

ANALYSIS OF FACTORS AFFECTING USE BEHAVIORS OF TOKOPEDIA MOBILE COMMERCE IN DKI JAKARTA

¹ALBERT CAHYADI GUNAWAN, ²SFENRIANTO

^{1,2}Information Systems Management Department, BINUS Graduate Program – Master of Information Systems Management, Bina Nusantara University, Jakarta, Indonesia 11480

E-mail: ¹albert.gunawan004@binus.ac.id, ²sfenrianto@binus.edu

ABSTRACT

Tokopedia, as a large m-commerce platform, is highly targeted by people in DKI Jakarta to fulfill their online shopping needs. This study aims to analyze the factors that influence use behavior in the use of m-commerce with the modification of the UTAUT theory. The variables used are performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention. The number of samples taken was 411 respondents with a domicile of DKI Jakarta. The statistical method used with Smart PLS. The results of empirical analysis show that the variable performance expectancy and effort expectancy does not affect behavioral intention. Tokopedia mobile commerce users are still not satisfied with the use of the application on smartphone users and Tokopedia m-commerce is still difficult to learn because of the use of applications and user interfaces that are still relatively complex which makes it difficult for users to operate Tokopedia m-commerce. In contrast, the variables social influence and facilitation conditions have a significant effect on behavioral intention, and behavioral intention has a significant effect on use behavior.

Keywords: *E-business, E-commerce, M-commerce, UTAUT, Use Behavior, Jakarta.*

1. INTRODUCTION

Indonesia is an archipelago country with the fourth largest population globally, as well as the number of people who are aggressively on the growth of global technology, so this has triggered the growth of internet users in Indonesia, especially in the capital city, namely DKI Jakarta. In this digital era, Indonesia has a potential to become a significant consumer in the global market share Indonesia therefore Indonesia has an excellent potential as a powerhouse for the world's digital economy.

According to The GSMA Mobile Economy [1], the penetration of internet users in Indonesia is below the maximum capacity. As of 2021, internet penetration in Indonesia is around 64 percent from 174 million people which have access to it. This condition placing Indonesia as one of the countries with the largest population of internet users in the world which have a significant consumer in the global market share and has an excellent potential as a powerhouse for the world's digital economy.

As many as 72.6 percent of internet users or around 3.7 billion people access the web using their smartphones in 2025. Meanwhile, Indonesia has around 171 million internet users, or 64.8 percent of

the total population [2]. Indonesia is also a mobile-first country, or around 75 percent of purchases are made online via smartphones. Indonesia is a developing country with a growing market, so it is a compelling case for researchers to examine the driving force of consumer adoption regarding online shopping[3].

Government also plays an active role in making regulations to encourage the growth of industry 4.0. According to [4] The digital economy is the key so that Indonesia can grow, which can be said to be a positive signal for industry players and government as the primary catalyst to improve the industry in the new era. Some of the people believe that the 1980s were the era of the personal computer, and the 1990s were the decade for internet and e-commerce users.

In the beginning of the 21st century was marked by mobile computing and mobile commerce (m-commerce). M-commerce in question refers to various monetary transactions that are supported by cellular networks. The subsequent development of e-commerce is m-commerce. According to [5] network (online). As part of e-commerce, there is a terms m-commerce applied to every transaction made by using a mobile device (m-commerce).

E-commerce business models and processes that occur on smartphones can be called mobile commerce (m-commerce). There are six e-commerce competitors in Indonesia, with the most Shopee's visitor, while Tokopedia ranks 2nd in Q4 2020. Tokopedia with 114,655,600 visitors, ranked # 4 on the AppStore, ranked # 2 on Playstore. Based on this data, it can be concluded that Tokopedia's mobile commerce has decreased its ranking in terms of application usage from 2018 to 2020.

According to [6] Shopee managed to outperform Tokopedia in various sectors throughout 2020. The total average monthly visits, year visits, ranking on the AppStore and PlayStore, and followers on social media accounts are classified as popular. From calculations throughout 2020, Shopee was able to get around 90 million visits, while Tokopedia got around 80 million. Looking at the visits every month, Q4 is the highest quarter compared to the previous quarter. In this benchmark, Shopee is back ahead with nearly 130 million visits and Tokopedia at 114 million.

Previous research conducted by [7] Several factors influence the acceptance of technology in mobile commerce in Indonesia: perceived ease of use, perceived trust, perceived benefits, perceived convenience, and individual innovation in trying to accept new technology. Several studies have found positive attitudes towards the use of mobile commerce such as price and data security, trustworthiness, convenience, and simplicity, as well as the price [8].

Tremendous growth in Indonesia, especially in the capital itself, namely DKI Jakarta. However, m-commerce has factors that Tokopedia has considered in designing and making its application. Thus, the study object chosen by the researcher was Tokopedia because it is a shopping site that has an increasing number of customers from time to time. In 2018 Tokopedia took first place but according [6] Tokopedia dropped to second place, so the researchers wanted to analyze it more deeply.

