UTAUT Model Acceptance on Consumers' Behavioral Intention to Use Cellular Digital Application

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Abstract. The rapid development of information technology has encouraged the cellular telecommunication industry to keep making innovations in order to provide the best service to consumers. The Covid-19 pandemic also has contributed significantly to accelerating the shift toward digital technology. In response to this situation, this research aims to test society's acceptance toward effort expectancy, performance expectancy, social influence, facilitating conditions, and consumers' behavioral intention to use digital cellular applications, which in this case is MyTelkomsel. This research used the technology acceptance model UTAUT (The Unified Theory of Acceptance and Usage Technology). Data were collected through a survey-based empirical study on 210 users of MyTelkomsel application in Kalimantan using a purposive sampling method and analyzed by SmartPLS. The result indicated that the facilitating conditions had positive and significant effects on behavioral intention. On the other hand, the performance expectancy, effort expectancy, and social influences variable did not have any significant effects on behavioral intention.

Keywords: Effort Expectancy · Performance Expectancy · Social Influence · Facilitating Condition · Consumer's Behavioral Intention · UTAUT (The unified theory of acceptance and usage technology)

1 Introduction

The use of digital cellular applications during the Covid-19 pandemic has increased significantly. It shows that the development of information and telecommunication technology has promoted changes in people's social life [1] including education, healthcare, trade, entertainment, business, as well as other industries. This situation also occurs in Indonesia where the amount of internet users has increased dramatically. Records show that there are as many as 202.6 million internet users in Indonesia, in which 170 million are users of cellular applications and social media. These numbers indirectly contribute to accelerating the shift toward digital technology. Several applications were shortlisted as people's favorites in 2020 including WhatsApp, Facebook, Instagram, Shopee, Facebook Messenger, Tokopedia, Gojek, Telegram, My Telkomsel, and Line.

There are many factors influencing society's behavioral intention in using digital applications to fulfill their needs and desires. Their acceptance of those applications certainly will be interesting to study further.

Previous studies showed that research on digital applications mainly discussed behavioral intention in the banking industry with digital mobile banking applications as the main focus. This research used the UTAUT model approach to discuss the behavioral intention in the cellular telecommunication industry which is related to the consumers' acceptance of cellular digital applications using My Telkomsel as the research object. My Telkomsel has more than 40 million downloads, and 50% of them are active monthly users. Thus, it can be concluded that My Telkomsel has become a popular application that is actively used by its users. To come to the decision to use a mobile application, one surely needs to go through a process that requires knowledge and many evaluations beforehand [2].

This research refers to previous studies conducted by Saparudin et al., [3] which examined the factors that influence bank customers to use m-banking applications and the role of trust in influencing UTAUT construct. The result of the past studies showed that there was a significant correlation among performance expectancy, effort expectancy, social influence, and trust toward the intention of using m-banking. Furthermore, it was also explained that trust significantly influenced performance expectancy, effort expectancy, and social influence. This finding is able to theoretically prove the main factors that influence mobile banking adoption. It was found that the most vital factor that influenced the intention to use m-banking in Indonesia was effort expectancy. A study conducted by [4] determined the factors that mostly affected the expansion of the Unified Theory of Acceptance and Use of Technology (UTAUT) in the adoption of mobile payment (m-payment) by using a quantitative meta-analysis approach from 25 studies. The result showed that perceived risks, perceived trust, perceived costs, and self-efficacy were the most essential factors in this kind of study, and most often achieved the most significant results. Consequently, this research was an effort to expand the UTAUT model by using those factors, as well as suggesting the general UTAUT model expanded for the purpose of m-payment adoption. The suggested model was validated by using partial least squares-structural equation modeling (PLS-SEM). The result revealed that the best predictors of m-payment users' intention to use the m-payment system were performance expectancy, followed by social influence, effort expectancy, perceived trust, perceived cost, and self-efficacy. However, the perceived risk was found to have negative impacts that were not significant toward the behavioral intention to use the m-payment system. A study conducted by [4] used the UTAUT model to understand the influence of performance expectancy, effort expectancy, trust, and social influence on behavioral intention. The researchers also wanted to understand the influence of performance expectancy and effort expectancy toward the trust of Blibli.com application users, as well as the influence of facilitating conditions and behavioral intention toward the use of Blibli.com users. The result showed that performance expectancy had a significant effect toward trust; social influence significantly affected behavioral intention; and behavioral intention was significant to use. Meanwhile, the effort expectancy variable on trust, effort expectancy, and trust had no effect on behavioral intention and facilitating conditions on use. The

limitation of the past studies is they were focused on the banking industry, the use of mobile banking applications, m-payment, and e-commerce applications.

