EVALUATION OF USING SMS BANKING USING MODIFICATION OF UTAUT MODEL: CASE STUDY OF BANK XYZ

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ABSTRACT

SMS banking is one of the e-banking services implemented by banks in enhancing competitive advantage in order to harmonize services that are better tailored to the needs of customers in line with developments in information technology and lifestyles to attract and increase the number of customers. One of the banks that provide sms banking services to customers in enhancing the competitive advantage of organizations and businesses on the road is Bank XYZ. The SMS + Banking service provided by Bank XYZ is an Electronic Banking service that enables customers to obtain banking information and conduct banking transactions via Cellular Phones (sending the sms banking format or dial ussd number) and is available in the form of a mobile application in which utilizes the sms, ussd and package channels data for conducting transactions. At present the users of Bank XYZ e-banking services continue to grow, including Internet banking users with a total of 358,814 users per February 2019 with transactions in 2019 totaling 7 million transactions. while for users of SMS + banking services, there are 732,771 per February 2019 with 900 thousand transactions. Furthermore, based on the difference in total transactions it is felt necessary to evaluate the use of the SMS banking application. The method used in this research is to conduct a literature study that is the author collects data on several models that can be used to determine acceptance of a technology or application and comparison of theories and models of technology acceptance, the appropriate model is the UTAUT model to find out the factors that influence the use and technology acceptance. Data collection methods in this study used a questionnaire. The results of this study found that the factors that have a direct and significant influence on usage behavior are Facilitating Conditions and Behavioral Conditions. While the factors that directly and significantly affect behavioral intentions are Effort Expectancy.

Keywords: *SMS Banking, UTAUT, Facilitating Conditions, Behavioral Conditions, Effort Expectancy*

1. INTRODUCTION

SMS banking is one of the e-banking services implemented by banks in enhancing competitive advantage in order to harmonize services that are better tailored to the needs of customers in line with developments in information technology and lifestyles to attract and increase the number of customers. The use of SMS banking is still in demand by many people in Indonesia because it can make requests and receive banking information from mobile phones anytime and anywhere. According to Harris Wijaya as Vice President of Telkomsel Mobile Banking and Digital Advertising (12/04/2018) banking service users via SMS, especially Telkomsel customers as many as 12 million customers from total Telkomsel customers as many as 196.3 million in 2017 from 74 banks, which is up by 11% in 2018.

One of the banks that provide sms banking services to customers in enhancing the competitive advantage of organizations and businesses on the road is Bank XYZ, Bank XYZ's sms banking application can be seen in Figure 1.2. Bank XYZ is one of the companies engaged in finance and one of the largest banks in Indonesia which has a regional and international network of the XYZ Group. Bank XYZ Indonesia provides a comprehensive range of products and services for individual and corporate customers through Community Financial Services (Retail Banking and Non-Retail Banking) and Global Banking, as well as automotive financing

through subsidiaries namely WOM Finance for two-wheeled vehicles and XYZ Finance for vehicles four wheels. Bank XYZ Indonesia also continues to develop E-banking services and capacity through Sms + banking Internet Banking and various other channels.

The SMS + Banking service provided by Bank XYZ is an Electronic Banking service that enables customers to obtain banking information and conduct banking transactions via Cellular Phones (sending the sms banking format or dial ussd number). SMS + BANKING is also available in the form of a mobile application in which it utilizes sms channels, ussd and data packages to make transactions so that SMS + Banking can be used even in conditions of weak signal frequencies and SMS + Banking customers do not have to bother to remember the text format and USSD menu, while the Internet service Banking can be accessed through websites and mobile applications specifically for internet banking users by using the same user login. To utilize both services, you must register for each service. At present Bank XYZ e-banking service users continue to grow, for Internet banking users a total of 358,814 users per February 2019 with transactions in 2019 totaling 7 million transactions. Whereas for users of SMS + banking services as many as 732,771 per February 2019 with 900 thousand transactions, the data can be seen in Figure 1.1.
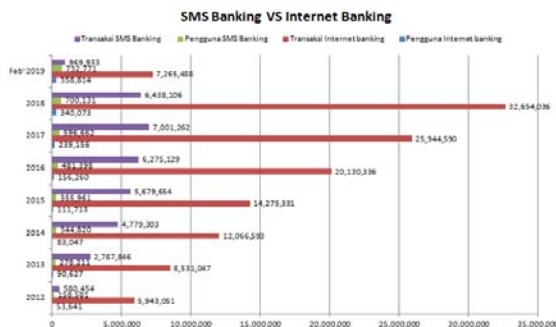

Figure 1: Comparison of Users and Transactions of SMS Banking VS Internet Banking

Based on the data in Figure 1.1 the development of the use of SMS banking when viewed from the total transactions is quite different from the total internet banking transactions. So, in this study it was felt necessary to evaluate the use of the SMS banking application.

Objectives
The objectives of this study are as follows:

1. Knowing whether the sms banking application is in accordance with the needs of XYZ bank customers based on acceptance of the use of sms banking?

2. Knowing whether the sms banking application is still relevant today to the needs of XYZ bank customers based on their acceptance of the use of sms banking?

3. Evaluate the XYZ Bank sms + banking application using the modified UTAUT Model method.

2. LITERATURE REVIEW

This chapter explains the definition of SMS Banking and explains several models that can be used to determine acceptance of a technology or application and comparison of theories and models of technology acceptance.

