

Mobile phones and personal digital assistants management essay

[Business](#), [Management](#)



1. 0 Introduction Mobile commerce is the trading of goods and services through wireless handheld devices such as mobile phones and personal digital assistants (PDAs) (Rouse, 2005). Nowadays, m-commerce are become a booming market with increasing integration with internet implication (Khalifah, 2012). Estimate in 2015, mobile technologies will keep on improve and more advance in this technological era (Khalifah, 2012). According to ABI research, M-commerce will grow from \$18. 3 billion in 2008 to a \$119 billion global industry(Khalifah, 2012). Therefore, innovative consumers will follow the trend by using mobile technology to make online transaction in businesses, communication, gaming and others (Khalifah, 2012). Growth in m-commerce can be attributed to the increasing number of consumer in using Smartphone or other internet-capable phone and also increasing the competition among firms to offer services through multiple channel, especially the mobile channel (Khalifah, 2012). However, user's adoption of mobile products and or services could bring advantages and profits to the mobile channel with increasing the number of consumers by using internet capable phone (Khalifah, 2012). Mobile commerce is previously thought to have a major growth for a few reasons, for example, rapid proliferation of mobile device adoption and the obvious advantages of anytime, anywhere connectivity (Bhatti, 2007). But, there have many people does not fully adopted mobile commerce application (Cho, 2007). The fast development of wireless and wired communication technology is promoting internet and mobile commerce as a significant application for consumers (Cho, 2007). Nevertheless, the successful adoption of new IT has been slowed down by a lack of user acceptance (Cho, 2007). Mobile and internet applications are

developed widely and at fast pace for consumers (Cho, 2007). It is crucial to understand the consumer perception and adoption of internet and mobile technology (Cho, 2007).

1. 1 Research Background

The future of m-commerce has promising potential as the mobile phone market remains a huge untapped marketing medium (Jackson, 2004). To succeed with m-commerce, it is crucial for marketers to understand the characteristics of mobile users and their perceptions of m-commerce (AlHinaï). Among the advantages to adopt m-commerce is the capability to complete tasks anywhere, anytime (AlHinaï). Given such uniqueness, mobile commerce adoption has been successful in some markets such as Japan (AlHinaï). Mobile technology is growing rapidly, combining the improvement of wireless technology (Bigne, 2007). Wireless Week (2004) reported that in 2003, there were 94.9 million people that use m-commerce around the world and the segment is expected to increase to 1.67 billion by 2008. Global income from M-Commerce was \$6.86 billion in 2003 and is assumed to hit \$55.37 billion in 2008 (Bigne, 2007). More people are looking forward of developing high technology in mobile commerce as what the users and innovative people expected from the mobile market (Khalifa, 2002). Exposure to mobile technology has been helped by the high penetration of mobile phones. (Khalifa, 2002). Consumers are more likely to try, discuss or observe the usage of mobile technology for commerce (Khalifa, 2002). However, it is unclear if such exposure will affect mobile commerce adoption (Khalifa, 2002). The mobile devices usage for marketing has been successful in European and Asian countries, even better than the US although the Americans first accepted e-commerce as a standard, and have slacken the

usage of mobile gadgets for anything more than personal communication (Swilley, 2008). The Japanese have adapted faster to this technology, due to higher commute times they are more likely to use mobile devices (Yeo, 2003). In the others word, there also have low adoption of mobile commerce in some of the countries (Kini, 2009). Among the South American countries, Chile has the highest penetration of cell phones but it is slow in adopting mobile commerce (Kini, 2009). The survey shows that the group studied uses electronic commerce very often but is not comfortable with mobile commerce, reasons are slow access speed, poor service quality and high price (Kini, 2009).

