E-ISSN: 2986-559X, P-ISSN: 2986-6103
DOI: https://doi.org/10.38035/gijtm.v1i1
Received: 7 February 2023, Revised: 27 February 2023, Publish: 2 March 2023
https://creativecommons.org/licenses/by/4.0/



The Influence of Perceived Usefulness, Perceived Ease of Use and Social Influence on Mobile Commerce Usage Activities

M. Rizky Mahaputra[1], M. Ridho Mahaputra[2]
[1]Universitas Mercu Buana, Jakarta, Indonesia, rizkymahaputra55@gmail.com
[2]Universitas Mercu Buana, Jakarta, Indonesia, ridhomahaputra26@gmail.com

Corresponding Author: M. Rizky Mahaputra

Abstract: This research aims to analyze the influence of perceived usefulness, perceived ease of use and social influence on mobile commerce usage activities in Padang State University's students. The type of research is causative. The numbers of the sample were 100 respondents who had been taken by accidental sampling technique. The data analysis technique used Structural Equation Modeling (SEM) with the 3.0 WarpPLS program. The results of this research show that: (1) Perceived usefulness has a positive and significant influence on the mobile commerce usage activities in Padang State University students. (2) Perceived ease of use has positive and not significant influence on mobile commerce usage activities in Padang State University's students. (3) Social influence positive and significant influence on mobile commerce usage activities in Padang State University's students.

Keywords: Perceived Usefulness, Perceived Ease of Use, Social Influence, Mobile Commerce.

INTRODUCTION

The development of information technology at this time can be said to have reached a very astonishing level. Now distance and time are no longer a problem because of the help of existing technology. Basically information technology is made to make it easier for humans to carry out various activities. The internet as a product of the development of information technology makes it easy for humans to be able to access information quickly and accurately so that it is very helpful in their daily activities. It is not surprising that the number of Internet users in various parts of the world has increased from year to year, including Indonesia.

Many of the Internet users use it for social networking, information search and for other needs. The Association of Indonesian Internet Service Providers (APJII) in collaboration with the Central Bureau of Statistics (BPS) conducted a survey of Internet usage activities conducted from July to December 2013, in 33 provinces in Indonesia, 78 districts/cities to be precise. The results of the survey stated that *e-mail* activity (sending and receiving) occupied the top position with a percentage of 95.75%, secondly the Internet was used to search for

news or information by 78.49%, thirdly looking for goods or services 77.81%, fourthly information government agencies (tenders) by 65.07%, and the fifth for social media 61.23%.

Thus giving rise to the term *e-commerce* . Turban (2012) states that *e-commerce* is *"the process of buying, selling, or exchanging products or services, or information via computer"* . Can be interpreted as a process of buying and selling or exchanging products, services and information through information networks including the Internet which is accessed using computer devices. Technological development does not stop at that limit. The rapid growth *of mobile telephones* combined with the development of wireless technology has made *m-commerce* (*mobile commerce*) an important part of business strategy. In other words , *m-commerce* is *e-commerce* that is accessed using wireless devices (*wireless devices*).

Tiwari and Buse in Chan and Chong (2013) believe that *m-commerce activities* should not limit themselves to activities that have only monetary value but also to activities that are *non-monetary value.* So that activities such as those carried out with *mobile devices* such as *downloading* free music and *ringtones* , as well as playing listening to music and watching videos also included in *m-commerce activities* .

Based on the results of an annual survey *by MarkPlus Insight* with Marketeers magazine, almost half of Internet users in Indonesia are young Internet users under the age of 30 and 86 percent of these users access the Internet via *smartphones* (http:id.techinasia.com). It can be concluded that the most Internet users are at the level of students and students.

m-commerce activity applications , users have several reasons for accepting or adopting the use of technology based on the *Technology Acceptance Model* (TAM) theory. TAM was first introduced by Davis in 1986 who argued that *perceived usefulness* and *perceived ease of use* of technology are the main factors that influence users in adopting or using technology. Apart from *perceived usefulness* and *perceived ease of use* , Malhotra and Galletta (1999) view that *social influence* is an important variable in the study of individual behavior in the field of information technology use.