2.1 SMS Banking

In providing services to customers, banks currently provide several channels to facilitate customer needs in banking, one of which is SMS banking. Sms banking is a mobile technology that allows users to request and receive banking information from banks on customers' mobile phones through a short message service [8]. SMS Banking allows customers to get information about banking through sms-based banking application. Sms banking allows customers to do the following [28]:

- check the balance of their account
- check the status of a cheque number
- transfer funds from one account to another
- view the last transactions made (usually three to five)
- request a transaction statement
- request a cheque book
- change a password

2.2 TAM

The TAM (Technology Acceptance Model) model was first developed in 1989, which is used to determine acceptance of an application based on influencing factors [10]. Factors that influence the acceptance of a technology in the TAM model are Perceived Ease of Use, Perceived Usefulness, and Attitude Toward using. According to researched of Afifah and Widyanesti said that TAM provides a strong and simple explanation for technology acceptance and user behavior and the information technology acceptance factor is determined by two

factors namely Perceived Ease of Use and Perceived Usefulness [9]. The original TAM modeling can be seen in Figure 2.1.
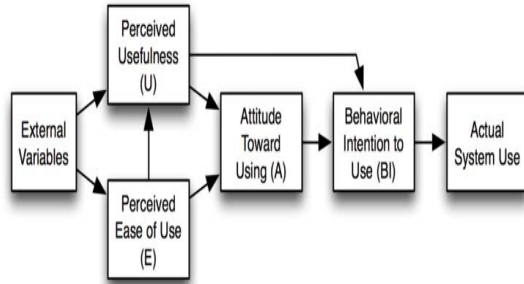

Figure 2.1: TAM Model

This section also contains several explanations of the variables in the TAM model based on the results of previous studies.

2.2.1 Perceived of Use

Perceived Ease of Use is one of the variables in the tam model related to a person's level of trust in using the system. In his research, every 1 unit increase in the value of the variable Perceived Ease of Use has a significant effect on behavioral Intention (BI) on users, namely increasing the value of BI by 0.127 [9].

Perceived Ease of Use is a variable that has an influence on users' behavioral intentions in using technology [36].

2.2.2 Perceived Usefulness

Perceived Usefulness (PU) is one of the variables in the tam model related to a person's level of trust in using the system. In his research, every 1 unit increase in the value of the variable PU has a significant influence on behavioral intentions (BI) in users, namely increasing the value of BI by 0.144 [9].

Perceived Usefulness (PU) is a variable that has an influence on users' behavioral intentions in using technology [36].

2.3 UTAUT

The UTAUT (Unified Theory of Acceptance and Use of Technology) model was developed in 2003. UTAUT is used to model acceptance of technology use [34]. The original UTAUT modeling can be seen in Figure 2.2 [35].
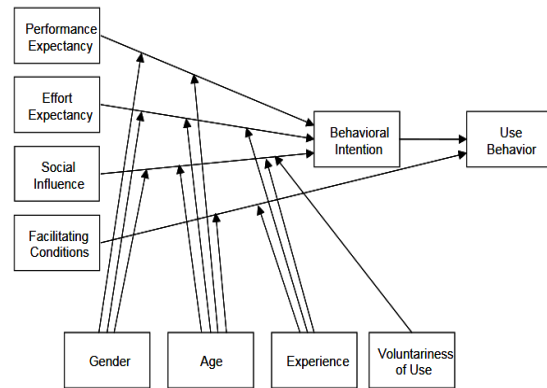

Figure 2.1: UTAUT Model

In UTAUT there are 4 variables that have an important role as a direct determinant of user acceptance and behavior of system use, that is [34] :

- Performance expectancy
- Effort expectancy
- Social Influence
- Facilitating Conditions

This section also contains a number of explanations of the variables in the UTAUT model based on the results of previous studies.

2.3.1 Performance Expectancy

Performance expectantcy construction that is used to measure a person's level of trust in the use of the system will help him to gain benefits in job performance [35]. Construction of Expentancy performance variables is composed of previous models, namely perception of use, extrinsic motivation, conformity to work, relative benefits, expected results [34].

Performance expectancy is an independent variable that is used to measure the level of user confidence in the interest and satisfaction in using the system, where this variable is not moderated by gender and age because there is no difference in perception [1].

Performance expectancy is an independent variable that has a positive and significant correlation to behavioral intention (p-value <0.01) [16].

Performance expectancy is an independent variable used to measure the level of individual trust in the use of the system has an impact on facilitating work. In his research these variables have an impact in facilitating work using the system, it is seen from the average value of the results of data collection of 4.12 scale 1-5 [38].

Performance expectancy is an independent variable that has an impact on behavioral intention and technology use and is moderated by gender and age [33].

2.3.2   Effort Expectancy

Effort Expentancy is the level of ease and effort in the use of systems to support work [35]. Effort Expentancy variables are constructed from technology acceptance models that include perceptions of ease of use, complexity (complexity level and relative comprehension and use), ease use [34].

Effort Expentancy is an independent variable used to measure the level of ease / effort of users in using the system. In his research respectful concluded that Effort Expentancy influences interest and satisfaction in the use of the system and is moderated by gender and age [1].

Effort Expentancy is an independent variable that has a positive and significant correlation to Behavioral Intention (p-value <0.01) [16].

Effort Expentancy is an independent variable that is used to measure the level of ease of use of the system in reducing individual efforts in completing work, including energy and time required. In his research these variables have an impact in reducing effort (energy and time) in completing work, it is seen from the average value of the results of data collection of 4.23 scale 1-5 [38].

Effort Expentancy is an independent variable that has an impact on Behavioral Intention and technology use and is moderated by gender and age and experience [33].

2.3.3   Social Influence

Social Influence is a level where someone feels it is important that other people need to convince him to use a new system [35]. Construction of variables in Social Influence is subjective norms, social factors, imaging (the effect of the use of the system on social status) [34].

Social Influence is an independent variable used to measure the influence of the environment (leadership support, coworkers, organizational environment) on the interest and satisfaction in using the system, where this variable is not moderated by gender and age because there is no difference in perception [1].

Social Influence is an independent variable that has a positive and significant correlation to Behavioral Intention (p-value <0.01) [16].