1. 2 Problem Statement

Perceived ease of use issue is also a concern of user adoption of mobile commerce. With the rapid growth of 3G smart phones, the wireless service delivery channel becomes a promising alternative for firm to create business opportunities. The usage of mobile banking service is much lower than expected (Cruz, 2010). The market of mobile banking still remains very small compared to the entire banking transaction (Lin, 2005). This supports the notion that technological advances and service availability do not necessarily lead to widespread adoption of mobile commerce (Baldi, 2002). A study has provided support that perceived usefulness is the main predictor of M-commerce adoption (Wei, 2009). But mobile commerce is more difficult to use than Internet commerce due to the size of devices (Cho, Analysis of trust in internet and mobile commerce adoption, 2007). To succeed with m-commerce, however, it is vital for marketers to understand the attributes of mobile users and their perceptions of m-commerce (Lee, Mobile Commerce: An Analysis of Key Success Factors, 2007). A recent study indicates that personal innovativeness can predict the

adoption of mobile commerce (Li, 2007) M-commerce is still in the growing stage in Malaysia (Anthony, 2007). Therefore, it is considered as new technology. An innovative person has more positive attitudes towards M-commerce and more likely to adopt it (Anthony, 2007). However, this rapid advancement of mobile technology and the appearance of M-commerce models are reflected comparatively low in M-commerce adoption rate in Malaysia (Wong and Hiew, 2011). There is great promise for firms in m-commerce, when compared to developed countries such as Japan (Wong and Hiew, 2011) If mobile services are perceived difficult to adopt, it affects a user's intention toward adopting mobile commerce (Bhatti, Exploring Factors Influencing the Adoption of Mobile Commerce, 2007). Based on China's e-commerce adoption, studies show that the crucial factors in China are restriction of access to computers, intolerance towards failure, lack of internal trust, lack of business information sharing, and incapability of dealing with rapid change (Tyler, 2007). However, Davis observed that it is the difficulty to distinguish between the users own attitude and the referents on one's intent by others (Alnajjar, 2013). This has formed some requirement for further research to investigate the phenomenon of subjective norms (Alnajjar, 2013) of the mobile commerce adoption.

1. 3 Research Objective

1. 3. 1 General Objective The objectives of this study are to determine why the users choose to adopt mobile commerce. This study will examine the behavior of users adopting M-commerce and assess its prospects and potential.

1. 3. 2 Specific Objectives

1. To identify the relationship between subjective norms and mobile commerce adoption.
2. To test the relationship between perceived ease of use and mobile commerce

adoption. 3. To examine the relationship between perceived usefulness and mobile commerce adoption. 4. To investigate the relationship between personal innovativeness and mobile commerce adoption. 1. 4 Research Questions We clearly state out the factors that affect the users who adopting mobile commerce in Malaysia. The followings are the question of this research we are going to explain it in details. 1. Is there any relationship between subjective norms and mobile commerce adoption? 2. Is there any relationship between perceived ease of use and mobile commerce adoption? 3. Is there any relationship between perceived usefulness and mobile commerce adoption? 4. Is there any relationship between personal innovativeness and mobile commerce adoption? 1. 5 Hypotheses H1: There is a significant relationship between subjective norms and behavioral intention to the mobile commerce. H2: There is a significant relationship between perceived ease of use and behavioral intention to the mobile commerce. H3: There is a significant relationship between perceived usefulness and behavioral intention to the mobile commerce. H4: There is a significant relationship between personal innovativeness and behavioral intention to the mobile commerce. 1. 6 Significance of the Study This study aims to find out the factors affecting adoption of mobile commerce of the users. There are several drivers of affecting users to the acceptance of mobile commerce through perceived ease of use, perceived usefulness, personal innovativeness and subjective norms. Besides that, after understanding the factors that mostly adopted of mobile commerce by the consumers, it will benefit the mobile markets such as manufacturer and retailers of mobile, mobile channels and consumers. When the users fully understand the

benefits of adopting mobile commerce, it will improve the mobile market economy and people's attitudes will change toward this emerging mobile technology and applications. Other than that, this study enables researcher to put more concentration on information that relate to the customers perceived ease of use, perceived usefulness, personal innovativeness and subjective norms. It can give a huge influence on customers to adopt mobile commerce and bring some knowledge about mobile commerce's implementation.

1. 7 Chapter Layout

Chapter 1: Introduction is an overview of the study. It explains what this research study purposes is and what the implication is. This chapter include the users that acceptance of mobile commerce and the description of mobile commerce adoption. It also stated the research problems statement, the research objectives to be achieve and hypotheses to be tested and the purpose to conduct this research study.