Based on an initial survey conducted at the Faculty of Economics, Padang State University, it showed that 65% of respondents said that overall the activity of using *m-commerce* was not beneficial. 70 % of respondents do not agree that *internet activity banking* is very easy to do. Half of the respondents stated that there was involvement of the surrounding environment to carry out *m-commerce activities* .

LITERATURE REVIEWS

Consumer Behavior Concept

Peter and Olson (2010) define consumer behavior as a dynamic interaction between influence and cognition, behavior and events that occur around humans who carry out exchange aspects in their lives. Meanwhile, according to Mowen and Minor (2002) consumer behavior is defined as the study of buying units and exchange processes that involve the acquisition, consumption, and disposal of services, experiences, and ideas.

The concept of consumer behavior states that the exchange process involves a series of steps starting with:

1. Stage of acquisition or acquisition

   The researchers analyzed the factors that influence the choice of products and services. Usually many consumer behavior researchers focus on this stage. One of the factors related to the search for goods and services selection bodies is product symbolism, namely consumers will usually look for a product or service that is used to express themselves to others about certain ideas and the meaning of themselves.
2. consumption stage

   In investigating the consumption stage the researchers analyzed how consumers actually use goods and services and the experiences they go through while using them.

Consumption experience is an important part of service industries such as restaurants, amusement parks because experience is their reason for making purchases.

3. disposition stage

This stage refers to what consumers will do after using the goods and services they have used. It also shows the level of customer satisfaction after purchasing goods and services. This stage will be an important stage to see whether consumers will be loyal or not to the goods and services they have used.

Mobile Commerce Concept (M - Commerce)

Liao et al. (1999) stated that mobile commerce provides products and services using wireless technology to facilitate electronic business activities without time and place constraints. Turban (2012) states that m-commerce is all business activities carried out using wireless telecommunications devices or from mobile devices.

Siau et al. in Chan and Chong (2013) explains the difference between e-commerce and m-commerce. According to them, m-commerce is different from e-commerce because it is done via cable internet. M-commerce has far more potential than e-commerce because of the characteristics contained in it such as being able to be carried or carried anywhere, personalization, flexibility, and dissemination. In addition, m-commerce extends the benefits of the web, and creates unique services that can provide additional benefits when compared to e-commerce.

M-Commerce Usage Activity

In a study conducted by Mahatanankoon et. al. (2005), m-commerce activities can take the form of: content delivery, namely content that is used to notify and convey important information and involves the use of m-commerce to search for information online. Content delivery activity can be measured by several indicators including: searching for information online using mobile devices, sending or receiving emails using mobile devices, and reading daily news online using mobile devices.

Furthermore, transaction activities include activities that involve financial transactions between consumers and businesses. Transaction activities can be carried out using mobile devices, including money transfers, purchasing airplane tickets online and also paying bills made using mobile devices. entertainment activities, are activities that provide entertainment to m-commerce users such as listening to music, watching videos, or playing games.

Technology Acceptance Model (TAM) concept

Technology Acceptance Model (TAM), first introduced by Fred D. Davis and created specifically for modeling the adoption of the use of information systems. According to Davis (1989), the main purpose of TAM is to establish a basis for tracing the influence of external factors on beliefs, attitudes, and goals for using computers. TAM considers that the two main behavioral variable beliefs in adopting information systems, namely perceived usefulness and perceived ease of use .

Perceived Usefulness concept

According to Jogiyanto (2007) perceived usefulness is the extent to which a person believes that using a technology will improve his job performance. Arief (2006) says that perceived usefulness is defined as a measure where the use of a technology is believed to provide benefits to those who use it. If someone feels confident that an information system is useful then he will use it. Conversely, if someone believes that the information system is less useful then he will not use it.

Indicators on perceived usefulness can be divided into:

1. The use of mobile commerce can improve performance and effectiveness.
2. The use of mobile commerce makes work done faster.
3. The use of m-commerce provides benefits in every activity.