Social Influence is an independent variable that is used to measure user ratings related to the level of environmental influence on system use. In his research these variables have an influence on users in using the system, it is seen from the average value of the data collection of 3.87 scale 1-5 [38].

Social Influence (Venkatesh & Zhang, 2010) is an independent variable that has an impact on Behavioral Intention and the use of technology and is moderated by experience [33].

2.3.4   Facilitating Conditions

Facilitating Conditions is a person's level of confidence in the availability of infrastructure and technical companies in supporting the system [35]. Construction of variables in Facilitating Conditions is the control of perception behavior, facilitating conditions, conformity [34].

Facilitating Conditions is an independent variable that influences the use of the system based on the availability of supporting facilities in the system implementation. This variable is moderated by gender and age [1].

Facilitating Conditions are independent variables that do not have a significant correlation to use behavior [16].

Facilitating Conditions is an independent variable that is used to measure user confidence regarding the condition of supporting facilities and infrastructure owned by the organization in using the system. In his research, these variables related to the availability of infrastructure affect the use of the system, it is seen from the average value of the data collection of 4.09 on a scale of 1-5 [38].

Facilitating Conditions are independent variables that have an impact on use behavior / technology use and are moderated by age and experience [33].

2.3.5   Behavioral Intention

Behavioral Intention is the intention of users in using the system continuously with the assumption that they have access to the system [34]. Plan or intention to use the system after there is a benefit of a system [35].

Behavioral Intention is a dependent variable that has an influence on the actions of individuals in using the system based on the strong desire of individuals [1].

Behavioral Intention is a dependent variable that has a positive and significant correlation to Use behavior (p-value <0.05) [16].

Behavioral Intention is a dependent variable used to measure user ratings of user intentions in utilizing existing systems continuously with the assumption that they have access to information and intention to use is directly influenced by performance expentancy, effort expectancy and social influence. In his research that user intentions are directly affected by performance expentancy, effort expectancy and Social Influence in using the system, it is seen from the average value of the results of data collection of 4.08 on a scale of 1-5 [38].

Behavioral Intention is a dependent variable that has an impact on the use of technology [33].

2.3.6   Performance Expectancy
Use behavior is a measure of the size of the plan to improve the system after the benefits are known, behavior of technology use depends on evaluating the use of the system, intention to use the system to improve performance (behavioral intention), and the availability of infrastructure to facilitate the use of technology (facilitating conditions) [35].

Use behavior is a dependent variable that is a measure in the behavior of technology use that is directly influenced by user intentions and the condition of resource facilities and the condition of technology facilities [1].

Use behavior is the dependent variable that is influenced by the variables of performance expectancy, effort expectancy, Social Influence and behavioral intention [16].

Use behavior is a dependent variable that is used to measure user judgment regarding the intensity and frequency of system use. In his research, these variables indicate that users agree that the use of the system is a good idea in supporting lectures, it is seen from the average value of the results of data collection of 4.10 on a scale of 1-5 [38].

Use behavior is a dependent variable that is directly influenced by the variables of performance expectancy, effort expectancy, social influence, facilitating conditions and behavioral intention [33].

2.4 Comparison of Acceptance Models
In the sub-chapter comparison the Acceptance model will show the results of research conducted by Samaradiwakara dan Gunawardena, 2014 which compares several models of acceptance of a technology or application [13]. A comparison of the various acceptance models can be seen in Table 2.1.

Table 2.1: Technology Acceptance Theories/Models Comparison.

No	Theory /Models	Constructs (Independent Variables)	Moderators	Explained variance (R2)
1	Theory of Reasoned Action (TRA)	1.Attitude toward behavior 2.Subjective norm	1.Experience 2.Voluntariness	0.36
2	Technology Acceptance Model - a (TAM2)	1. Perceived usefulness 2. Perceived ease of use 3. Subjective norm	1.Experience 2. Voluntariness	0.53
	- b (TAM - including gender)	1. Perceived usefulness 2. Perceived ease of use 3. Subjective norm	1. Gender 2. Experience	0.52
3	Motivation Model (MM)	1. Extrinsic motivation 2. Intrinsic motivation	None	0.38
4	Decomposed Theory of Planned Behavior (DTPB) - a TPB (including voluntariness)	1. Attitude toward behavior 2. Subjective norm 3. Perceived	1.Experience 2. Voluntariness	0.36

No	Model	Constructs	Moderators	value
		behavioral control		
	- b TPB (including gender)	1. Attitude toward behavior 2. Subjective norm 3. Perceived behavioral control	1. Gender 2. Experience	0.46
	- b TPB (including gender)	1. Attitude toward behavior 2. Subjective norm 3. Perceived behavioral control	1. Gender 2. Experience	0.46
	- c TPB (including age)	1.Attitude toward behavior 2. Subjective norm 3. Perceived behavioral control	1. Age 2. Experience	0.47
5	Combined Technology Acceptance Model and Theory of Planned Behavior (C-TAM-TPB)	1. Attitude toward behavior 2. Subjective norm 3. Perceived behavioral control 4. perceived usefulness	1. Experience	0.39
6	Model of PC Utilization (MPCU)	1. Job fit 2. Complexity 3. Long term consequenc	1. Experience	0.47
		es 4. Affect towards use 5. Social factors 6. facilitating conditions		
7	Innovation Diffusion Theory (IDT)	1. Relative advantage 2. Ease of use 3.Result demonstrability 4.Triability 5. Visibility 6. Image 7. Compatibility 8. Voluntariness of use	1. Experience	0.40
8	Social Cognitive Theory (SCT)	1.Outcome expectation 2. Self-efficacy 3. Affect 4. Anxiety	None	0.36
9	Unified Theory of Acceptance and Use of Technology (UTAUT)	1.Performance expectancy 2. Effort expectancy 3. Social influence 4.Facilitating conditions	1. Gender 2. Age 3. Experience 4.Voluntariness	0.69

Based on table 2.1 according to research Samaradiwakara and Gunawardena comparing eight specific models (Theory of Reason Action, Theory of Planned Behavior, Technology Acceptance Model, Motivational Model, Combine Theory of Planned Behavior and Technology Acceptance Model, Model of PC Utilization , Innovation Diffusion Theory and Social Cognitive Theory) and

explained that the UTAUT model provides a solid basis for providing information about the acceptance of an application or technology [13]. They concluded that the UTAUT model should be used in modeling the acceptance behavior of a technology [13].