Chapter 2: Literature review is to explain the dependent variable and independent variables. It includes all reading material from journal articles, books, internet and other sources. With the review of these literatures, the conceptual frameworks and hypotheses have been developed.

Chapter 3: Research methodology describes how the research is carried out in terms of research design, data collection methods, sampling design, measurement scales and methods of data analysis. Questionnaire is used as the data collection method in this research. SPSS software is used to analyse the data after collect from the respondents.

Chapter 4: Present the overall findings from the analysis of the questionnaire. SPSS is commonly used to illustrate the chart and tables. The interpretation is further elaborated in-depth of the results.

Chapter 5: Summaries the research and discuss the major finding. It

also discusses the limitation of the study as well as provided recommendations for future research. Lastly, overall conclusion of the entire research project was been provided.

1. 8 Conclusion

This chapter covers on research background, problem statement, research objectives, research questions, hypothesis of the study, significant of the study and chapter layout. This research includes independent variables which comprise from subjective norms, perceived ease of use, perceived usefulness, and personal innovativeness and dependent variable, which is the behavioral intention to use mobile commerce. By reviewing Chapter one, it provides preliminary understanding of how this research will be conducted and then served as a fundamental guideline or insight for the researchers to proceed into next chapter, which is literature review.

CHAPTER 2: LITERATURE REVIEW

2. 0 Introduction

Chapter 2 is going to discuss about the literature review that creates connectivity between the past and recent existed researches. This topic focuses on review of literature, relevant theoretical models, proposed conceptual framework, and hypothesis development. Therefore, past studies review and conceptual framework will be discussed in this chapter. Then, the hypothesis will be formulated.

2. 1 Review of Literature

2. 1. 1 Behavioral Intention

Behavioral intention (BI) is defined as a person's perceived possibility or probability of an individual might perform a certain behavior (Committee on Communication for Behavior Change in the 21st Century, 2002). According to Chen et al. (2009), how people are willing to engage a behavior depends on motivational factors relevant to behavioral intention. Behavioral intention is the probability or the measure of potency of a person's intention in completes a certain behavior (Fishbein & Ajzen,

1975). A strong behavioral intention to implement and apply a technology reflects a person's acceptance and apply of the new technology (Yi et al., 1992 ; Fishbein & Ajzen, 1975). Behavioral intentions are also indicators that show whether customers are remaining with or abandoned an organization. (Zeithaml et al., 1996; Alexandris et al., 2002).

2. 1. 2 Mobile Commerce

M-commerce is a subset of e-commerce (Coursaris & Hassanein, 2002; Kwon & Sadeh, 2004). M-commerce applications consist of two main characteristics which are mobility and broad reach. Mobility involve of portability, people with a mobile device can be reached at anywhere and anytime by using m-commerce. UNCTAD (2002) defines M-commerce as a transaction of purchasing and trading of goods and services with a wireless mobile device like a mobile phone or personal data assistants (PDA). Furthermore, mobile commerce is can be linked with electronic commerce (e-commerce) from the point of historical and conceptual sense. E-commerce is defined as to consist of the applying and engaging in transaction in electronic commerce. According to Veijalainen et al.(2006), mobile commerce can access information and transfer of value or any kind of electronic transactions conducted with wireless access network, for example like Wifi, 3G, Bluetooth and Infrared connection(Sadi et al, 2011). M-commerce includes mobile-shopping (Wu and Wang, 2006). Hence, according to Kalakota and Robinson (2002), M-commerce consist as a subset of mobile business when economic values are conveyed from an individual to another in a transaction.

