasoned Action (TRA). The variable that use by TRA is Attitude toward behavior, which explain about the attitude of individual for intention to use the technology. With the attitude of someone toward the technology can show, how far they feels that technology is good or bad (Jogiyanto, 2008:36).

Based on the above, hence the title of this study is "THE INFLUENCE OF PERCEIVED USEFULNESS, PERCEIVED EASE OF USE, AND ATTITUDE TOWARD BEHAVIOR ON INTENTION TO USE INTERNET BANKING."

II. THEORETICAL FRAMEWORK

A. Overview of Empirical Studies

1. Tero Pikkarainen, Pikkarainen Kari, Heikki Karjaluoto and Seppo Pahnila (2004). Previous research conducted in 2004 under the title "Consumer acceptance of online banking: an extension of the Technology Acceptance Model." The results of the study showed the usefulness, ease of use, pleasure, information, security, and quality of the Internet affect the use of internet banking.

2. Padachi K, Rojid S, and Seetanah B. (2007). Previous research conducted in 2007 under the title "Investigation into the variables that influence customer acceptance of Internet banking in Mauritius." The results of these studies there were seven variables: ease of use, reluctance to change, trust and relationships, cost, ease of access, pleasure, and security.

3. Sri Maharsih and Yuliani Mulyadi. Previous research conducted Maharsih and Yuliani Sri Mulyadi entitled "Factors that affect the interests of customers using internet banking using the framework of technology acceptance model (TAM)." The results of the study we can conclude that the factors that influence interest is the usefulness of using internet banking, the ease of using internet banking, internet banking and credibility.

From all the prior research, the difference of these studies with the previous studies is the difference in the one of the three independent variable, in these research the researcher use variable attitude toward behavior by TRA (theory reasoned action) as the third independent variable which is different by the prior researcher. This study also has similarities with the research that has been done before, because in this research use perceived ease of use and perceived usefulness by TAM (technology acceptance model) as the independent variable which is also use by the other prior research.

B. Information systems and information technology

1. Definition of Information Systems

Information systems can help companies extend their reach to remote locations, obtain forms and new workflow, and possibly could change the way of doing business (Laudon & Laudon, 2005:5). An information system can be any organized combination of people, software, hardware, communication networks and data resources that collect, transform, and distribute information within an organization (O'Brien, 2005:5). System information can also be defined technically as a set of interrelated components that collect (or get back), process, store, and distribute information to support decisions of return and control within the organization (Laudon & Laudon, 2005:9).

Information system is a framework that coordinates the resources (human and computer) to change the input (input) into outputs (information) in order to achieve company goals. The information system aims to produce information. Information is
data that is processed into a form that is useful for the users.

2. Definition of Information Technology
A more detailed understanding given by Wawan Wardiana (2002) which states that Information technology is a technology used for processing data, including processing, obtain, compile, store, manipulate data in different ways to produce quality information, namely personal purposes, business, and government and is a strategic information for decision-making.

Information technology plays an important role in reengineering most business processes. Speed, ability, information processing and computer connectivity and Internet technology can substantially increase the efficiency of business processes, as well as improve communication and cooperation among the people who are responsible for the operation and management (O'Brien, 2005:76).

C. Theory Reasoned Action (TRA)
1. Theory Reasoned Action (TRA)

Theory Reasoned Action is the theory the underlying the outbreak of the technology acceptance model of Davis (1985). Theory Reasoned Action is theory that developed by Fishbien and Ajzen (1975). Fishbie dan Ajzen (1975) states that a person’s perception and reaction to something, will determine the attitude and behavior of the person.

Figure 1: Theory of Reasoned Action (1975)
Source: Jogiyanto (2008:35)

Jogiyanto (2008:32) also said that Theory Reasoned Action suggest that behavioral intention is a function of attitude and subjective norms on behavior.

Figure 2: Theory of Reasoned Action Concept
Source: Jogiyanto (2008:33)

D. Technology Acceptance Model (TAM)
1. Model Concept of Technology Acceptance
Davis in Chuttur (2009:1) proposed that system use is a response that can be explained or predict by user motivation, which , in turn, is directly influenced by an external stimulus consisting of the actual system’s features and capabilities (figure 3).