3. RESEARCH METHODS

This chapter contains a theoretical framework, data measurement, population, research samples, data collection methods, and data analysis.

3.1 Theoritical Framework

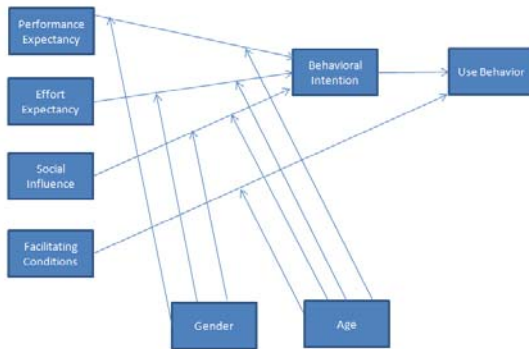The theoretical framework used in this study can be seen in Figure 3.1 below.

Figure 3.1: Theoritical Framework

This research will use the UTAUT model to determine the factors that influence the use and acceptance of technology. The selection of the UTAUT model is based on the results of a literature study from previous research that recommends the use of the UTAUT model in modeling the behavior of technology or application acceptance. The UTAUT model used is simpler than the original UTAUT model, the model used has been modified in such a way that it becomes simpler as in Figure 3.1. Some variables that are not used in the theoretical framework in this study are based on the results of literature studies from previous studies in which experience and voluntariness variables do not have a significant impact in moderating the main variables of the UTATUT model (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions). Variables that will be used in this study are Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavior Intention, User Behavior, Gender, Age.

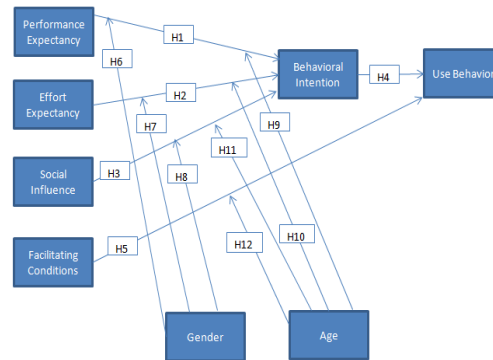Based on the theoretical framework described above, the hypothesis in this study can be seen in Figure 3.2.

Figure 3.2: Hypothesis

The following is a description of the hypothesis in Figure 3.2 above:

H1: Performance Expectancy (PE) factors have a positive effect on Behavioral Intention (BI) sms banking applications.

H2: Effort Expectancy (EE) Factor has a positive effect on Behavioral Intention (BI) sms banking application.

H3: Social Influence (SI) Factors have a positive effect on Behavioral Intention (BI) sms banking applications.

H4: Behavioral Intention Factor (BI) has a positive effect on the Use behavior (UB) sms banking application.

H5: Facilitating Conditions (FC) Factors have a positive effect on the Use behavior (UB) of sms banking applications.

H6: Gender factors have a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for men / women.

H7: Gender factors have a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (UB) for men / women.

H8: Gender factors have a positive effect on moderating Social Influence (SI) with Behavioral Intention (UB) for men / women.

H9: The AGE factor has a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for millennial and non-millennial groups.

H10: The AGE factor has a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (BI) for millennial and non-millennial groups.

H11: The AGE factor has a positive effect on moderating Social Influence (SI) with Behavioral Intention (BI) for millennial and non-millennial groups.

H12: The AGE factor has a positive effect on moderating Facilitationg Conditions (FC) with Use behavior (UB) for millennial and non-millennial groups.

3.2 Data Measurement

In this study, the variables used will be measured in accordance with the indicators in table 3.1. Furthermore, each variable is measured using a Likert scale, where the scale used ranges from scale 1 to scale 5. The following explanation of the scale used:

- Scale 1 for strongly disagree answers (STS)
- Scale 2 for disagree answers (TS)
- Scale 3 for the neutral answer (N)
- Scale 4 for agreed answers (S)
- Scale 5 for answers totally agree (SS)

Table 3.1: Classification of Variables, Indicators, Descriptions.

No	Variable	Indicator	Description
1	Performance Expectancy	Safe for use in transactions	The level of confidence in the use of SMS banking
		Providing convenience in transactions	Profit level in using SMS banking
		Can be used anytime and anywhere	
2	Effort Expectancy	Easy to use	The level of ease of use of SMS banking
		Easy to learn	
		Practical application menus in application use	
3	Social Influence	Support and advice from people around	The level of influence of the use of sms banking from other people
		The use of the application is influenced by advertisements and attractive promos	The level of use of SMS banking from the environment

		Opinions and encouragement of application use are influenced by coworkers	
4	Facilitating Conditions	The application can be used on all types of devices (handsets	Compatibility level
		Applications can be used even in weak network conditions	Application support infrastructure level
		The existence of user services in helping and guiding users when there are problems in using the application	User Services
5	Behaviour Intention	The desire to use the application	Intention and desire of using SMS banking
		The application is used every time you want to transact	
		Continue in the future	
6	User Behaviour	The intensity of application use	SMS banking usage behavior
		Satisfaction in using the application	
		Application is used in any condition	
		Costs incurred in using the application	
7	Gender	Gender factors in application usage	Gender
8	Age	Age group factors in application use are millennial and non millennial (millennial born in> = 1982 and non millennial <1982)	Age group

3.3 Data Collection

The following will explain population, sample and data collection methods that will be used in this study.

