CHAPTER II
THEORITICAL BASIS

1.2 Intention to use

Intention to use is defined as an act of desire to reutilize a specific object. As an example, intention to use is the desire of user's intention to use technology to improve business performance ((Moghavvemi et al, 2016). Interest is one of human's psychologically aspect that may provide further intention or pleasure to a particular object, which encourage the reach their wishes. (Al B. e., 2014)

M banking is the progression of electronic banking (e banking) which authorizes users to finish financial transactions by using mobile of handheld gadgets (Oliveira, 2014). These gadgets enable people to link up with the server, execute verification and authorization, carry out payments and then ensure the finalized transactions (Kim et al., 2010). M banking may assist banks in achieving competitive advantage; this is why problems linked to its extensive employment are of massive importance (Dinesh war and Steven, 2013; Au and Kauffman, 2008).

Cambridge Dictionary defines the word intention as "something that you want and plan to do". (Dyer, (2010) Describes intention as "a strong purpose or aim, accompanied by a determination to produce the desired result. "The intention usually used to understand how attitude would affect people's actual behavior ((Huang, 2004)). Moreover, why negative attitudes and acts lead to negative behavior (Stevenson, 2000). However, there has been a distinct change in the focus of research as online and mobile platforms have proven to be very easy and safe to use as it serves people a quick adopting on technological advancements due to convenience offer. The lack of customer satisfaction without face-to-face interaction (al M. e., 2003).

1) Encouragement, giving users the possibility to continue using an object that provide them satisfaction.
2) Advantage, due to its accessibility and credibility, it brings up the motivation of people to continue to use.
3) Satisfaction, less physical interaction may affect the intention to use

1.3 Theories of Technology Acceptance Model (TAM)

There are several theories which have been developed and explained user's intention to use information technology including the model of technology acceptance which is the most used in many researches on the previous literature.

Hoenig (1995) as well as Lai (2016) affirmed that the rate at which payment systems develop depends massively on a struggle between rapid technological change and natural barriers to new product or service acceptance.

Most of theories have suggested to explaining consumers' acceptance of new technologies and their intention to use.

Final version of Technology Acceptance Model (TAM) Venkatesh and Davis (1996). He explained that TAM is a model to analyze the factors that affect the acceptance of the use of technology.

Based the theory of TAM, user's adoption in information technology is determined by the perceived usefulness PU and the perceived ease of use (PEUO), these are to the determination of a person's intention toward using technology.

According to (Prabantoro & Harianto, 2015) TAM is not only built to predict, but indeed, it can explain that experts and practitioners can identify the reason why certain factors are unacceptable and furnish possible appropriate steps.

TAM also defined as a believe to be able to predict user acceptance of technology in accordance with the impact of two factors which are perceived usefulness and perceived ease of use. (Davis, 1989) elaborated this perspective, he underlined in Jogiyanto (2010) that TAM is an information system designed in order to explain how users understand and apply information technology. This method is one of MVOLA equipment in order to make it likely that customers perceive it useful and facile to adopt as its capacity provide users the ability to transfer money everywhere and making online transaction as well as to facilitate credit payment

1.4 Perceived Usefulness (PU)

Perceived usefulness (PU), in the opinion of an individual, can be explained as the level to which the performance of his or her job is enhanced by utilizing a certain technology (Rauniar, 2014). Perceived usefulness, explained in the context of an organization, is the betterment in the output, which may lead to monetary and non-monetary benefits PU clearly indicates or pinpoints those variables which affect the actual use and intention to continue using technology (Awa et al., 2014). According to TAM, PU is believed as a key determinant of technology followed by PEOU ((Igbaria and Iivari, 1995).

The construct perceived usefulness underlined how much an individual considers that a technology can improve their productivity or performance in a given task. He confirms that establishing measurement items for usefulness allow users to fasten payment, facilitate transaction, and increase efficiency of online transactions and increase productivity. (al W. e., (2017))

Such a definition refers to the consumer's intention of the use of banking applications via mobile devices in relation to the improvement of the result, making the experience of performing a financial transaction more efficient (DAVIS, 1989).