Concept of Perceived Ease Of Use

Perceived ease of use is the various conveniences that consumers feel in connection with using the Internet for various goals to be achieved (Lui and Jamieson, 2003). Perceived ease of use is defined as the extent to which a person believes that using a technology will be free of effort (Jogiyanto, 2007). The concept of perceived ease of use shows the level at which a person believes that using an information system is easy and does not require hard effort from the user to be able to use it. Several indicators on perceived ease of use include:

1. M-commerce activities are easy to learn.
2. The activity of using m-commerce is very easy to understand and simple.
3. M-commerce activity is very easy to use.

Social Influence Concept

Malhotra and Galletta (1999) expanded TAM to include social influence factors. Social influence refers to the interaction effect between people in their social context. Social influence also helps to determine whether technology will be adopted and whether products will be purchased (Venkatesh et al., 2003).

Based on the concept above, several indicators related to social influence are determined, including: recommendations from friends will affect the use of m-commerce, family and relatives will influence the decision to use m-commerce, and the use of m-commerce is based on people people in the neighborhood who also use.

METHODS

This research is a causative research which aims to find the influence of an independent variable, in this case perceived usefulness, perceived ease of use and social influence on m-commerce usage activities. The sampling technique uses the Cochran formula so that the number of samples is 100 respondents. The types and sources of data in this study are based on primary data and secondary data. Data collection technique is to use a questionnaire prepared using a Likert scale.

Structural Equation Modeling (SEM) analysis tool using the partial least squares (PLS) program with the WarpPLS 3.0 application. SEM is a confirmatory technique. The technique used to test a theory, either a newly developed theory or a theory that has long been developed by previous researchers (Augusty, 2006). PLS is based on the idea of having two iterative procedures that use least squares estimation for single and multi-component models. PLS is divided into measurement models and structural models (Mahfud and Dwi , 2013).

RESULTS AND DISCUSSION

Research Result

The reliability test is to test the precision, accuracy or accuracy shown by the measurement instrument (Husein, 2013). Reliability testing can be done by looking at the value of composite reliability and cronbach's alpha.

Table 1: Reliability Test Output

	PU	PEOU	SI	APMC
Composite reliability	0.85	0879	0.829	0.878
Cronbach's alpha	0.734	0.792	0.69	0.841

Source: Primary Data 2014 (Processed)

The output above shows that the reliability of the instrument has been met because each variable has a composite reliability value of >0.70 and Cronbach's alpha >0.60. Thus, this research is reliable.

Table 2: Output Latent Variable Coefficients

	PU	PEOU	SI	APMC
R-squared				0.326
Full Coll. VIF	1,353	1,244	1.218	1,362
Q-squared				0.327

Source: Primary Data 2014 (Processed)

The results in table 2, the R-squared value of the mobile commerce usage activity variable of 0.326 indicates that the variance of m-commerce usage activity can be explained by 32.6% by the variance of perceived usefulness, perceived ease of use and social influence. Models with predictive validity must have a Q-squared value greater than zero. The estimation results of this model show good predictive validity, namely 0.327 because the value is above zero. The criterion for the full collinearity test is that the score must be lower than 3.3. The output above shows the VIF full collinearity value <3.3 so that the model is free from vertical, lateral, and common method bias collinearity problems.

To validate the model as a whole, goodness of fit is used. The goodness of fit index is a single measure used to validate the combined performance of the measurement model and the structural model. The criteria for goodness of fit are obtained from the results of the average path coefficient (APC), average R-squared (ARS), and average variance inflation factor (AVIF) values. With conditions, the p value must be less than 0.05 or significant and also AVIF as an indicator of multicollinearity must be less than 5.

Table 3: Output Model Fit Indices

	APCs	ARS	AVIF
	0.257	0.326	1.136
P-value	<0.001	0.005	-

Source: Primary Data 2014 (Processed)

The output results in table 3 show that the goodness of fit model criteria have been met with an APC value of 0.257 and an ARS of 0.326 and is significant. The AVIF score of 1,136 also meets the criteria.