3.3.1 Population

The total population for SMS Banking users in February 2019 is around 732,771. This research will only examine SMS Banking users in the JABODETABEK area (Jakarta, Bogor, Depok, Tangerang, Bekasi), totaling around 390,100 customers.

3.3.2 Sample

The sample collection technique in this study uses probability sampling, where the confidence level is 95% and the margin of error is 5%. Calculation of the number of samples using the Slovin formula, following the results of sample calculation:

$n = N / (1 + N.(e)^2)$

$n = 390100 / (1+ (390100 * (5\%)^2)$

$n = 400$ people

Information:

n: overall sample

N: Population

e: margin of error (5%)

From the above calculation, the minimum sample in this study is 400 people.

3.3.3 Method of Collecting Data

In this study the data collection method that will be used is a questionnaire. The questionnaire that will be used contains questions about variables and indicators as shown in table 3.1.

3.4 Data Analysis

In this section, we explain the methods used in analyzing data.

3.4.1 Measurement Model

The steps to be carried out in testing the variables and the relationships between variables is the Structural Equation Model (SEM) analysis. The steps in the measurement model used in this study are as follows:

A. Validity test

The instrument validity test was carried out on 400 respondents with a significance level of 0.05. Testing the instrument is considered valid if the loading factor value of each variable> 0.5.

B. Reliability Test

Reliability testing in this study uses the Cronbach's Alpha formula. If r> 0.6, the research instrument is said to be reliable. Cronbach's alpha formula that will be used to test the reliability of the instrument in this study is as follows :

$$ r = \left(\frac{n}{n-1} \right) \left(1 - \frac{\sum \sigma_t^2}{\sigma_t^2} \right) $$

Information :
r = instrument reliability (question)
n = number of questions / instruments tested
$\sum \sigma_t^2$ = The number of score variants per item
σ_t^2 = total variant
t = variant

3.4.2 Structural Model

The next stage after testing each variable by using Confirmatory Factor Analysis (CFA) is to analyze the Structural model.

In this study multiple regression testing techniques will be performed to see the relationship between the independent variable (X) with the dependent variable (Y) in accordance with Figure 3.2. The regression equation in this study is as follows :

$UB = \beta_{10} + \beta_{11} .BI + \beta_{12}.FC + \beta_{13}.D_A + \beta_{14}.D_A.FC + \varepsilon_1$…...............(1)

$BI = \beta_{20} + \beta_{21} .PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{26}.D_A + \beta_{27}.D_A.EE + \beta_{28}.D_A + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{212}.D_G + \beta_{213}.D_G.EE+ \beta_{214}.D_G + \beta_{215}.D_G.SI + \varepsilon_2$…......................................(2)

Keterangan :

UB : Use Behaviour

BI = Behavioral Intention

PE = Performance Expectancy

EE = Effort Expectancy

SI = Social Influence

FC = Facilitationg Conditions

$$ D_G = \begin{cases} 1 \,, jika\ laki-laki \\ 0\,, jika\ perempuan \end{cases} $$

$$D_A= \begin{cases} 1, & jika\ Tahun\ Kelahiran >= 1982\ atau\ milenial \\ 0, & jika\ Tahun\ Kelahiran < 1982\ atau\ non\ milenial \end{cases}$$

ε = error

3.4.3   Hypothesis Testing

Based on the 2 regression equations in the sub-chapter above, the hypotheses that will be used in testing are as follows:

1. H1: Performance Expectancy (PE) factors have a positive effect on Behavioral Intention (BI) sms banking applications.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 21 = 0$

   HA: $\beta 21 > 0$

2. H2: Effort Expectancy (EE) Factor has a positive effect on Behavioral Intention (BI) sms banking application.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 22 = 0$

   HA: $\beta 22 > 0$

3. H3: Social Influence (SI) Factors have a positive effect on Behavioral Intention (BI) sms banking applications.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 23 = 0$

   HA: $\beta 23 > 0$

4. H4: Behavioral Intention Factor (BI) has a positive effect on the Use behavior (UB) sms banking application.

   Testing the hypothesis is the same as testing the coefficient in equation (1) as follows:

   Ho: $\beta 11 = 0$

   HA: $\beta 11 > 0$

5. H5: Facilitating Conditions (FC) Factors have a positive effect on the Use behavior (UB) of sms banking applications.

   Testing the hypothesis is the same as testing the coefficient in equation (1) as follows:

   Ho: $\beta 12 = 0$

   HA: $\beta 12 > 0$

6. H6: Gender factors have a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for men / women.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 211 = 0$

   HA: $\beta 211 > 0$

7. H7: Gender factors have a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (UB) for men / women.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 213 = 0$

   HA: $\beta 213 > 0$

8. H8: Gender factors have a positive effect on moderating Social Influence (SI) with Behavioral Intention (UB) for men / women.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 215 = 0$

   HA: $\beta 215 > 0$

9. H9: The AGE factor has a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for the millennial versus non millennial groups.

   Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

   Ho: $\beta 25 = 0$

   HA: $\beta 25 > 0$

10. H10: The AGE factor has a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (BI) for the millennial vs. non millennial groups.

    Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

    Ho: $\beta 27 = 0$

    HA: $\beta 27 > 0$

11. H11: The AGE factor has a positive effect on moderating Social Influence (SI) with Behavioral Intention (BI) for the millennial vs. non millennial groups.

    Testing the hypothesis is the same as testing the coefficient in equation (2) as follows:

    Ho: $\beta 29 = 0$

HA: β29> 0

12. H12: The AGE factor has a positive effect on moderating Facilitationg Conditions (FC) with Use behavior (UB) for millennial groups vs non millennial groups.