2. 2 Review of Relevant Theoretical Models

2. 0 Technology Acceptance Model (TAM)

Source: Davis et al. (1989)

Figure 2. 0 is Technology Acceptance Model (TAM) developed by Davis et al. (1989). The idea of the model is to

gauge the acceptability of technology, and to determine the adaptations that link into the system to facilitate the acceptance of the user (Davis et al., 1989). TAM argues that individual's perceived ease of use and perceived usefulness of the application system can decide a person's intention to accept the application systems. Somehow, perceived ease of use is affecting the perceived usefulness of information system (Davis, 1989). Therefore, perceived ease of use and perceived usefulness are added into TAM. As mentioned by Davis (1989), perceived ease of use is defined as a user's perception that implements a certain information system which improves job performance, whereas, perceived ease of use mentions the degree which a potential user assume the particular system can be easily used with the absence of any difficulties and effortless (Davis et al., 1989). TAM proposes that implementation of application system depends on behavioral intention, while behavioral intention is affected by individual's attitude towards application of the system and awareness of the usefulness on system itself (Davis et al., 1989). Derived from Davis (1989), a person's attitude is not the single reason that influences the use of a system, although it may depend on the impact that affect on the person's task or job performance. Thus, the probability that a worker will apply and use the system is high if he or she believes that the particular system can help in improving his or her performance at work, even if the system is not favorable. The research presented by Davis (1989) demonstrates that the relationship between the intention to practice application system and perceived usefulness is definitely stronger than the perceived ease of use. Figure 2. 1. SST attitude/intention to use model Source: Curran & Meuter (2005). Figure 2. 1

illustrates that there are other additional antecedent beliefs to TAM which are need for interaction and perceived risk (Curran & Meuter, 2005). Interaction need is defined as the motive to maintain the individual interaction with service employee in crossing of service (Dabholkar, 1996). Perceived risk is defined as the user's perception about the probability of experiencing a loss or threat in achieve of a goal (Pavlou, 2003). Study showed that greater perceived risk will bring a negative impact on technology acceptance (Meuter et al., 2000). According to Curran and Meuter (2005), distinct levels of customer acceptance toward technology are resulted from different factors affecting consumer attitudes on information technology (Curran & Meuter, 2005). According to Meuter (2000), the SST model has been applied in banking industry for self-service options such as ATMs, phone banking, mobile ticketing and others. And still, it has not been certified in the perspective of mobile banking. Curran and Meuter (2005) applied SST to a full range of SST within the industry and it is used to examine across different technologies and provide extra insight in technologies which vary in term of the factor that will cause an impact on the acceptance of consumer (Curran & Meuter, 2005). Lisa and Judy (2010) validated and extended the framework by Curran and Meuter's (2005) SST model. Perceived usefulness (PU) is the initial antecedent belief of the model. Its definition is subjective possibility that technology application improves a person's performance, (Davis, 1989). Perceived usefulness positively affects mobile services acceptance (Chiu et al., 2005; Nysveen et al., 2005). As a result, perceived usefulness has significant relationship with attitude and usage intention of an individual. By this framework, it shows

that it has strong positive relationship between perceived usefulness and behavioral intentions (Cheong & Park, 2005; Chiu et al., 2005; Curran & Meuter, 2005; Nysveen et al., 2005). Figure 2. 2 Theory of Planned Behavior (TPB)Source: Ajzen, (1985)Figure 2. 2 showed the theory of planned behavior defined intention in terms of trying to engage in certain behavior instead of actual performance (Ajzen, 1985). Based on TPB, attitude, subjective norm, and perceived behavioral control are three main factors that affect behavioral intention. With mobile commerce, attitude of the mobile user when receive and convey information, and engage in purchasing with a mobile device is likely to influence the person's intentions to assume each of the three behaviors (Ajzen 1991). Besides that, subjective norm expected the three specific behaviors to affect user's intentions to receive and convey information, and engage in making decision when purchasing through his mobile devices (Pavlou, 2003). Based on Eagly and Chaiken (1993), perceived behavioral control's definition is a person's perception of difficulty in engaging a behavior. Figure 2. 3 Theory of Reasoned Action (TRA)Source: Fishbein and Ajzen, (1975). The Theory of Reasoned Action (TRA) is a social psychological model regarding the causes of consciously intended behaviors (Fishbein & Ajzen, 1975). According to Ajzen and Fishbein (1980), TRA believes that person are normally consider as rational and think the inference of his actions before he decide to present a certain behavior. TRA discusses the effect of cognitive components, comprise of attitudes, social norms, and intentions on behaviors (Guo et al., 2007). TRA believes that most human social behavior expected from individual's intentions itself (Ajzen, 2002). This proves that it is able to