Figure 3: Conceptual model for technology acceptance (Davis, 1985, p.10)
Source: Chuttur (2009:1)

By relying on prior work by Fishbein and Ajzen (1975), who formulated the Theory of Reasoned Action, and other related research studies, Davis further refined his conceptual model to propose the Technology Acceptance Model (figure 4).

Figure 4: Original TAM proposed by Fred Davis (Davis, 1986, p.24)
Source: Chuttur (2009:2)

Davis in Chuttur (2009:2) suggested that users motivation can be explained by three factors : Perceived Ease of Use, Perceived Usefulness, and Attitude Toward Using the system.

2. Evolving of Technology Acceptance Model (TAM)

Davis et al. (1989) in Chuttur (2009:9) suggested that there would be cases when, given system which was perceived useful, an individual might form a strong behavioral intention to use the system without forming any attitude.

Figure 5: First modified version of TAM (Davis, Bagozzi and Warshaw, 1989)
Source: Chuttur (2009:10)

From the above model Davis, Bagozzi, and Warshaw conduct the new version of TAM model. The resultant model of Final version of TAM
Vankatesh and Davis (1996) in Chuttur (2009:10) give an additional change brought to the original TAM model, was the consideration of other factors, referred to as external variables that might influence the beliefs of a person towards a system.

3. TAM Construct
   a. Perceived Usefulness
   b. Perceived Ease of Use
   c. Behavioral intention
   d. Behavior

E. Perception
1. Definition of Perception

   In a simple perception by Arredondo (2000:23) that Perception are the result of how we interpret things. Schiffman (2000:22) defines Perception is defined as process by which an individual select, organize, and interprets stimuli a meaningful and coherent of the world. Similarly, Kotler (2000:241) defines A person’s perception as to how the process of selecting, organizing and interpreting information inputs to create a meaningful overall picture.

2. Perception process

   Differences person's perception of the same stimuli caused by three things that a perceptual process according to Kotler (2000:241) are:
   a. Selective Attention
   b. Selective distortion
   c. Reference selective

3. Elements of Perception

   According to Assael (1992:45), in the perception there are three elements that must be considered to support the ongoing information processing, namely Perception go through tree distinct phase once the consumer is exposed to the stimulus : attention, comprehension, and retention.

F. Internet

1. The Definition of Internet

   Hahn and Stout (1994:2) explain that the roots of the internet lie in a collection of computer networks that were developed in the 1970’s.

   While according to Zeid (2004:5) The Internet connects many geographical regions; sometimes it is known as the “information superhighway.” It also enables worldwide international networks to communicate with each other. This definition of the internet typically does not mean to the end user. The user only wants to do something specific. Such as run a program, access a website, or download a particular file.

2. Internet Ease

   Davis in Shih (2004) defined perceived ease of use as, “the degree to which a person believes that using a particular system would be free of effort.” From the explanations above, the internet could be use to inter-communicate among one to another users. Besides, the user itself can get information what the user needs faster and efficient via the internet and also make it easier to finish particular tasks.

3. Internet Usefulness

   Davis in Shih (2004) defined perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance.”

4. Internet Application
   a. Electronic Mail (E-mail)
   b. Usenet
   c. Anonymous FTP (File Transfer Protocol)
   d. Gophers
   e. World Wide Web

G. Bank

1. Definition of Bank

   According to Kashmir (1998:11) banks are Business entities that raise funds from the public in the form of deposits and release it to the public in order to improve the living standard of the people.

2. Types of Bank

   According to Kashmir (1998:19) in terms of various aspects of banking, there are four types:
   a. In terms of its function.
   b. In terms of ownership.
   c. In terms of status.
   d. In terms of how to determine the price.
3. Bank Activity

According to Kashmir (1998:26) banking activities in Indonesia today is:

a. Raise funds from the public in the form of demand deposits, savings deposits and savings deposits.

b. Channeling funds into the community in the form of investment loans, working capital loans and trade credit.

c. Provide other tire services such as transfer, collection, clearing, bank guarantees, bank references, buying and selling securities, accepting deposits, servicing payments and other services.