These affirmations allow us to understand that usefulness has a significant impact on user's intention to use since it provides these following aspects:

1) Perceived usefulness becomes subjective probability that technology can improve the way consumer's goals.
2) Ability to carry out positive influence on the customer's intention on mobile banking use,
3) Facilitate the user's activities such online payment, transfer money and transaction thru social media market place.
4) Usefulness will increase consumers' intention and desires to use electronic payment systems

1.5 Perceived Ease of use (PEOU)

PEU is a level of people's reliance about something, which is easy to understand. The intensity of use and interaction between users and the system provide ease of use (Zuniarti, 2021) (Jogiyanto, 2010) Announced that Ease of Use perspective can convince users that the information technology that will be applied is an easy thing and not a burden for them. Perceived Ease of use is the ease of understanding and interaction with information technology system used on online platform. (Hang, 2014) Identify the dimensions of perceived ease, namely, ease to learn (easy to learn), ease to use (easy to use), clear and understandable (clear and easy to understand), and become skillful (al, 2015).EU as explained by (Davis and Venkatesh, 1989) is the extent to which the use of M-banking is free of effort. It is actually the opinion of an individual's assessment of the effort utilized because of using a technology:

1) Understandable, it means that when people are using an object which provide them satisfaction, it is certain that the system is uncomplicated and easy to get access in. It does not give them stress but avoid time consuming indeed.

2) Flexibility in use, the object offered allows each and every one choose their preferences and abilities based on their circumstances

3) Effortless, when users use the system, it won't require a lot of knowledge

4) Skillfully, using a particular object with the ease of use allow people increase their experience and skills without big effort.

5) Facile, means it does not demand hard work or a serious attempt in order to reach on goal. In addition to that, it reduces costs.

1.6 E-Security

E- Security of mobile banking is an important and a crucial issue. In addition to that, wireless communication increases the vulnerability of the system. Therefore, more robust security system is necessary to protect the private personal and financial information of the users. (UKEssayes, 2018)

Security is a vital determination of customer's intention to use. Security defines as a state of being safe and secured from harm or damage. However, some of the theories revealed that security encompasses three big dimensions such as reliability, safety, and privacy (Polatonglu, 2010). Security is associated with organization, which provide the level of security such as PIN to avoid risk. It is also related with customer's confidence in adopting new technology. Customer view the relationship with banking based on trust and how they view security banking is essential. (AL-alak and Alnaws, 2010)

In addition, researcher (Wong, 2019) shows that security and trust systems encourage consumer intentions to use mobile payments in Hong Kong." Indications were found to help users to put their trust on mobile banking. Epayment associated with security

(Cresswell, 2000) Established the key of issues of trust must be addressed by any methods of payment system with the PAIN acronym (Privacy,

Authentication, Integrity, and Nonreputation) since trust is the basis of perfect relationship. Based on this information, we can highlight that security needs to take these following considerations:

1) Authentication. It means the act of proving the real identity of those who gets involved in the activities. Authentication is process of identification of something or someone as authentic.
2) Integrity to ascertain that all activities in transferring money is unchanged in transit.
3) Non-repudiation to ascertain that all activities have non-deniable proof of receipt.
4) Confidentiality to make sure that all transactions that have been made are protected from possible eavesdroppers (monitor)
5) Authorization to discover that individuals are organized and granted the desired rights and values.