The purpose of this study is to explore and understand the problems associated with the adoption of Tokopedia mobile users by revising the theory of UTAUT for mobile-commerce users who live in the capital city of Indonesia, namely DKI Jakarta. In this study, researchers will analyze the causes of Tokopedia mobile commerce users switching to other mobile commerce such as Shopee, Bukalapak and others using the UTAUT theory in the capital city of Indonesia, namely Jakarta. Research question is the factors of Performance Expectancy, effort expectancy, social influence affect behavioral intention, and analyze

whether facilitating conditions, behavioral intention affect use behavior.

2. LITERATURE REVIEW

2.1 E-Business

E-Business uses the internet and information technology to support e-commerce, corporate communications, and web business processes, both in a company, network to facilitate customers and business partners. E-business includes e-commerce, which involves buying, selling, and marketing and service products, services, and information on the internet and networks[9].

Electronic commerce is a business innovation that involves non-physical and electronic interactions and maintains business relationships through various information and knowledge. E-commerce has changed the face of many industrial trading activities that are influenced or supported by technology. As part of the digital economy, e-commerce platforms have become fundamental in developed countries and developing countries [10] Online shopping or retail present online is a form of e-commerce that helps people buy products or services from sellers circulating on the internet. The concept of business in today's modern era has changed into the adoption of consumer behavior to buy, sell and seek information about services or goods that who want to find[11].

Types of e-commerce according to[12] classified into four parts, namely:

1. **B2B E-commerce:** Business-to-business is a business conducted between companies such as producers selling to distributors and wholesalers selling to retailers. Prices are based on order quantity and are often negotiable.
2. **B2C E-commerce:** Business-to-Customer is a business selling to the general public who usually uses catalogues and makes use of shopping cart software.
3. **C2C E-commerce:** Customer-to-Customer is a transaction between consumers like a forum where individuals can buy and sell thanks to the online payment system.
4. **Others:** G2G (Government-to-Government), G2E (Government-to-Employee), G2B (Government-to-Business), B2G (Business-to-Government), G2C (Government-to-Citizen), C2G (Citizen-to-Government) is a form of e-commerce that involves transactions with the government.

2.2 Mobile Commerce

According[13] Mobile Commerce (M-commerce) is an electronic communication and transaction where the users use electronic devices such as smartphones, laptops, and computers that use internet or wireless connection. Electronic commerce or e-commerce is part of e-business. The definition of e-commerce is to facilitate transactions or sales of products and services online, for example, through the Internet or other telecommunication networks. There is a part of e-commerce that is more specific is mobile e-commerce or m-commerce.

M-commerce also facilitates the same activities as e-commerce, except that m-commerce is limited to mobile telecommunications networks, which are accessed using hand-held wireless devices such as cell phones, hand-held computers and personal digital assistants (PDAs).

M-commerce is a part of e-commerce where sellers and buyers carry out transactions with mobile devices as their tools. Smartphone use has increased until January 2020; there are nearly 4.54 billion internet users worldwide, which means a total of 59% of the population and 4.18 billion unique mobile internet users, as can be seen in Figure 1.

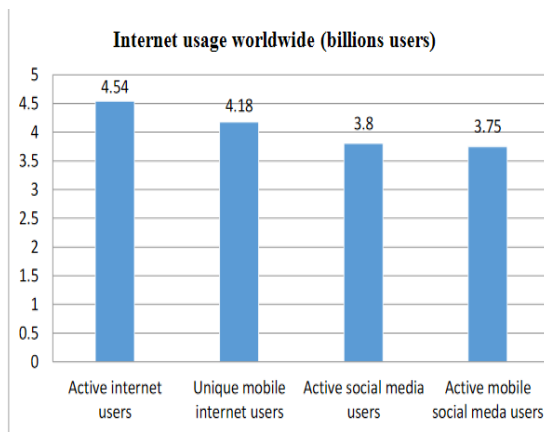


Figure 1: Worldwide Internet Usage Statistics [14]

In the case of traditional e-commerce, there are some advantages and disadvantages associated with m-commerce. One of the advantages is demonstrated by convenience, because m-commerce users are not limited to whatever physical space is required for a computer, any cable, or even a dedicated internet connection, because of the costs of 3G, 4G, and in the future even 5G technology are affordable. In most countries of the world. In addition, mobile trading apps and websites are designed to save time, so users do not have time to divert and ignore placing

orders. So, go through something as easy as four screen taps. Among the downsides associated with m-commerce, one can pay attention to the limitations of mobile device technology, as older ones fail to keep up with the level of performance required to run new applications smoothly. Additionally, some devices have a minor screen and graphic issues, therefore the user experience and user interface need to be continuously improved, which means higher research and implementation costs.

M-commerce's fast growth is due to its unique capabilities such as:

1. Instant Connectivity: Instant connectivity makes it easy for users to get internet access faster.
2. Localization: The existence of location detection will allow users to get the appropriate information.
3. Personalization: Mobile devices are personal devices. Users can maintain their privacy, and mobile networks can provide personalized services.
4. Ubiquity: The mobile device is carried by the user at any time, allowing users to access m-commerce anywhere and anytime.
5. Convenience: Convenience of size and weight as well as sophisticated applications found on mobile devices.

2.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is a model that can be used to analyze the factors that influence whether an information system / system is accepted or not. This model was first introduced by Fred Davis in 1986.