H. Internet Banking

1. Definition of Internet Banking

Internet banking is a system that allows bank customers to access accounts and general information bank products and services through personal computers (PCs) or other gadgets.

2. Factors that affect customers using Internet Banking

The study identifying the five main factors that influence customers to use the Internet Banking facility of which two of them will be used by researchers to carry out the research, namely the perception of usefulness (Internet banking can improve customers' productivity and performance in the use of banking services, internet banking allows customers to using the bank's internet banking and accelerate the bank's customers to use the service), the perception of ease of use (internet banking is easy to learn by customers, easy to operate, easy to improve skills in using internet banking and easy to find what is in want of customers in internet banking).

3. Role of Internet Banking

According Rahardjo (2001) Internet banking benefits include:

a. Business Expansion

b. Customers Loyalty

c. Revenue and Cost Improvement

d. Competitive Advantage

e. New Business Model

I. Concept Models and Hypothesis Model

1. Concept Model

Uma Sekaran in Sugiyono suggested that, a framework of thinking is a conceptual model of how the theory relates to the various factors that have been identified as an important issue. In the study, the researchers used the concept to describe precisely the phenomenon to be studied. The concept describes a phenomenon in general abstract formed by making a generalization about something typical. Model is a good concept in theory would explain the linkage between variables to be studied. So theoretically need to be explained the relation between the independent variables and the dependent variable.

The factors are included Perceived Usefulness, Perceived Ease of Use, and Attitude toward behavior that can influence the customers want to use internet banking that can. So the concept of the model used in this study are:

![Figure 7: Concept Model](image)

Figure 7: Concept Model

In this study researchers use a concept like on above of which is a combination between theory Technology Acceptance Model and Theory of Reasoned Action.

2. Hypothesis Model

Formulation of research hypotheses is the third step in the research, after researchers put forward the basic theory and frameworks. The hypothesis is a temporary answer to the formulation of research problems. It said provisional because new answers given based on relevant theory, not based on empirical facts obtained through data collection.

![Figure 8: Hypothetical Model](image)

Figure 8: Hypothetical Model
III. RESEARCH METHOD

This research will use quantitative method by using questionnaire approach to get the data. Quantitative method is a research that in which the study was conducted intensive, detail and depth to an institution or symptoms. In this survey study, researchers describe perceptions that influence customers to use internet banking. This research can be generally defined as a research that aims to explain the influence of one variable with another variable.

In conveying information about objects and events, we need a concept. According to Effendi in Singarimbun and Effendi (1989:34) says that "The concept is an abstraction of something that is formulated on the basis of the phenomenon of generalization and a number of characteristics, events, circumstances, groups or individuals." Variables research is basically everything that shaped what is defined by the researchers to be studied in order to obtain information about it, then drawn conclusions (Sugiono, 2004:31). While Nazir (2003:123) state variable is a concept that has a variety of values.

The data obtained in the qualitative research was changed to quantitatively using a Likert scale is a method used to measure the attitudes, opinions, and perceptions of a person or group of people about social phenomena (Sugiyono, 2004:86).

The sample and population in this research used was the customer of BNI 46 bank KLN Brawijaya University Malang amounting to 1500 and deductive using Slovin formula until get 94 as the sample for this research. The data that get from the sample processed using SPSS 2.0 to analysis the data with Classical Assumption Test and Multiple Linear Regression.

IV. RESULT AND DISCUSSION

A. Company Overview

BNI 46 bank was formed in 1946 as the first bank that owned by the Indonesian Government. In 1949 the function of BNI restrict the role of BNI by the inherited bank from Dutch that now know as Bank Indonesia as the central bank of Indonesia. In 1992 the legal status of BNI 46 changed to Persero company.

The product of BNI 46 are:

- Deposits BNI Taplus
- BNI Business Taplus
- BNI Tappa and BNI Tamma
- BNI Hajj
- BNI Tapenas, Tabungan Anak, and Tabungan Ku
- BNI Giro
- BNI Griya and BNI Griya Multiguna
- BNI Cerdas
- BNI Credit Card
- BNI Dollar
- BNI Deposits

B. Respondent and Items Overview

Respondents in this study is a customer of the Bank BNI 46 KLN Brawijaya, Malang. Based on the research that has been conducted through a questionnaire to the respondents can be made the characteristics of the respondents were grouped by gender and age of the respondents.