1.7 E-Trust

Generally, e-trust is defined as a psychological state that builds an intention to accept vulnerability based on expectations of intentions or other behaviors, Kassim and Abdullah (2010). Trust as "the firm's belief that another company will perform actions that will result in positive outcomes for the firm as well as not take unexpected actions that result in negative outcomes" (Anderson and Narus, 1990). However, compared to the abundant research on online trust, mobile trust is only beginning to receive attention (Ramos F. L., 2018) (Shen, (2003) observed that mobile trust is affected by factors associated with two aspects: supplier and mobile phone technologies. According to (Yeh, 2010), application design affects trust in mobile technology through ease of use, perceived usefulness and customization.

Vance, Christophe and Straub (2008) examined the effect of system quality, including visual appeal and navigation structure, as factors that affect user trust in the mobile environment.

The result of previous research shows that there are some measures used to assess trust in this research refers to ability, benevolence and integrity as stated by (Mayer, (1995 According to (kolter, 2016) he also argues that consumer ‘s fear of online fraud (credit card fraud, SMS mobile banking fraud, nondelivered of product) which are of the common causes why they are not using e-commerce, frequently. performance expectancy, risk perception and effort expansion (al L. e., 2010).

We can cite now that trust must be conducted with this following statement in order to build a vital performance:

1) Ability: Means an act of showing skills or capability to do something
2) Benevolence: It means the quality of being humble and generous by offering something with compassion.
3) Integrity: Is the act of togetherness or solidarity to achieve goal.

2.7 Previous Research

No	Research and years	Tittle	Research Variable	Methods	Result Of the research
1	Arrizky azhar Alfiardi	The influence of perceived ease of use toward Go-Jek usage on Intention to use	Perceived Ease of use	Multiple Linear regression	The result showed the intention to use Gojek influenced significantly and positively by the ease of use.
2	Yabto RamlI Lie 2021	The Implication of Trust that Influences Customers' Intention to Use Mobile Banking	Perceived Usefulness	Descriptive and verification method with causal investigation	Perceived usefulness has positive and significant effect on intention to use mobile banking Yabto RamlI Lie, 2021
3	Fernanda Leao Ramos 2018	The Effect of Trust in the Intention to Use m-banking	E-Trust	Structural equation modeling	Trust significantly influences the intention to use mobile banking

4	Raju Wandira 2022	The effect of Security on Customer Intentions to Use Mobile Banking	E- Security	Smart PLS with structural equation modeling (SEM)	Security has significant positive impact on customer intention to use mobile banking.

1.8 Research Framework

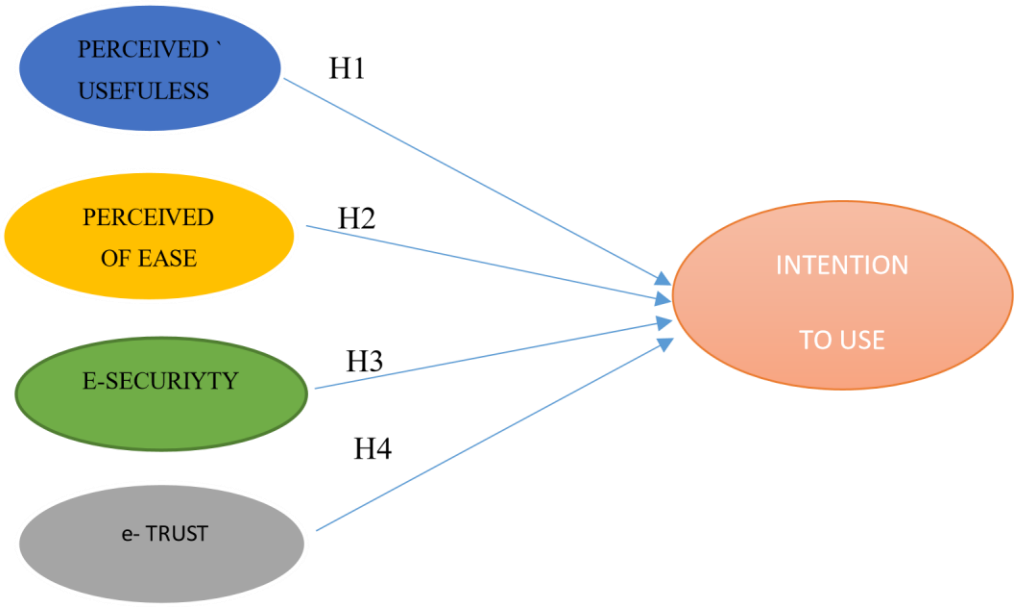

Figure 2. Research Framework

H1: Perceived Usefulness (X1) has effect on intention to use mobile banking (Y)