Testing the hypothesis is the same as testing the coefficient in equation (1) as follows:

Ho: β14 = 0

HA: β1 4> 0

This statistical processing will be carried out using the SMART-PLS application.

4. RESULT AND DISCUSSION

4.1 Data Collection

In this section, we will discuss the number of respondents and the frequency of each question.

4.4.1 Numbers Of Respondens

Based on the discussion in section 3.3 using the Slovin formula, a minimum of 400 respondents are used in this study. While the respondents used in this study were 422 people, and according to the criteria mentioned using the Slovin formula. In the questionnaire there are two respondents profiles that include information on gender and age group.

The respondent's age group includes the millennial age group (birth year> = 1982) and the non millennial age group (birth year <1982). While gender includes the categories of men and women.

In the study found the profile of respondents by non-millennial age group is more than the number of respondents in the non-millennial age group. The number of respondents in the non millennial age group was 70.1% (296 people) of the total respondents while the millennial age group was 29.9% (126 people) of the total respondents. The number of male respondents was 64.2% (271 people) of the total respondents while the number of female respondents was 35.8% (151) of the total respondents. Details of the respondent can be seen in table 4.1.

Table 4.1: Profile of Respondents.

Deskripsi	Persentase	Total
Number of Samples	100%	422
Age group		
Non Milenial	70,1%	296
Milenial	29,9%	126
Gender		
Male	64,2%	271
Girl	35,8%	151

4.4.2 Frequency

In the study, it will also be seen the frequency of each question from all respondents. This frequency is used to see whether there is missing data.

4.4.3 Validity Test

In this study to test the validity of the correlation indicator with the variable data declared valid if the loading factor of 0.5 each. The flow chart results that illustrate the outer loading of the indicator blocks that measure each variable can be seen in figure 4.1.
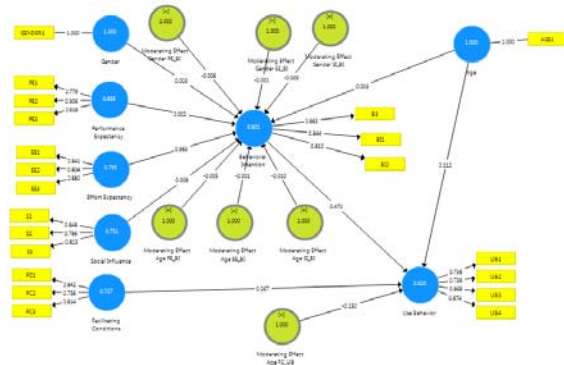

Figure 4.1: Output Line Diagram

The results of the loading factor values in Figure 4.2. shows that all indicators have good validity because each indicator is greater than 0.7, so it can be concluded that all the variables in the study are valid. Another form of presentation of the results of loading factor values can be seen in the table 4.2.

Table 4.2:Outer Loading.

Korelasi indicator dengan variable	Loading Factor	Keterangan
BI1<-BI	0.844	VALID
BI2<-BI	0.810	VALID
BI3<-BI	0.883	VALID
EE1<-EE	0.841	VALID
EE2<-EE	0.804	VALID
EE3<-EE	0.880	VALID
FC1<-FC	0.842	VALID
FC2<-FC	0.756	VALID
FC3<-FC	0.814	VALID
PE1<-PE	0.779	VALID
PE2<-PE	0.906	VALID
PE3<-PE	0.918	VALID
SI1<-SI	0.848	VALID
SI2<-SI	0.786	VALID
SI3<-SI	0.815	VALID

UB1<-UB	0.745	VALID
UB2<-UB	0.743	VALID
UB3<-UB	0.861	VALID
UB4<-UB	0.868	VALID

4.4.4   Reliability Test

The instrument reliability test was done by looking at the Cronbach coefficient, and if r> 0.6 then the research instrument was said to be reliable. Measurement of the reliability test for the instrument, Cronbach's alpha output obtained from the PLS Algorithm Report Smart PLS is presented in table 4.3 below.
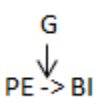
Table 4.3: Cronbach's Alpha Value.

Variabel	Cronbach's Alpha
BI	0.801
EE	0.795
FC	0.727
PE	0.838
SI	0.751
UB	0.820

The results of the table above show that all constructs are reliable or have acceptable Cronbach's Alpha values. That is because the Cronbach's alpha value of each construct is greater than 0.6.

4.4.5   Evaluation of Structural Models

Evaluation of structural models in this study will be seen from the path coefficients that describe the strength of the relationship between variables. Calculation of the value of the path coeffients is obtained from the bootstrapping process (resampling method). The results of the calculation of the value of the path coefficients can be seen in table 4.4, will be used to conclude the hypothesis is accepted or rejected. If p-value <0.05 then Ho is rejected, HA is accepted. Conversely, if a p-value> 0.05 Ho is accepted.

Table 4.4: Path Coefficients

Diagram Jalur	T Statistik	P Value
PE -> BI	0.567	0.571
EE -> BI	65.556	0.000
SI -> BI	1.117	0.265
BI -> UB	9.185	0.000
FC -> UB	5.315	0.000
G ↓ PE -> BI	1.103	0.270
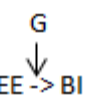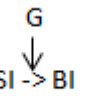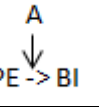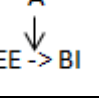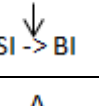
G ↓ EE -> BI	0.168	0.867
G ↓ SI -> BI	1.155	0.248
A ↓ PE -> BI	0.896	0.370
A ↓ EE -> BI	0.214	0.831
A ↓ SI -> BI	1.070	0.285
A ↓ FC -> UB	4.586	0.000

Table 4.5: Value of R2

Variabel	R2
BI	0.995
UB	0.620

In this study it was found that the r square (R2) value for User Behariour (UB) was 0.620 (62%) in other words that the independent variable had a strong influence. Based on this almost in accordance with research [13] where the r square value of 0.69 (69%) which indicates that the independent variable with the dependent variable has a strong influence so that the UTAUT model provides a strong basis for providing information about the acceptance of an application or technology.