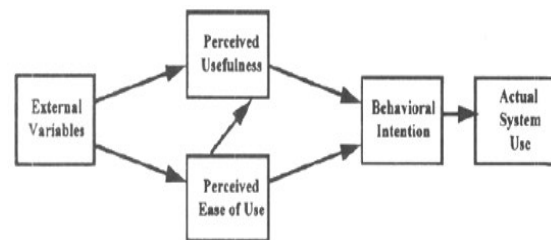


Figure 2: The FINAL model proposed by Fred Davis & Venkatesh in 1996

There are 3 factors that influence the use of a system as proposed by Fred Davis:

1. Instant Connectivity: Instant connectivity makes it easy for users. Perceived Usefulness A level where someone believes that using

the system can improve their performance at work.

2. Perceived Ease of Use A level where someone believes that using the system is not difficult.
3. Intention to Use The tendency of a person's behavior to use a technology.

Many studies have used TAM and show that this TAM model is valid in showing testing systems or information systems results.

2.4 Unified Theory of Acceptance and Use of Technology (UTAUT)

UTAUT is a model that aims to explain technology acceptance based on eight technology acceptance theories. The eight models are Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behavior (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT).

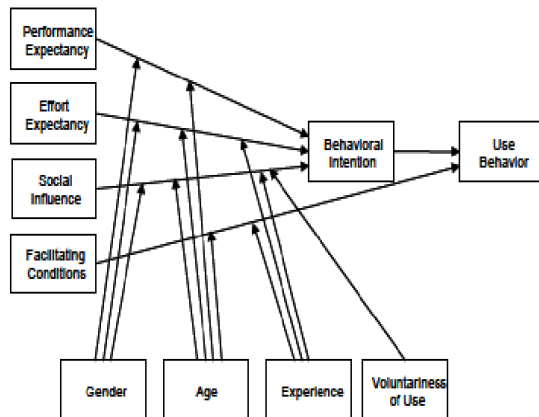


Figure 3: UTAUT2 Models [15]

The UTAUT model, as seen in Figure 6, has four primary constructs, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy, effort expectancy, and social influence have a direct effect on user behavioral intention. These three constructs also have an effect on user behavior through the mediation of user behavior intentions. The last construct, namely facilitating conditions, has a direct effect on user behavioral intentions. The relationship between these four variables and other variables is also influenced by several moderating variables, namely gender, age, experience, and voluntariness of use.

After evaluating the eight models,[16] found seven constructs that are significant direct determinants of behavioral intention or use behavior in one or more of each model. These constructs are performance expectancy, effort expectancy, social influence, facilitating conditions, attitude toward using technology, and self-efficacy. After re-examining, it was found that the primary constructs that play an essential role in behavioral intention and use behaviors are: performance expectancy, effort expectancy, social influence, and facilitating conditions.

2.5 Effort Expectancy

Effort Expectancy is the level of convenience associated with using the system [15] The construction in each model was significant in both voluntary and mandatory settings. As would be expected from the literature, it was significant only during the post-training measures. Business expectations will be influenced by gender, age, and experience. As for gender, Venkatesh and Morris's research shows that women have more substantial business expectations than men.[16]

2.6 Social Expectancy

Social Expectancy (SI): The degree to which a person feels that another important person believes that he should use the new system[16] These constructs are represented in the following models: subjective norms (TRA, TAM2, TPB / DTPB, and the combination of TAM-TPB), social factors (MPCU), and image (DOI). These three constructs are about the influence of the organization, supervisors, and other people in a group, so they combine them to predict the impact of that psychological phase[16].

All moderators' social influence will be influenced, namely gender, age, experience, and voluntary use. In another study, they suggested that women were more aware of the opinions of others and that their intention to use the system would be stronger.

2.7 Facilitating Conditions

Facilitating Conditions The degree to which one believes that there is an organizational and technical infrastructure to support the use of the system[16].

This definition captures three different constructs in the existing model: perceived behavioral control (TPB / DTPB and combined TAM-TPB), facilitation conditions (MPCU), and compatibility (DOI). This

construction is different from the other three. The facilitation condition does not influence intentional behavior but directly affects user behavior. Facilitating conditions will be moderated by age and experience. According to UTAUT, age and experience will be more vital for elderly workers, especially those with increasing experience.

2.8 Behavioral Intention

Behavioral Intention (BI) or user behavior intention directly affects the actual use of a system or technology. This construct comes from TRA and is defined as "A measure of the strength of one's intention to perform a specified behavior"[15].

3. RESEARCH METHODOLOGY

3.1 Research Object

This research was conducted to determine the factors that influence the acceptance of Tokopedia mobile commerce in Jakarta Capital Region in Indonesia. Tokopedia is one of the largest digital-based trading companies in Indonesia. Since it was officially launched, PT. Tokopedia has succeeded in becoming one of Indonesia's fastest-growing internet companies. By carrying out the marketplace and online mall business model, Tokopedia allows individuals, small shops, and brands to open and manage online stores.

Company Profile Tokopedia.com is one of the largest digital-based trading companies in Indonesia. Since it was officially launched, PT. Tokopedia has succeeded in becoming one of Indonesia's fastest-growing internet companies. By carrying out the marketplace and online mall business model.