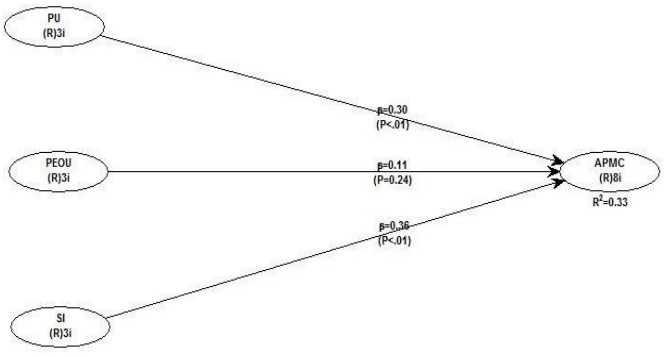


Figure 1. Significant Test of the Path between Constructs

From the estimation results above, it can be obtained the direct effect of the independent variables by looking at the β value to determine the level of influence and the p

value for significance, if the p value <0.05 then it is significant. The perceived usefulness variable has an effect of 0.30 and is significant with a p value <0.01. It can be concluded that it has a positive and significant effect. The positive and significant research results indicate that in the context of the use of mobile devices, the greater the user's perceived usefulness, the more frequent the activity level of mobile commerce usage.

The perceived ease of use variable has a positive and insignificant effect, this is because the p value is above 0.05. Meanwhile, the social influence variable has the greatest influence with a value of 0.36 and a p value <0.01, which is a positive and significant effect. A value $R^2$of 0.33 indicates that the variance of m-commerce usage activity of 33% can be explained by these independent variables while the rest is explained by other factors not included in this study. Other factors that are intended can be in the form of demographic factors, perceived enjoyment factors and other factors that can influence the activity of using m-commerce.

Discussion

The Effect of Perceived Usefulness on Mobile Commerce Usage Activities in Padang State University Students

Hypothesis testing shows that perceived usefulness has a positive and significant influence on the activity of using mobile commerce in Padang State University students. Perceived usefulness (X1) has an influence of 0.30 or 30% on mobile commerce usage activities.

This study is consistent with research conducted by Adam et. al. (1992) which states that one of the important factors that causes an individual to use a system is perceived usefulness. The results of this study indicate that the higher the user's perceived usefulness, the greater the activity of using mobile commerce as a medium or tool to assist users in completing their daily tasks.

In connection with the results of this study, it was found that the majority of respondents were female, namely 62%. Perceived usefulness that can be concluded in this study is that the majority of mobile commerce users are women. Where on average female students interact more often by using their mobile devices to convey information to friends and relatives. Apart from that, the age of students in the range of 20 to 25 years is as much as 72%. In this age range, it indicates that many students have carried out activities using mobile commerce. Students at this age have high enthusiasm and curiosity in utilizing technology.

The Effect of Perceived Ease of Use on Mobile Commerce Usage Activities in Padang State University Students

Testing the hypothesis shows that perceived ease of use has a positive and not significant effect on the activity of using mobile commerce in Padang State University students. Perceived ease of use (X2) has an influence of 0.11 or 11% on the activity of using mobile commerce. Perceived ease of use is the variable that has the least influence in this study.

The concept of perceived ease of use shows the level at which a person believes that using an information system is easy and does not require much effort from the user to be able to use it. The results of this study are in line with research conducted by Adam et. al. (1992) who suggested that the intensity of use and interaction between the user and the system can be shown as an ease of use. The system that is used more often shows that the system is known so that users feel the system is easy to operate and use.

Based on the results of this study it was found that the perceived ease of use factor for UNP students did not have a significant effect on the activity of using mobile commerce. This can be because students are used to or have been demanded and required to carry out mobile

commerce activities such as accessing the web in designing study plan cards (KRS), e-learning and sending e-mails to share information.

The Influence of Social Influence on Mobile Commerce Usage Activities in Padang State University Students

Hypothesis testing shows that social influence has the greatest positive influence compared to other variables and is significant on the activity of using mobile commerce in Padang State University students. Social influence (X3) has an influence of 0.36 or 36% on the activity of using mobile commerce in UNP students. This means that the higher the motivation from other parties, the higher someone will be to carry out mobile commerce usage activities.