4.4.6   Hypothesis Test and Discussion

In this section, we will conduct a hypothesis test and wetting each hypothesis test. The path coefficient table containing the p value of each variable in table 4.4 will be used to decide on the regression equation that has been formulated.

Thus, the linear regression equation formulation can be produced:

$$UB = \beta_{10} + \boldsymbol{\beta_{11}} \, .BI + \boldsymbol{\beta_{12}}.FC + \boldsymbol{\beta_{13}}.D_A + \boldsymbol{\beta_{14}}.D_A.FC \ldots\ldots\ldots\ldots\ldots(1)$$

$$UB = \beta_{10} + \boldsymbol{(9.185)} \, .BI + \boldsymbol{(5.315)}.FC + \beta_{13}.D_A + \boldsymbol{(4.586)}. \, D_A.FC$$

$$BI = \beta_{20} + \boldsymbol{\beta_{22}.EE} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

$$BI = \beta_{20} + \boldsymbol{(65.556).EE}$$

1. Hypothesis 1 (H1): Performance Expectancy (PE) Factors have a positive effect on Behavioral Intention (BI) sms banking applications.
    $P = 0.571 \ (<0.05)$,

    Based on linear regression equations:
    $BI = \beta_{20} + \boldsymbol{\beta_{21}} \, .PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

    $BI = \beta_{20} + \boldsymbol{0} + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

    The above results show that **Ho: β_{21} = 0, Hypothesis rejected**, which means that Performance Expectancy (PE) does not have a positive effect on Behavioral Intention (BI) sms banking applications.

2. Hypothesis 2 (H2): Effort Expectancy (EE) Factors have a positive effect on Behavioral Intention (BI) sms banking applications.
    $P = 0,000 \ (<0.05)$,
    Based on linear regression equations
    $BI = \beta_{20} + \boldsymbol{\beta_{21}} \, .PE + \boldsymbol{\beta_{22}.EE} + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

    $BI = \beta_{20} + \boldsymbol{0} + \boldsymbol{(65.556).EE} + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

    The above results show that **$H_A : \beta_{22} > 0$, H_0 rejected, H_A be accepted**, which has the meaning that the Effort Expectancy (EE) Factor has a positive effect on Behavioral Intention (BI) sms banking application.

3. Hypothesis 3 (H3): Social Influence (SI) Factors have a positive effect on Behavioral Intention (BI) sms banking applications.

$P = 0.265 \ (<0.05)$,
Based on linear regression equations :
$BI = \beta_{20} + \boldsymbol{\beta_{21}} \, .PE + \boldsymbol{\beta_{22}.EE} + \boldsymbol{\beta_{23}.SI} + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + \boldsymbol{0} + \boldsymbol{(65.556).EE} + \boldsymbol{0} + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

The above results show that **$H_0 : \beta_{23}$ = 0, Hypothesis rejected**, which has the meaning that Social Influence Factor (SI) does not have a positive effect on Behavioral Intention (BI) sms banking application.

4. Hypothesis 4 (H4): Behavioral Intention (BI) Factor has a positive effect on the Use behavior (UB) of sms banking applications.
    $P = 0,000 \ (<0.05)$,
    Based on linear regression equations :
    $UB = \beta_{10} + \boldsymbol{\beta_{11}} \, .BI + \beta_{12}.FC + \beta_{13}.D_A + \beta_{14}.D_A.FC$
    $UB = \beta_{10} + \boldsymbol{(9.185)} \, .BI + \beta_{12}.FC + \beta_{13}.D_A + \beta_{14}.D_A.FC$

    The above results show that **$H_A : \beta_{11} > 0$, H_0 rejected, H_A be accepted**, which has the meaning that Behavioral Intention Factor (BI) has a positive effect on the Use behavior (UB) sms banking application.

5. Hypothesis 5 (H5): Facilitating Conditions (FC) Factors have a positive effect on the Use behavior (UB) of sms banking applications.
    $P = 0,000 \ (<0.05)$,
    Based on the linear regression equation:
    $UB = \beta_{10} + \boldsymbol{\beta_{11}} \, .BI + \boldsymbol{\beta_{12}.FC} + \beta_{13}.D_A + \beta_{14}.D_A.FC$

    $UB = \beta_{10} + \boldsymbol{(9.185)} \, .BI + \boldsymbol{(5.315)}.FC + \beta_{13}.D_A + \beta_{14}.D_A.FC$

    The above results show that **$H_A : \beta_{12} > 0$, H_0 rejected, H_A be accepted**, which has the meaning that the Facilitating Conditions (FC) Factor has a positive effect on the Use behavior (UB) sms banking application.

6. Hypothesis 6 (H6): Gender factors have a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for men / women.
    $P = 0.270 \ (<0.05)$,
    Based on the linear regression equation:

$BI = \beta_{20} + \beta_{21}.PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + 0 + (65.556).EE + 0 + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + 0 + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

The above results show that **H₀   :   β₂₁₁ =   0, Hypothesis rejected**, which has the meaning that the Gender Factor does not have a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for men / women.

7. Hypothesis 7 (H7): Gender factors have a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (BI) for men / women.
P = 0.867 (<0.05),
Based on the linear regression equation:
$BI = \beta_{20} + \beta_{21}.PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + 0 + (65.556).EE + 0 + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{28}.D_A + \beta_{29}.D_A.SI + \beta_{210}.D_G + 0 + 0 + \beta_{215}.D_G.SI$

The above results show that **H₀: β₂₁₃   =   0, Hypothesis rejected**, which has the meaning that the Gender Factor does not have a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (UB) for men / women.