Table 1: Respondent Gender Distribution

<table>
<thead>
<tr>
<th>No</th>
<th>Gender</th>
<th>Amounts of People</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Male</td>
<td>53</td>
<td>56,4%</td>
</tr>
<tr>
<td>2.</td>
<td>Female</td>
<td>41</td>
<td>43,6%</td>
</tr>
<tr>
<td></td>
<td>Amounts</td>
<td>94</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source : Data respondent gender processed 2014

In the table 8 shows of the 94 respondents, there were 53 respondents are male and 41 respondents are female. The respondents who are male is most internet banking users. So it can be conclude that the internet banking users in BNI 46 were dominated by male respondents than female respondents.

Table 2: Respondent Age’s Distribution

<table>
<thead>
<tr>
<th>No.</th>
<th>Age’s</th>
<th>Amounts of People</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15 – 20</td>
<td>11</td>
<td>11,6 %</td>
</tr>
<tr>
<td>2.</td>
<td>21 – 30</td>
<td>60</td>
<td>63,9 %</td>
</tr>
<tr>
<td>3.</td>
<td>31 – 40</td>
<td>20</td>
<td>21,3 %</td>
</tr>
<tr>
<td>4.</td>
<td>41 – 50</td>
<td>2</td>
<td>2,1 %</td>
</tr>
<tr>
<td>5.</td>
<td>51 – 60</td>
<td>1</td>
<td>1,1 %</td>
</tr>
<tr>
<td></td>
<td>Amounts</td>
<td>94</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Source : Data respondent age processed 2014

In the table 9 shows of the 94 respondents that divide in to five segment, from 15 years old until the last segment 60 years old. In that table shows in the first segment above 15-20 years old people there were 11 respondents are internet banking users. In the second segment above 21-30 years old there were 60 respondents are the most internet banking users. In third segment above 31-40 years old there were 20 respondents are internet banking users. In third segment above 31-40 years old there were 20 respondents are internet banking users. In the fourth segment above 41-50 years old there were 2 respondents are internet banking users and the last segment above 51-60 years old there were only 1 respondents who use internet banking. So it can be conclude that the internet banking users in BNI 46 were dominated by people in above 21-30 years old.
C. Data Analysis

1. Multiple linear regressions analysis

Multiple linear regression analysis is used by researchers, if researchers intend to predict how the situation (rise and fall) of the dependent variable (criterion), if two or more independent variables as a factor predicting manipulated (in-right-up and down in value) (Sugiyono, 2007:275).

a. Normality test

Table 3: Normality Test

<table>
<thead>
<tr>
<th>Source</th>
<th>Data normality test processed 2014</th>
</tr>
</thead>
</table>

b. Multicollinearity test

Table 4: Multicollinearity Test

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Multicollinearity test processed 2014</th>
</tr>
</thead>
</table>

c. Hetorocedasticity test

Table 5: Hetorocedasticity Test

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Hetorocedasticity test processed 2014</th>
</tr>
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</table>

d. Multiple linear Regression Analysis

Table 6: Multiple linear regression analysis results

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Multiple Linear Regressions Processed 2014</th>
</tr>
</thead>
</table>

e. Simultaneously test (F test)

Table 7: Simultaneously test results (F test)

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Multiple Linear Regressions Processed 2014</th>
</tr>
</thead>
</table>

f. Partial test (t test)

Table 8: Partial test results (t test)

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Multiple Linear Regressions Processed 2014</th>
</tr>
</thead>
</table>

D. Discussion

In answering the problem in this research, the researcher using SPSS for windows version 20 to analyze the influence from independent variables on dependent variable. Independent variables in this research are perceived ease of use, perceived usefulness, and attitude toward behavior which is give influence to dependent variable intention to use internet banking.