These results are in line with research conducted by Chan and Chong (2013) which states that social influence, which is an external factor, has a positive and significant effect on mobile commerce usage activities. Research from Venkatesh (2003) states that consumers in choosing a particular thing are influenced by individual opinions that are considered important. Interacting and discussing with people in the surrounding environment will influence someone in making decisions.

In connection with the results of this study, it was found that the majority of respondents were female, namely 62%. In addition, the age of students in the range of 20 to 25 years is 72%. In this case, women in the age range of 20 to 25 years tend to use mobile commerce more frequently. Utilization of applications or services in mobile commerce can increase the intensity of interaction. Activities that can be carried out include sharing stories and information with friends to be able to follow news or trends that are currently popular.

CONCLUSION

Based on the results of the research and discussion that has been carried out regarding the effect of perceived usefulness, perceived ease of use and social influence on the activity of using mobile commerce in Padang State University students, the following conclusions can be obtained:

1. Perceived usefulness has a positive and significant effect on mobile commerce usage activities for Padang State University students. It can be concluded that the use of services in mobile commerce will be used if it provides many benefits that can be felt by users, who in this study are students.
2. Perceived ease of use has a positive and not significant effect on the activity of using mobile commerce for Padang State University students. The reason could be because as students, users are accustomed to carrying out mobile commerce activities where they are required to be able to access the web such as designing study plan cards (KRS), e-learning and sending emails to share information. So that convenience considerations will not affect the activity of using mobile commerce.
3. Social Influence has a positive and significant effect on mobile commerce usage activities for Padang State University students. The influence of the surrounding environment can change a person's decision. In addition, interacting and discussing with people around will give someone a new perspective on something.

REFERENCE

Adam *et. al.* (2009). Perceived Usefulness, Ease of Use, and Usage of Information Technology: A Replication. *MIS Quarterly* . Vol.16, No. 2.

Arief, W. (2006). Study of Information System User Behavior with the Technology Acceptance Model (TAM) Approach . *Journal at the Faculty of Information Technology, Budi Luhur University, Jakarta* .

Augusty, F. (2006). *Structural Equation Model in Management Research* . Semarang: Diponegoro University Publishing Agency.

Chan and Chong (2013). Analysis Of The Determinants Of Consumers' M-Commerce Usage Activity. *Emerald: Online Information Review* . Vol. 37, no. 3.

Davis, FD (1989). Perceived Usefulness, Perceived Ease Of Use And User Acceptance Of Information Technology. *MIS Quarterly* . Vol. 13, No. 3.

Jogiyanto. (2007). *Behavioral Information System* . Yogyakarta: ANDI.

Liao, S., *et. al.* (1999). The Adoption of Virtual Banking: An Empirical Study. *International Journal of Information Management*, Vol. 19, No. 1.

Lui, HK, and Jamieson, R. (2003). TRiTAM: A Model for Integrating Trust and Risk Perception in Business-to-Consumer Electronic Commerce. *16th Bled eCommerce Conference eTransformation* . .

Mahatanankoon, P., *et al.* (2005), "Consumer-Based M-Commerce: Exploring Consumer Perception Of Mobile Applications", *Computer Standards & Interfaces* , Vol. 27 No. 4.

Mahfud, S. and Dwi, R. (2013). *SEM-PLS analysis with WarpPLS 3.0* . Yogyakarta: ANDI.

Malhotra, Y., and Galletta, DF (1999). *Extending the Technology Acceptance Model to Account for Social Influence: Theoretical Bases and Empirical Validation* . Proceeding of the 32nd Hawaii International Conference on Systems Science.

Mowen, JC and Minor, M. (2002) . *Consumer Behavior* . Volume 1. Issue 5. Jakarta: Erlangga Publisher.

Peter, JP, and Olson, JC (2010). *Consumer Behavior : Consumer Behavior and Marketing Strategy.* Volume 1. Issue 4. Jakarta: Earlangga Publisher.

Turban, E. *et al.* (2012). *Electronic Commerce 2012, 7th Edition* . Pearsons.

Venkatesh, V., *et al* . (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quartel* . Vol. 27 No. 3.

http://www.apjii.or.id/v2/index.php/read/page/malam-data/9/statistik.html# accessed on 29 May 2014.