This research aims to identify and analyze factors that influence the behavioral intention of cellular users to use cellular digital applications in Kalimantan using the UTAUT model approach. Several past studies discussed the consumers' behavioral intention in using digital applications, but only a few specifically discussed cellular digital applications in the cellular telecommunication industry. This study investigated significant factors of the UTAUT model which influence the consumers to use cellular digital applications and to explore which factors have a positive influence on the consumer's behavioral intention in using digital cellular applications.

2   Methods

This research used the UTAUT model approach to examine the acceptance level of consumers' behavioral intention in using cellular digital applications. The target of this research was the users of cellular digital application My Telkomsel in Kalimantan using purposive sampling as the data collection technique. Purposive sampling is used when a researcher wants to target individuals with certain characteristics. While the sample is unlikely to represent the whole population, those included in the study can provide plenty of information related to the topic or research questions [5]. Purposive sampling is a data collection technique that involves determining the sample with certain considerations [6]. The questionnaire for this research was designed using Google Forms and distributed by taking advantage of SMS broadcast available in MyAds Telkomsel. This research targeted 200 respondents in December 2021. This research managed to collect 210 respondents who completely filled in all the questions on the questionnaire.

The data processing technique used in this study was SmartPLS analysis by taking a two-step approach, namely the measurement model and structural model. The measurement model was carried out to test the reliability and validity of the outer model. Meanwhile, the structural model was intended to examine the path coefficient and t-test to prove the hypothesis, as well as the coefficient of determination to examine the influence of each variable.

3   Results and Discussion

3.1   Results

The initial analysis showed that several indicators had a loading factor of > 0.60%, which means those indicators are invalid to measure the construct and must be eliminated. After those invalid indicators were eliminated, another measurement was conducted with the following result: (Fig. 1).

After the invalid indicators have been removed, it is shown in the diagram above that all indicators have a loading factor of > 0.60%, which means the indicators are valid to measure the constructs. The next step was to evaluate the outer model. The criteria used in this evaluation were Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE).
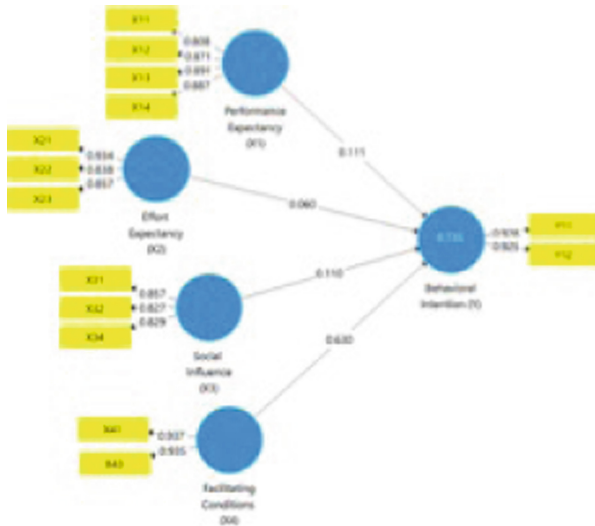
Fig. 1. SmartPLS Measurement

Table 1. Outer loading

	Behavioral Intention (Y)	Effort Expectancy (X2)	Facilitating Condition (X4)	Performance Expectancy (X1)	Social Influence (X3)
X11				0.808	
X12				0.871	
X13				0.891	
X14				0.887	
X21		0.934			
X22		0.838			
X23		0.857			
X31					0.857
X32					0.827
X34					0.829
X41			0.937		
X43			0.935		
Y11	0.928				
Y12	0.925				