Tokopedia allows individuals, small shops, and brands to open and manage online stores. Since its launch until the end of 2015, Tokopedia's essential services can be used by everyone for free. Tokopedia has a vision to "Build a Better Indonesia through the Internet," Tokopedia has a program to support Micro, Small, and Medium Enterprises (MSMEs) and individuals to develop their businesses by marketing their products online. The history of the establishment of Tokopedia.com was officially launched to the public on August 17, 2009, under the auspices of PT. Tokopedia was founded by William Tanuwijaya and Leontinus Alpha Edison on February 6, 2009. PT. Tokopedia received seed funding from PT. Indonusa Dwitama in 2009.

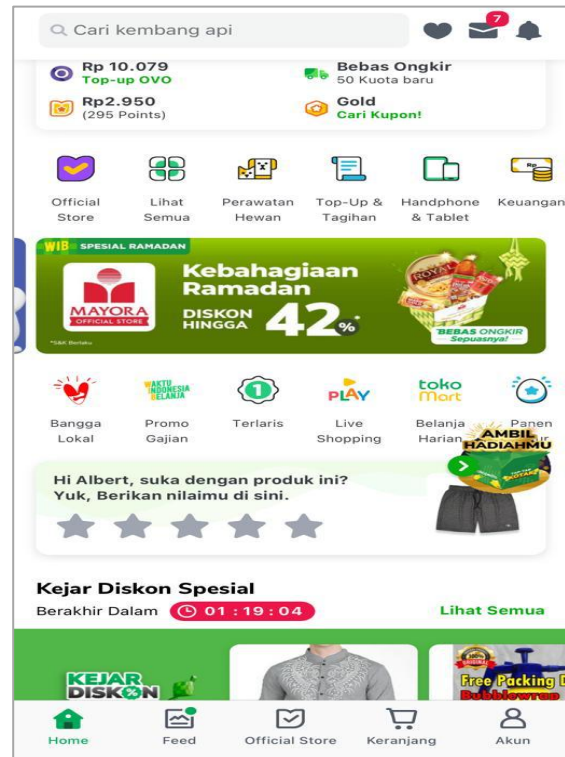


Figure 4: User Interface Tokopedia Mobile Commerce

3.2 Research Stages

This research begins by determining the research topic, followed by formulating the problem. Determining the formulation of the problem is done by lifting the problems from previous studies, which are then used as a reference in considering the variables to be studied. The next step is to conduct a literature review as a framework research model to be used (see Figure 5). After the research is determined, the researcher makes several hypotheses from each of the variables that have been determined for this study.

The variables used are performance expectancy, effort expectancy, social influence, facilitating conditions, behavior intention, and user behavior. Then proposes five hypotheses: Hypothesis 1 (H1): Performance Expectancy has a significant effect on Behavioral Intention. Hypothesis 2 (H2): Effort Expectancy has a significant effect on Behavioral Intention. Hypothesis 3 (H3): Social Influence has a significant influence on Behavioral Intention. Hypothesis 4 (H4): Facilitating Condition has a significant effect on Use Behavior. Hypothesis 5 (H5): Behavioral Intention has a significant effect on Use Behavior.

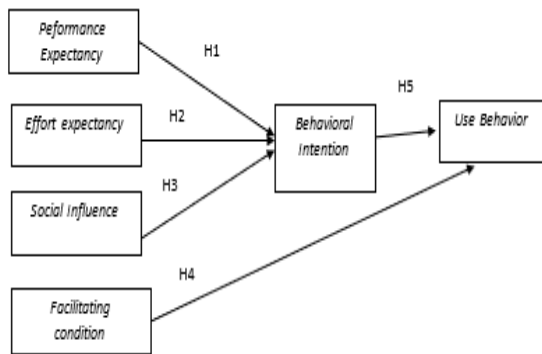


Figure 5: Research Framework

Then, to obtain data as a basis for determining to sample, the researcher used the literature study method from several studies to obtain the study population, some of which were taken as samples with the limitations set in the scope of the study. The data collection instrument used for data collection in this study was a questionnaire. The questionnaires distributed contain several questions that must be answered entirely by the respondents included in the research sample. The questionnaire is distributed directly to respondents via the internet (Google Forms).

For each data received by the researcher, preprocessing was carried out. This is to anticipate the existence of incomplete data before testing the correlation. This step is done by manually deleting the responses that do not pass the intercept questions as determined by the author on the limits and scope of this study. The following process is to test the validity of the data obtained based on the respondent's completeness for each question.

If the test results are found that the data is invalid, the researcher redesigns the data collection instrument until the data collection returns. The next step is to conduct a reliability test to ensure that a correlation is formed between the independent and dependent variables. As with the validity test, if the data conditions are not reliable, the researcher redesigns the data collection instrument and collects the data again.

Suppose all data is filled in and following existing limitations and meets the study's sample set. In that case, a statistical test is carried out using multiple regression analysis methods to prove the researcher's hypothesis. This test will be analyzed to assess how much impact or influence each independent variable has on the dependent variable. at the end of the study will make conclusions from the analysis results obtained.

The population of this research is all users of Tokopedia mobile commerce in DKI Jakarta, who have used in 2018-2021, with the data collection method in the form of a questionnaire. The number of samples needed in this study was determined using a formula [17] because the Tokopedia m-commerce user population is not explicitly known. After the authors distributed the questionnaire, the number of respondents was 404 for those who live in Jakarta.