H2: Perceived Ease of Use (X2) has effect on intention to use mobile banking (Y)

H3: e-Security (X3) has effect on intention to use mobile banking (Y)

H4: e-Trust (X4) has effect on intention to use mobile banking (Y)

CHAPTER III
METHODOLOGY

3.1 Research Design

In this research design, researcher will use quantitative method. Quantitative research is an approach for testing objective theories by examining the relationship among the variables. The variable, in turn, can be measured, typically on instrument, so that numbered data can be analyzed using statistical procedures.

Associative hypothesis will be applied in order to test whether there is relationship between the variables, the dependent and the independent variable. Analyst (2022) cites that association refers to any relationship between two variables, whereas correlation is often used to refer only to a linear relationship between two variables. In other word, (Chinna, 2015) said that association is a relationship between two random variables, which makes them statistically dependent.

3.2 Data sources and data collections

3.2.1 Data sources

Primary data will be used within this research process for researcher can be able to gather a raw information of specific purposes of the study. This provides a direct access to the subject of the research. (Douglas, 2015). Researcher will then go deeply analyze the data by examining the problem of MVOLA mobile banking users in Madagascar.

3.2.2 Data collections

Researcher will conduct this work by applying Likert scale. It is a question that uses five- or seven-point scales; it is sometimes referred to as a satisfaction scale

that ranges from one extreme attitude to another. Normally, Likert survey occurs a moderate or neutral option in its scale.

Therefore, in this study, the questionnaires are going to be distributed through online using google form. Responders are required to accomplish a Likert scale question with a range of 1 to 5 options, which is presented in the table below:

3.2.2.1 Likert scale table

Scale	Measure
1	Strongly disagree
2	Disagree
3	Neither agree / Nor disagree
4	Agree
5	Strongly agree

3.3 Population and Sampling

3.3.1 Population

A population is the entire group that researcher wants to draw conclusions with. Population is a group of individuals who have the same characteristic underlined (Creswell, 2012). The target population would be the people who live in Madagascar especially those who use MVOLA mobile banking within six provinces (Antananarivo, Antsiranana, Fianarantsoa, Mahajanga, Toamasina, Toliara. From these phenomena, shows that MVOLA users reach up to + 8 million. The director of TELMA operators (Hiridjee, 2017) confirmed this data.

3.3.2 Sampling

A sample is a specific group that writer use to collect data from a group of people, objects, or items that are taken from a larger population for measurement.

(Creswell, 2012) In this research, the sample will be taken from the total number of MVOLA users in the province of Antananarivo Madagascar,

$$n = \frac{\mathbb{N}}{1 + Ne^2}$$

$$\text{n} = \frac{8000000}{1+8000000(0,1)^2} = 99.948 = 100$$

Inforation

n = sample size

N= Population size

e = Allowance for inaccuracy due to sample errors that can still be tolerated or desired (e = 0.1)

Based on the calculations above, the minimum sample size in this study is 100 people, so that the sample used is more representative. In this study, researcher will implement **n**on- probability sampling in order to make the hypothesis test. Non-probability sampling is a sampling technique in which the researcher selects samples based on the specific criteria. The hypothesis in nonprobability sampling is derived after conducting the result.

In a non-probability sample, individuals are selected based on non-random criteria, and not every individual has a chance of being included. (McCombes, (2022, October).