1. The first problem in this research is influence of independent variables to dependent variable in simultaneously, to know the influence from the independent variable to dependent variable can get by the value of F total which is get from the SPSS analyze. The value of F total in this research get as much as 9.486 with significant alpha 0.000. The results that researcher got proves that the independent variables like perceived ease of use, perceived usefulness, and attitude toward behavior give great influence on the dependent variable intention to use internet banking with majority male users in ages range 21 years old to 31 years old.

2. The second problem in thus research is to analyze the influence of the independent variables in partial to the dependent variable, to know the influence of the independent variables to the dependent variable is with look the analysis results T total from each
independent variable. T total value that got in this research are:

a. T total value that got from perceived ease of use variable in this research is as much as 5.975 with the significant 0.000 is bigger than the T table and the alpha. The results that researcher got shows that perceived ease of use variable give big influence to intention to use internet banking within range 21 years old until 30 years old with majority male users.

b. T total value that got from the second perceived usefulness variable in this research is as much as 2.475 with the significant 0.015 which is bigger than the T table and the alpha significant. The results that got by the researcher proves that perceived usefulness variable give real influence on intention to use internet banking within 21 years old to 30 years old with majority male users. Based on the results these research accepted that variable perceived usefulness have influence to variable intention to use technology like in technology acceptance model or TAM state.

c. T total value that got from the third attitude toward behavior variable in this research is as much as 0.936 with the significant 0.352 which is lower than the T table and the significant alpha, so there is not big or real influence. The results that got proves that attitude toward behavior variable doesn’t give real influence in internet banking use intensity for the internet banking user.

E. Researcher Obstacles

The obstacles in this research is about the gap in this research. The gap in this research is the researcher only measured the research results by the gender and the ages of the respondent without knowing the academic experience, the respondent salary and another factors, that is why the results in this research only measured by the gender and the ages factor from the respondent. The second obstacles in this research that faced by the researcher is the research conducted in exact particular time and it will change as the perception as the customers change. The results will change when the customers change their perception in internet banking in another time. When there is another researcher doing the same research will give another results.

V. CONCLUSION AND SUGGESTION

A. Conclusion

1. The influence of perceived usefulness, perceived ease of use, and attitude toward behavior in simultaneously are really give a positive impact to the customers to intention to use internet banking. The results answered that customers intention to using internet banking are can be influenced by perceived usefulness, perceived ease of use, and attitude toward behavior. The results also answered the researcher hypothesis about significant influence in simultaneously is proved and give the real influence to the customers.

2. The influence of perceived usefulness, perceived ease of use, and attitude toward behavior in partially also give an influence for customers to intent to use internet banking. This is the further explanation:

a. The influence of perceived usefulness for the customers is very real or really give influence to customers to intent to use internet banking. The influence of perceived usefulness beside give an impact in simultaneously also give an impact to the customers in partially. Perceived usefulness is the factor that strongly give an impact to the customers to intent to use internet banking.

b. The influence of perceived ease of use for the customers is also give an real influence to intent to use internet banking. The influence of perceived ease of use is also have an impact not only in partially but also in simultaneously. The impact of perceived ease of use not as strong as the impact of perceived usefulness to influence the customers to intent to use internet banking.

c. The influence of attitude toward behavior for the customers to intent to use internet banking is not as much as the other factor. Attitude toward behavior in simultaneously give an real impact for the customers to intent to use internet
banking but in partially attitude toward behavior not give an impact to the customers to intent to use internet banking. So from the three factor that give an influence for the customers to intent to use internet banking, only attitude toward behavior that didn’t give an real impact or real influence to the customers to intent to use internet banking.

B. Suggestion

Based on the research above the researcher can give a suggestion which can give advantage for the customers, for the Bank BNI46, and also for the other researcher. Based on the independent variables which is used by the researcher they are perceived usefulness, perceived ease of use, and attitude toward behavior, give an overview that with internet banking in overall can short the bank activities times of the customers or can efficiently the customers activities.

In order to make the system or internet banking work properly, it also need a good connection to process or use internet banking. When the system already runs well the connection must support the system to connect it with the bank server. When the connection can fully support the system so the internet banking can use properly and the customers can make their bank activities more fast and efficient.

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Online