After the researcher collects the data and processes the data, then using a questionnaire will be assessed by giving a score. The scoring in the questionnaire is done by using the Likert scale. The Likert scale is used to measure the attitudes, opinions, and perceptions of a person or group of social events or symptoms. Then the next step is to analyze it. Analyzing the data was done using the Structural Equation Method (SEM) to analyze the validity, reliability, and hypothesis tests.

4. ANALYSIS AND DISCUSSION

Demographics of respondents in this study explain the number of respondents based on gender, whether or not they have used the Tokopedia mobile commerce application, domicile of residence, age, type of work, and type of OS to operate the Tokopedia mobile commerce.



Figure 6: Percentage Diagram of Respondents by Gender.

The results of data processing from the questionnaire, as in Figure 6 that shows the data for 404 respondents based on gender, where the Tokopedia mobile commerce application is dominated by men with 212 people (52.475%) and the remaining 191 people (47.277%) are users of the same type. Female genital. Based on the results of these respondents, it can show that Tokopedia mobile commerce users can be used by both male and female users, so they do not require users with specific gender criteria in their use. Judging from gender, most of the respondents are male. They are

associated with hobbies or interests in using the Tokopedia mobile commerce application. It is known that Tokopedia mobile commerce is famous for its commerce, so for Tokopedia mobile commerce users, it tends to be male.



Figure 7: OS diagram of Tokopedia Mobile Commerce Operation

The data processing results from the questionnaire, as shown in Figure 7, show the data for 404 respondents based on currently operating Tokopedia mobile commerce using what OS-based smartphone, where there are 380 users of Tokopedia mobile commerce using Android OS, 21 respondents using Apple IOS OS. people. There are two people who use Windows Phone OS. Based on the results of these respondents, it can be concluded that most of the respondents currently operate Tokopedia mobile commerce using smartphones based on Android OS.

The number of samples taken for this study was calculated using the Slovin formula. For Information n = minimum sample size; N = population size; and e = margin of error.

$$n = \frac{N}{1 + Ne^2} \dots\dots\dots (1)$$

$$n = \frac{437.617}{1 + 437.617(0.05)^2}$$

$$n = 400$$

The sample used in this study were 400 respondents who met the requirements for data analysis. From the questionnaire that has been distributed using snowball sampling, 404 respondents were collected. Thus, as many as 404 questionnaires can be used to prove the research hypothesis.

The research model used in this study is based on the UTAUT model which has been developed by [15] he model is adjusted using 4 constructs, namely, Performance Expectancy, Effort Expectancy, Social Influence, Facilitating conditions which are then used to determine factors which affects the desire to use the Tokopedia application (Behavioral Intention). The selection of the research variables above is adjusted to the availability of data that can be obtained also to previous research which is a reference in this study. The choice of the Tokopedia m-commerce-based application was due to the significant growth in the number of visitors in Indonesia, which triggered the author's curiosity in relating the growth phenomenon to the UTAUT model. The author also adjusts to the variables that have been developed in previous studies.

In this study, the variables in the form of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating conditions are adjusted to the research that has been done by [18] but in this study using a different research object in this case is Tokopedia m-commerce. While other variables in the form of Trust, Price Value, Personal Innovativeness and Perceived Risk were not included in this study because they had been developed by [19].

4.1 Outer Model Analysis

In this study, testing for data analysis was carried out by testing the outer model consisting of validity and reliability tests as well as internal model testing consisting of testing the coefficient of determination (R^2), path coefficients, effect size (F^2), mediation testing and testing of hypotheses has been arranged in this study.

Based on the results of the validity test on the Smart-PLS application, it can be seen that 17 statements submitted for this study have a loading factor 0.7 (see Table 1, and Table 2). Thus, it can be concluded that 17 statements are valid as a measuring instrument in this study.

Then, table 3 show all indicators have a composite reliability value > 0.7 , it can be concluded that all variables passed the reliability test. Whereas table 4 show five indicators have a Cronbach's alpha value of ≥ 0.6 and one indicator that is considered unreliable. It can be concluded that several variables passed the reliability test.

Table 1: Convergent Validity Test Results

Variabel	Indikator	Loading Factor
Performance Expectancy	PE1	0,821
	PE2	0,888
	PE3	0,794
	PE4	0,729
Effort Expectancy	EE1	0,579
	EE2	0,848
	EE3	0,863
	EE4	0,878
Social Influence	SI1	0,960
	SI2	0,930
	SI3	0,536
Facilitation Condition	FC1	0,707
	FC2	0,883
	FC3	-0,028
	FC4	0,678
Behavioral Intention	BI1	0,903
	BI2	0,801
	BI3	0,925
Use Behavior	UB1	0,952
	UB2	0,941
	UB3	0,934