No	Sample criteria
1	Respondent from MVOLA mobile banking users
2	Age 18-60
3	Gender
4	Occupation
5	Education
6	Monthly salary
7	Duration of Mvola use

Here researcher uses age because the criteria of using MVOLA mobile banking must be over 18 years, it means it is made for those who have complete data in order to secure their personal account in case of harm or fraud. In addition, gender is mentioned for researcher will explore which one is dominating between both male and female. There is also an occupation since knowing the profession and the monthly salary of each user can make differences in term of business segmentation. We need as well to explore the level of user's education to uncover which level is dominating the most on the organization

3.4 Research Variable

Research variable are things that shape what is characterized by the looks to be concentrated to get data about it, what's more, the end drawn on straightaway**.** In this research, some variables are attributed specifically perceived usefulness, perceived ease of use, e-security and e-trust (Sugiyono, 2020)

3.5 Operational Definition and Variable

Variables	**Definitions Concept**	**Indicators**
Perceived Usefulness (X1)	Perceived Usefulness is to guarantee that the information technology that will be used is facile and not make users stressed. (Jogiyanto, 2010) Perceived Usefulness is the factors of using a special system that helps people get closer to their goal. The usefulness of the mobile banking application to clients will be closely related to its application, which will influence user satisfaction Individuals will use information technology if he or she	-Work more quickly - Increase productivity -Practical -Improve performance -Increase Job productivity Hotlan Siagian, et al ,2021

	understand the benefits of uses (Usefulness) which provides them good thing	
Perceived Ease of use (**X2)**	Perceived Ease of Use is the degree to which a person believes that using a particular object would be free of effort within an organizational context (Davis et al.,1989: 985)	-Easy to use -Easy to understand -Easy to interact clearly -Can be quickly used Hotlan Siagian et al ,2021
Security (X3)	e-commerce security refers to a set of globally accepted guidelines which guarantee the safety of purchasing experience while using a particular object over internet (Arno Ham, 2022)	Authenticity: - Having mechanism to ensure the security of transmitting user information - demonstrate great concern for security of each transaction - Having sufficient technical capabilities to ensure that no other organization will replace their identity - Being confident - Be certain that unauthorized parties will not intercept the data has been sent. Hotlan Siagian et al ,2021
E-Trust (X4)	Trust is an act of choosing Something or someone who put confidence to one another. It is defined as an expectation that other individuals or companies with whom one interacts will not take undue advantage of a dependence upon them, (Gefen, Karahanna, and Straub 2003b (P.308zz).	-

Intention to use (Y)	Interest is a phenomenon that arises after getting stimulation from product that a person sees, then that interest makes him or she wants to try-to-try the product and after deciding, then he or she finally got the desire to get the product. (Kolter). Intention to use as defined by Jogiyanto, (2008:116) is a measure to perform the behavior of someone's interest	- - -

3.6 Data Analysis Method

In this research, author will use multiple linear regression to analyses the data. According to (Gozali, 2012) regression analysis is made to measure the relationship between two variables or more that shows the angle between the dependent variables and the independent variable. Processing the data analysis in this study will be assisted by SPSS version 20 program used to calculate statistical values in the form descriptive statistical test, data quality test, multiple linear regression, classic assumption test and hypothesis testing.

3.6.1 Statistical Descriptive Test

Descriptive statistics provide an overview or description of a data that are seen from the average value (mean), standard deviation, variance, maximum and minimum. Descriptive statistics describe the data that will become real information and easier to understand (Ghozali, 2018:19).

3.6.2 Data Quality Test

3.6.2.1 Validity Test

Validity test is used to measure whether something is valid or not. An instrument or questionnaire is proved to be valid if the questions are on instrument or questionnaire is able to reveal something to be measured (Ghozali, 2018: 51).

The significance test was carried out by comparing the calculated r values with the value of r table. In determining whether or not an item is appropriate will be used, usually a significance test of the correlation coefficient is carried out at the level significance of 0.05 which means an item is considered valid if it is correlated significant to the total score.