8. Hypothesis 8 (H8): Gender factors have a positive effect on moderating Social Influence (SI) with Behavioral Intention (BI) for men / women.
P = 0.248 (<0.05),
Based on the linear regression equation:
$BI = \beta_{20} + \beta_{21}.PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + 0 + (65.556).EE + 0 + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{28}.D_A + \beta_{29}.D_A.SI + \beta_{210}.D_G + 0 + 0 + 0$

The above results show that **H₀: β₂₁₅   =   0, Hypothesis rejected**, which has the meaning that the Gender Factor does not have a positive

effect on moderating Social Influence (SI) with Behavioral Intention (BI) for men / women.

9. Hypothesis 9 (H9): AGE factor has a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for millennial groups vs. non millennial groups.
P = 0.370 (<0.05),
Based on the linear regression equation:

$BI = \beta_{20} + \beta_{21}.PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + 0 + (65.556).EE + 0 + 0 + \beta_{24}.D_A + 0 + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + 0 + 0 + 0$

The above results show that **H₀   : β₂₅ = 0, Hypothesis rejected**, which has the meaning that the AGE Factor does not have a positive effect on moderating Performance Expectancy (PE) with Behavioral Intention (BI) for the millennial vs. non millennial groups.

10. Hypothesis 10 (H10): The AGE factor has a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (BI) for millennial groups vs. non millennial groups.
P = 0.867 (<0.05),
Based on the linear regression equation:
$BI = \beta_{20} + \beta_{21}.PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + 0 + (65.556).EE + 0 + 0 + \beta_{24}.D_A + 0 + 0 + \beta_{29}.D_A.SI + \beta_{210}.D_G + 0 + 0 + 0$

The above results show that **H₀: β₂₇   =   0, Hypothesis rejected**, which means that the AGE Factor does not have a positive effect on moderating Effort Expectancy (EE) with Behavioral Intention (BI) for millennial groups vs non millennial groups.

11. Hypothesis 11 (H11): AGE factor has a positive effect on moderating Social Influence (SI) with Behavioral Intention (BI) for millennial groups vs. non millennial groups.
P = 0.285 (<0.05),
Based on the linear regression equation:
$BI = \beta_{20} + \beta_{21}.PE + \beta_{22}.EE + \beta_{23}.SI + \beta_{24}.D_A + \beta_{25}.D_A.PE + \beta_{27}.D_A.EE + \beta_{29}.D_A.SI + \beta_{210}.D_G + \beta_{211}.D_G.PE + \beta_{213}.D_G.EE + \beta_{215}.D_G.SI$

$BI = \beta_{20} + \mathbf{0} + (65.556).EE + 0 + 0 + \beta_{24}.D_A + \mathbf{0} + \mathbf{0} + \mathbf{0} + \beta_{210}.D_G + \mathbf{0} + \mathbf{0} + \mathbf{0}$

The above results show that **H$_A$: β_{29} = 0, Hypothesis rejected**, which has the meaning that the AGE Factor does not have a positive effect on moderating Social Influence (SI) with Behavioral Intention (BI) for the millennial vs. non millennial groups.

12. Hypothesis 12 (H12): The AGE factor has a positive effect on moderating Facilitationg Conditions (FC) with Use behavior (UB) for millennial groups vs. non millennial groups.
P = 0,000 (<0.05),
Based on the linear regression equation:
$UB = \beta_{10} + \boldsymbol{\beta_{11}}\ .BI + \boldsymbol{\beta_{12}}.FC + \boldsymbol{\beta_{13}}.D_A + \boldsymbol{\beta_{14}}.D_A.FC$

$UB = \beta_{10} + \mathbf{(0.491)}\ .BI + \mathbf{(5.315).FC} + \boldsymbol{\beta_{13}}.D_A + \mathbf{4.550}$

The above results show that **H$_0$: β_{14} > 0, H$_0$ rejected, H$_A$ be accepted**, which has the meaning that the AGE Factor has a positive effect to moderate Facilitationg Conditions (FC) with Use behavior (UB) for millennial groups vs non millennial groups.

5. CONCLUSIONS AND RECOMMENDATIONS

This chapter is a concluding chapter that contains conclusions and suggestions from the results of research that has been done.

5.1 Conclusion

From the evaluation of the use of SMS + banking Bank XYZ using the UTAUT model, the results show that the factors that have a direct and significant influence on user behavior are Facilitating Conditions and intentions or intentions of application usage (Behavioral Conditions). While the factors that directly and significantly affect behavioral intentions are (Effort Expectancy). In this study it was also found that gender and age factors did not have a significant effect in moderating the intensity of usage and application usage behavior because the technology on sms + banking was still included in low tech.

Based on the results of acceptance of the use of SMS + banking seen from the intensity and behavior of application use, that for now the use of SMS banking is still in accordance with the needs of XYZ customers. And the sms banking application is still relevant to use today as seen from the behavior of the use of the application and the level of one's confidence in the availability of infrastructure and technical companies in supporting the sms banking application.

5.2 Suggestion

Based on the evaluation results of the SMS banking application using the UTAUT model, things that can be suggested are as follows:

1. It is necessary to increase the intention or intensity of using the SMS banking application in accordance with the factors that influence it, especially some factors that have not had a significant influence. This is due to the long-term relationship related to the use of the application because the more frequent and the higher the intention of using the application will be directly proportional to the period of use of the application.
2. It is necessary to improve the behavior of using the SMS banking application in accordance with influencing factors aimed at improving the short-term relationship of using the SMS banking application.

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