Table 2: Results of Discriminant Validity Testing

Indikator	X1	X2	X3	X4	Y1	Y2	Requirement	Description
PE1	0,821						> 0,7	Valid
PE2	0,888						> 0,7	Valid
PE3	0,794						> 0,7	Valid
PE4	0,729						> 0,7	Valid
EE1		0,579					> 0,7	Not Valid
EE2		0,848					> 0,7	Valid
EE3		0,863					> 0,7	Valid
EE4		0,878					> 0,7	Valid
SI1			0,960				> 0,7	Valid
SI2			0,90				> 0,7	Valid
SI3			0,536				> 0,7	Not Valid
FC1				0,707			> 0,7	Valid
FC2				0,883			> 0,7	Valid
FC3				-0,028			> 0,7	Not Valid
FC4				0,678			> 0,7	Not Valid
BI1					0,903		> 0,7	Valid
BI2					0,801		> 0,7	Valid
BI3					0,925		> 0,7	Valid
UB1						0,925	> 0,7	Valid
UB2						0,941	> 0,7	Valid
UB3						0,934	> 0,7	Valid

Table 3: Composite Reliability Test Result

Variabel	Composite Reliability
Performance Expectancy (X1)	0,884
Effort Expectancy (X2)	0,898
Social Influence (X3)	0,944
Facilitation Condition (X4)	0,778
Behavioral Intention (Y1)	0,910
Use Behavior (Y2)	0,960

Table 4: Cronbach's Alpha Test Results

Variabel	Cronbach's Alpha	Keterangan
Performance Expectancy (X1)	0,828	Reliabel
Effort Expectancy (X2)	0,829	Reliabel
Social Influence (X3)	0,883	Reliabel
Facilitation Condition (X4)	0,452	Not Reliabel
Behavioral Intention (Y1)	0,849	Reliabel
Use Behavior (Y2)	0,937	Reliabel

4.2 Inner Model Analysis

The next stage is testing the inner model to determine the contribution of the independent variables in this study to the dependent variable (Y).

Table 5: Result of Determination Coefficient Test

Dependent Variable	R Square	R Square Adjusted
Behavioral Intention (Y1)	0,442	0,437
Use Behavior (Y2)	0,842	0,841

Based on the test results of the coefficient of determination presented in Table 5, the R-Square value for the Use Behavior (Y2) variable is 0.842 or 84.2%, the R-Square value for the Behavioral Intention (Y1) variable is 0.442 or equal to 44.2%.

The results of this test show that the overall model is fitted with the data or can reflect the realities and phenomena that exist in the field so that the results of this study can be declared valid and reliable. The results of this test show that the overall model fits with the data or can reflect the realities and phenomena that exist in the field. So that the results of this study can be declared valid and reliable.

4.3 Hypothesis Analysis

Figure 8 is a result of path coefficient and Figure 9 is a result of output bootstrapping. These Figures use to support hypothesis analysis.

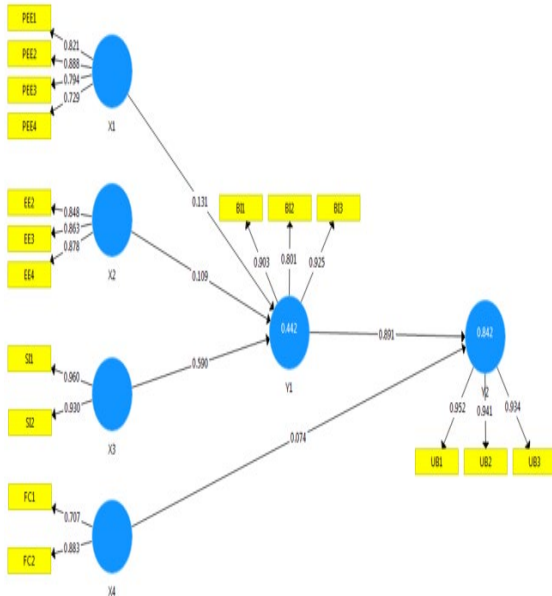


Figure 8: Result of Path Coefficient

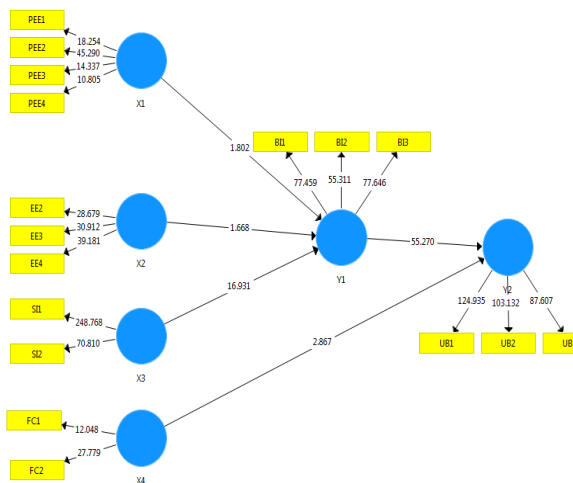


Figure 9: Result of Output Bootstrapping

Table of the results of hypothesis testing using the data obtained based on path coefficient result and

output bootstrapping result. Table 5 show results of hypothesis testing using the data obtained.