In testing the validity, the instrument was tested by calculating the correlation coefficient between the item scores and the total score at a significance level of 95% or a = 0.05. The instrument is said to be valid with significant correlation value of 95% or a = 0.05. The validity test is carried out using the moment product correlation coefficient with the following criteria:

Test procedure:

1. Ho: valid data Ha: invalid data
2. If the probability (sig) < α then the instrument is valid.
   If the probability (sig) > α then the instrument is not valid.

3.6.2.2 Reliability test

According to Ghozali (2018: 45) real reliability is a tool for measuring a questionnaire which is an indicator of a variable or construct. Reliability test used to measure the consistency of measurement results from the questionnaire in repeated use. The result of the questionnaires is called reliable if each question is answered consistently or answer can't be random.

Table 3.7 R Value Interpretation

Correlation value	Result
0,8000 – 1.0000	Very high
0,6000 – 0,7999	High
0,4000 – 0,5999	Normal
0,2000 – 0,3999	Low
0,0000 – 0,1999	Very Low

Source: Sugiyono (2011, p.183).

In order to explain the relationship between the variables, researcher will use R-squared, R square is a measure of how well a linear regression model "fits" a dataset. Also commonly called the coefficient of determination, R-squared is the proportion of the variance in the response variable that can be explained by the predictor. The value for R-squared can range from zero to one. A value of zero indicates that the response variable cannot be explained by the predictor variable at all. A value of 1 indicates that the response variable can be perfectly explained without error by the predictor variable. Zach, 2019

3.7 Data Analysis Requirements Test

3.7.1 Normality

Sample normality test to test, whether we are using n sample data taken from a number of populations, it is first necessary to test the normality of the sample with the aim of whether the number of samples is representative or not so that the research conclusions drawn from a number of samples can be justified. The normality test is used to determine whether the data obtained from samples from populations are normally distributed or vice versa. The sample normality test in this study was to use the Kolmogorov Smirnov (KS) one sample non-parametric test.

Test criteria are carried out by:

1. Ho: Data comes from a normally distributed population.

Ha: Data from populations that are not normally distributed.

2. If (Sig) > 0.05 then Ho is accepted (Normal).
   If (Sig) < 0.05 then Ha is rejected (Not Normal).
3. Sample normality testing was carried out through the SPSS program (Statistical Program and Service Solution series 20).
4. Explanation and conclusions from points 1 and 4, by comparing the values of the two probabilities (sig) > 0.05 or vice versa, variable X is homogeneous or not homogeneous.

3.7.2 Linearity

The linearity test aims to determine whether the two variables have a linear relationship or not significantly. This test is used as a prerequisite for parametric statistics, especially in correlation or linear regression analysis, which is included in the associative hypothesis. So, for researchers working on research entitled "Correlation between", "Relationship between", or "Effect between", we must pass this linearity test first as a prerequisite for testing the hypothesis that we appear. Tests can be carried out on the SPSS program using Test for Linearity at a significance level of 0.05. Two variables are said to have a linear relationship if the significance (Deviation from Linearity) is more than 0.05.

Test procedure:

1. Ho: linear regression model
   Ha: the regression model is not linear
2. If the probability (Sig) < 0.05 (Alpha) then Ho is rejected
   If probability (Sig) > 0.05 (Alpha) then Ho is accepted
3. Sample linearity testing was carried out through the SPSS program

Explanation and conclusions from points 1 and 4, by comparing the probability value (sig) > 0.05 or vice versa, the variable X is linear or non-linear.

3.7.3 Homogeneity Test

Homogeneity testing is conducted to know whether gotten data has a homogeneous variance or not. To know the homogeneity, the researcher used Test of Homogeneity of Variances with SPSS 20 by the value of significance (α) = 0.050.