Table 2. Path Coofficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Effort Expectancy (X2) -> Behavioral Intention (Y)	0.060	0.048	0.154	0.391	0.696
Facilitating Conditions (X4) -> Behavioral Intention (Y)	0.630	0.616	0.078	8.089	0.000
Performance Expectancy (X1) -> Behavioral Intention (Y)	0.111	0.125	0.146	0.756	0.450
Social Influence (X3) -> Behavioral Intention (Y)	0.110	0.125	0.101	1.087	0.278

The Table 1 shows that Cronbach's Alpha on each construct is $> 0.70\%$, the Composite Reliability of each construct is $> 0.70\%$, and the AVE is also $> 0.50\%$, which means all the constructs are reliable. To understand further about the relations between constructs from the path coefficients, see the Table 2

T-test was intended to examine whether the independent variables partially had a positive and significant effect on the dependent variables. The basis for the decision-making was as follows:

If the probability is > 0.05 or -t-table $<$ t-count $<$ t-table, H0 is accepted.

If the probability is > 0.05 or t-count $<$ -t-table or t-count $>$ t-table, H0 is rejected.

(t-table for alpha $= 0.05$ is 1.96, and t-table for alpha $= 0.10$ is 1.65).

Hypothesis H1: Performance expectancy (X1) has positive and significant effects on behavioral intention.

H2: Effort expectancy (X2) has positive and significant effects on behavioral intention.

H3: Social influence (X3) has positive and significant effects on behavioral intention.

H4: Facilitating conditions (X4) have positive and significant effects on behavioral intention.

Processing Results.

- Variable X1 has no significant effect on Y, because the value of t $= 0.756 < 1.96$
- Variable X2 has no significant effect on Y, because the value of t $= 0.391 < 1.96$
- Variable X3 has no significant effect on Y, because the value of t $= 1.087 < 1.96$
- While the variable X4 shows positive and significant effects on Y because the value of t $= 8089 > 1.96$

As a result, the structural equation is Y $= 0.111*X1 + 0.060*X2 + 0.110*X3 + 0.630*X4 + e$.

The coefficient of determination (R square adjusted) is used to show the influence of the variables that affected the other variables. Based on the Table 3, the R square

Table 3. R Square Test Results

	R Square	R Square Adjusted
Behavioral Intention (Y)	0.735	0.729

adjusted value of the equation $Y = 0.111*X1 + 0.060*X2 + 0.110*X3 + 0.630*X4 + e$ is 72.9%, indicating that 72.9% of the variance Y can be explained by the changes in variables X1, X2, X3 and X4, while the other 27.1% were caused by other factors out-side of the model.

3.2 Discussion

Research results showed that three out of four variables, namely performance expectancy, effort expectancy, and social influence did not have a significant effect on behavioral intention. The fact that the performance expectancy hypothesis had no effect in this research is contrary to the previous studies conducted by [7, 8] which showed that performance expectancy variables had a significant effect on behavioral intention. The next hypothesis which explained that the effort expectancy variable had no effect on behavioral intention is in line with the study conducted by [8] which stated that effort expectancy had a significant influence on behavioral intention. This hypothesis rejected studies conducted by [5] which revealed that effort expectancy had a positive and significant effect on behavioral intention. On the social influence variable, the result showed that it had no effect on behavioral intention. This hypothesis is contrary to the previous research [8] which stated that social influence had a positive and significant relationship with the interest to use information technology. Studies conducted by [9] showed that social influence had a positive and significant effect on behavioral intention. The facilitating condition hypothesis in this research showed a positive and significant influence on behavioral intention. However, this hypothesis does not support the results of previous studies [10] which stated that facilitating conditions had negative and insignificant effects on the use of technology. Another research [11] supported that the facilitating condition hypothesis had a positive effect on the behavioral intention to use technology, although it was insignificant.

4 Conclusion

This study provides an overview of consumers' behavioral intention in using digital cellular applications, in this case My Telkomsel. This condition is influenced by several factors. The result of the study indicated that from four UTAUT model factors examined in this research, facilitating condition is the only variable that showed positive and significant effects on behavioral intention. This result provides an illustration that the users of My Telkomsel application consider the facilitating conditions—represented by the function of the application, the sophistication of the technology, affordable price, and the number of times the application experiences technical issues— to influence their behavioral intention to use My Telkomsel.

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