Table 5: Hypothesis Testing Results

Hypothesis	Variable	T-Statistics	P-Values	Descriptions
H1	performance expectancy (X1) -> behavioral intention (Y1)	1,802	0,072	H1 Rejected
H2	effort expectancy (X2) -> behavioral intention (Y1)	1,668	0,096	H2 Rejected
H3	social influence (X3) -> behavioral intention (Y1)	16,931	0,000	H3 Accepted
H4	facilitation condition (X4) -> behavioral intention (Y1)	2,867	0,004	H4 Accepted
H5	behavioral intention (Y1) -> use behavior (Y2)	55,270	0,000	H5 Accepted

The results of the hypothesis testing according to table 5 are as follows:

1. H1: Performance Expectancy in the Unified Theory of Acceptance and Use of Technology (UTAUT) model has a significant effect on the Behavioral Intention of users of the Tokopedia mobile commerce application. The table of hypothesis testing results shows that the significance value (p-value) is 0.072, which is less than $\alpha = 0.05$. Therefore, the decision is not to reject H1. Thus, the performance expectancy in the Unified Theory of Acceptance and Use of Technology (UTAUT) model does not affect users' behavioral intention of the Tokopedia mobile commerce application.
2. H2: Effort Expectancy in the Unified Theory of Acceptance and Use of Technology (UTAUT) model has a significant effect on the Behavioral Intention of users of the Tokopedia mobile commerce application. The table of hypothesis testing results shows that the significance value (p-value) is 0.096, which is greater than $\alpha = 0.05$. Therefore, the decision is not to reject H0. Thus, the effort expectancy of the Unified Theory of Acceptance and Use of Technology (UTAUT) model has no significant effect on users' behavioral intention of the Tokopedia mobile commerce application.

3. H3: Social influence on the Unified Theory of Acceptance and Use of Technology (UTAUT) model has a significant effect on the behavioral intention of users of the Tokopedia mobile commerce application. Based on the table of hypothesis testing results, it shows that the significance value (p-value) is 0.00 which is less than $\alpha = 0.05$. Therefore, the decision is to reject H0. Thus, social influence on the Unified Theory of Acceptance and Use of Technology (UTAUT) model positively affects the behavioral intention of users of the Tokopedia mobile commerce application.
4. H4: Facilitation conditions in the Unified Theory of Acceptance and Use of Technology (UTAUT) model have a significant effect on the behavioral intention of users of the Tokopedia mobile commerce application. Based on the table of hypothesis testing results, it shows that the significance value (p-value) is 0.004 which is less than $\alpha = 0.05$. Therefore, the decision is to reject H4. It can be concluded that the facilitation conditions in the Unified Theory of Acceptance and Use of Technology (UTAUT) model have a significant and positive effect on the behavioral intention of users of the Tokopedia mobile commerce application.
5. H5: Behavioral intention in the Unified Theory of Acceptance and Use of Technology (UTAUT) model has a significant effect on the use behavior of users of the Tokopedia mobile commerce application. Based on the table of hypothesis testing results, it shows that the significance value (p-value) is 0,000, which is less than $\alpha = 0.05$. Therefore, the decision is to reject H5. Thus, behavioral intention in the Unified Theory of Acceptance and Use of Technology (UTAUT) model has a positive effect on the user behavior of users of the Tokopedia mobile commerce application.

4.4 Discussion

Based on the results of testing the first hypothesis, it is concluded that Performance Expectancy does not have a significant effect on Behavioral Intention, seen in the p-value. value of 0.074. It can be concluded that the operation of the Tokopedia m-commerce system is still considered lacking, and the choice of e-wallet which is still not as many as other m-commerce competitors can influence consumer behavior to use the Tokopedia m-commerce application in DKI Jakarta. The tokopedia mobile

commerce users are also still not satisfied with using the application on the user's smartphone. Thus, it is expected to develop systems and features for transactions such as supporting payments using cellular to speed up user transactions

Based on the results of testing the second hypothesis it is concluded that Effort Expectancy does not have a significant effect on Behavioral Intention, the p-value is 0.096, this shows that the user interface of the Tokopedia mobile commerce is still quite complicated and difficult for consumers to understand, therefore it can affect the level of intensity of system use which is still tiny. Tokopedia m-commerce users are still difficult to learn because the use of applications and user interfaces are still classified as complicated which makes it difficult for users to operate them. Thus it is expected to create an attractive UX and match the smartphone OS that looks more minimalist and is expected to increase access speed while still paying attention to user needs.

Based on the results of testing the third hypothesis, it is concluded that Social Influence has a significant influence on Behavioral Intention, can be seen at the p-value of 0.000. This is also supported by the growth of the demographic bonus experienced by Indonesia in 2020-2030 (Nations, 2021) so that this social influence is significant for technological growth and can be utilized by m-commerce to dig deeper into the benefits and uses of Tokopedia's m-commerce. The social influence affects user intentions and the amount of promotional influence given can make it easy for users to interact with other users. Adding more customization features for user profiles who make frequent purchases, so that the profile can be trusted by other users

Based on the results of testing the fourth hypothesis, it is concluded that Facilitating Condition has a significant effect on Behavioral Intention, it can be seen at the p-value of 0.004. This is because the development of e-commerce is following the theory of [5] which states that m-commerce is supported by smartphone devices and internet networks and is in line with consumer behavior in Indonesia which is mobile-first and smartphone prices are increasingly affordable. To operate the Tokopedia mobile commerce application, it depends on the conditions of internet access speed and the required specifications are not too high so that users can enjoy it. Thus, facilities to support applications are very important where Tokopedia has a complete and adequate FAQ to support old and new users' services comfortably.