3.7.4 Multicollinearity Test

This test should not have multicollinearity between the explanatory variables in the model that is indicated by a perfect relationship or a high relationship between some or all of the explanatory variables. In addition to these methods, multicollinearity symptoms can also be identified by using the VIF (variance inflation factor) value. If the VIF value is more than 10 then there are symptoms of multicollinearity, while elements ($1-R^2$) are called collinearity tolerance, meaning that if the collinearity tolerance value is below 0.1 then there are symptoms of multicollinearity.

Test procedure:

1. If the VIF value $\geq$ 10 then there are symptoms of multicollinearity
   If the VIF value $\leq$ 10 then there are no symptoms of multicollinearity
2. If the tolerance value is <0.1 then there are symptoms of multicollinearity
   If the tolerance value is > 0.1, then there are no symptoms of multicollinearity
3. Multicollinearity testing is carried out through the SPSS program (Statistical Program and Service Solution series 21.0).
4. Explanation of the conclusions from points 1 and 2, by comparing the probability value (sig) > 0.1, variable X is multicollinearity or not multicollinearity.

3.8 Data analysis methods

3.8.1 Multiple linear regression

In order to explain the relationship between the variables, researcher will use R-squared, R square is a measure of how well a linear regression model "fits" a dataset. Also commonly called the coefficient of determination, R-squared is the proportion of the variance in the response variable that can be explained by the predictor.

The value for R-squared can range from zero to one. A value of zero indicates that the response variable cannot be explained by the predictor variable at all. A value of 1 indicates that the response variable can be perfectly explained without error by the predictor variable. Zach, 2019

Analyzing the multiple regression by using this following formula:

$$\mathbf{Y= a + B1\ X1 + B2\ X2 + B3X3 + B4X4\ e}$$

Y = Intention to use as the dependent variable a = Constants
B= Coefficient or value of each variable
X 1= Perceived usefulness (PU)
X2 = Perceived Ease of use (PEOU)
X3= e-Security
X4= e-Trust
e = Error Value

3.8.2 Hypothesis testing

3.8.2.1 T test

1. Effect of Perceived Usefulness (X1) on Customers 'intention to Use (Y)

   Ho Perceived Usefulness (X1) have no effect on Customers 'intention to Use (Y).

   Ha= Perceived Usefulness (X1) effect on Customers 'intention to Use (Y) Criteria**.**

a) If Sig < 0.05 then Ho is rejected
b) If Sig > 0.05 then Ha is accepted

2. Effect of Perceived Ease of Use (X2) on Customers 'intention to Use (Y)

   Ho = Perceived Ease of Use (X2) have no effect on Customers 'intention to Use (Y).

   Ha = Perceived Ease of Use (X2) effect on Customers 'intention to Use (Y) **Criteria.**

   a) If Sig < 0.05 then Ho is rejected
   b) If Sig > 0.05 then Ha is accepted

3. Effect of E-security (X3) on Customers 'intention to Use (Y)

   Ho = E-security (X3) have no effect on Customers 'intention to Use (Y).

   Ha = E-security (X3) effect on Customers 'intention to Use (Y)

   Criteria.

   a) If Sig < 0.05 then Ho is rejected
   b) If Sig > 0.05 then Ha is accepted

4. Effect of E-trust y (X4) on Customers 'intention to Use (Y)

   Ho = E-trust (X4) has no effect on Customers 'intention to Use (Y).

   Ha = E-trust (X3) has an effect on Customers 'intention to Use (Y)

   Criteria.

   a) If Sig < 0.05 then Ho is rejected
   b) If Sig > 0.05 then Ha is accepted

3.9 Partial Significance Test (t-test)

To find out the hypotheses on the significance of partial test or t-test, it is intended to define the effect of independent variables (Perceived Usefulness,

perceived ease of use, e-security, e-trust) on the dependent variable intention to use, partially influence of the four independent variables to the dependent variable intention to use.