Based on the results of testing the fifth hypothesis, it is concluded that Behavioral Intention has a

significant effect on Use Behavior. It can be seen that the p-value of 0.000, this result is consistent with the research conducted by [20]. Increasing interest in using Tokopedia m-commerce will increase Use Behavior as well, and vice versa. Users intend to use the Tokopedia mobile commerce application in a sustainable manner and be used to support their daily shopping needs. Thus, increasing the interest of Tokopedia m-commerce users based on the results of previous discussions is very important so that users continue to use Tokopedia m-commerce as an online shopping platform

5. CONCLUSION

The research framework used in this study combines six variables consisting of performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and use behavior. There are five hypotheses tested, three accepted and two rejected. The performance expectancy variable has a negative effect on behavioral intention, so the hypothesis H1 is rejected. The effort expectancy variable has a negative effect on behavioral intention, so the hypothesis H2 is rejected. The social influence variable has a positive effect on behavioral intention so that the hypothesis H3 can be accepted. The facilitating condition variable has a positive effect on behavioral intention, so that the hypothesis H4 can be accepted. The social influence variable has a positive effect on behavioral intention, so that the hypothesis H5 can be accepted.

The weakness in this study is that there are no moderating variables such as gender and age so that the results of the study will be more general. Further research in order to add population and samples for other big cities in Indonesia as well as moderating variables.

REFERENCES

- [1] GSMA, "GSMA The Mobile Economy 2019 - The Mobile Economy," *Gsma*, 2019.
- [2] Asosiasi Penyelenggara Jasa Internet Indonesia, "Infografis Penetrasi & Perilaku Pengguna Internet Indonesia," *Teknopreuner*, 2018.
- [3] J. Lin, B. Wang, N. Wang, and Y. Lu, "Understanding the evolution of consumer trust in mobile commerce: A longitudinal study," *Inf. Technol. Manag.*, 2014, doi: 10.1007/s10799-013-0172-y.
- [4] World Economic Forum, *The Global Gender Gap Report 2015*. 2015.
- [5] L. Gitau and D. Nzuki, "Analysis of Determinants of M-Commerce Adoption by Online Consumers," *Int. J. Business, Humanit. Technol.*, 2014.
- [6] iPrice, "Peta E-Commerce Indonesia," *iprice insight*, 2021.
- [7] L. Priyambodo, F. Tjiptono, and Suyoto, "M-Commerce in Indonesia : Problems and Prospects," *Int. J. Comput. Appl. Inf. Technol.*, 2012.
- [8] A. Haque, N. Anwar, F. Yasmin, A. Kumar Tarofder, and N. M. H. Maziz, "Purchase intention towards alternative medicine: A study from consumers' perspective in Malaysia," *Iranian Journal of Public Health*. 2020, doi: 10.18502/ijph.v49i1.3071.
- [9] G. Marakas and J. O'Brien, *Introduction to Information System Sixteenth Edition*. 2012.
- [10] L. Hsiao and Y. J. Chen, "The perils of selling online: Manufacturer competition, channel conflict, and consumer preferences," *Mark. Lett.*, 2013, doi: 10.1007/s11002-012-9216-z.
- [11] W. Chaiyasoonthorn and W. Suksangiam, "The Differences Among Groups of People in The Adoption Behavior of E-Commerce in Bangkok Thailand," *Int. J. Arts Sci.*, 2014.
- [12] D. K. Gangeshwer, "E-Commerce or Internet Marketing: A Business Review from Indian Context," *Int. J. u- e- Serv. Sci. Technol.*, 2013, doi: 10.14257/ijunesst.2013.6.6.17.
- [13] D. Chaffey, *Digital Business management Strategy, Implementation and practice*. 2015.
- [14] J. Clement, "Global Digital Population as of April 2020," *Statista*, 2020. .
- [15] V. Venkatesh, M. Morris, G. Davis, and F. Davis, "TECHNOLOGY ACCEPTANCE MODEL - Research," *MIS Q.*, 2003.
- [16] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User acceptance of information technology: Toward a unified view," *MIS Q. Manag. Inf. Syst.*, 2003, doi: 10.2307/30036540.
- [17] S. Lemeshow, D. W. Hosmer Jr, J. Klar, and S. K. Lwanga, "Part 1: Statistical Methods for Sample Size Determination," *Adequacy Sample Size Heal. Stud.*, 1990, doi: 10.1186/1472-6963-14-335.
- [18] R. Widuri, "The Use of Unified Theory of Acceptance and Use of Technology in the Adoption of M-Payment," *Proc. Int. Conf. Ind. Eng. Oper. Manag.*, vol. March 10-1,

- 2020.
- [19] G. Gutabaga Hungilo and D. Budiyanto Setyohadi, "Factors Influencing Acceptance Of Online Shopping In Tanzania Using Utaut2," *J. Internet Bank. Commer.*, 2020.
- [20] Y. Guo, "Moderating effects of gender in the acceptance of mobile SNS based on UTAUT model," *Int. J. Smart Home*, 2015, doi: 10.14257/ijsh.2015.9.1.22.