predict a certain behavior with intentions to involve and apply the behaviors under consideration (Ajzen & Fishbein, 2005). Attitude of an individual includes the finding on the goodness of behavior poor and favorable of responder to perform it (Leonard et al., 2004). According to ? zer and Y? Imaz (2010), subjective norm is related in combining individual's perceptions, importance of what others think they should engage certain behavior, meanwhile the desire to obey with others thinks they must perform the behavior and their motivation to achieve another's desires (Spark et al., 1995). Basically, TRA is made to clarify almost every individual behavior (Ajzen & Fishbein, 1980), studying the factors of technology usage behavior (Davis et al., 1989). Thus, TRA was recommended and used by some researchers as a basis to study IT usage behavior (Jackson et al., 2007; Hsu & Lin, 2008; Leonard & Haines, 2007; Kuo & Young, 2008; Rehman et al., 2007; Vijayasarathy, 2004). Fishbein and Ajzen (1975) stated that TRA identify the behavioral intention as function of two factors: individual aspect termed attitude onto behavior, and individual's perception of community pressures termed subjective norm. And, attitude able to shape owns performance of his behavior (Fishbein and Ajzen, 1975). Where, normative beliefs apprehensive with the probability that important referent will influence performing the behavior (Ajzen and Madden, 1986). Few of the researches agreed that the subjective norm playing role in predicting and determining intention on individual's behavior (? zer & Y? Imaz, 2010; Y? Imaz & ? zer, 2008). It mentioned that if other interrelated people agree that behavior is positive and he is provoked to engage with the point of view of these people and take into consideration when making decision (Y? Imaz and

zer, 2008). Figure 2. 4 A conceptual framework of the factors that affect the behavioral intention to adopt mobile banking. Source: Cheah et al. (2011). Factors Affecting Malaysian Mobile Banking Adoption. Figure 2. 4 is the research framework had been proposed by Cheah et al. (2011) when it extends the TAM that comprise other factors which are relative advantages, perceived risk, and personal innovativeness. Thus, these constructs are assumed to influence behavioral intention to adopt mobile banking. Same with researches from Chung and Kwon (2009), Lee et al. (2008) and Luarn and Lin (2005), it proves that perceived usefulness, perceived ease of use, personal innovativeness and relative advantages have positive relationship on intention to adopt mobile banking within Malaysian. Cheah et al. (2011) has proven that social norms and mobile banking adoption have negative significant relationship. And, it agreed that social norms have insignificant relationship towards the intention of adopting mobile banking which may influences by the social forces or voluntariness (Cheah et al., 2011). Lu et al. (2005) and Venkatesh and Davis (2000) also supported that subjective norm tend to have less impact if it is on voluntary-based. Besides, Bauer et al. (2005) revealed that social norms have insignificant on behavioral intention therefore personal attitude is a moderating factor for subjective norms to affect behavioral intention in adopting mobile banking. Figure 2. 5 Evaluation of factors that manipulate the nature of customers towards mobile banking and their growing tendency towards the online financial institutions. Source: Rahmath Safeena et al. (2011) Customer's Adoption of Mobile-Commerce A Study on Emerging Economy. Figure 2. 5 showed the model evaluates the reasons influencing the nature of customers towards mobile banking and

growth towards the online financial institutions by Rahmath Safeena et al. (2011). Among these independent variables, perceived usefulness, perceived ease of use and consumer awareness has positive impact on the intention to adopt online banking system. And, social influence also acted as a mediator to affect the behavioral intention to use mobile commerce. These factors have strong and positive influence to customer acceptance of mobile banking system and perceived risk has negative impact (Rahmath Safeena et al., 2011).

2. 3 Proposed Theoretical/ Conceptual Framework

Independent Variables (IV)	Dependent Variable (DV)
Subjective norm, perceived ease of use, perceived usefulness and personal innovativeness.	Behavioral intention toward using mobile commerce.

Source: Developed for the research.

The suggested model above shows the theoretical framework that serves as the foundation for this research. This conceptual framework is adopted from Cheah et al.(2011), Rahmath Safeena et al. (2011) and, Lisa and Judy, (2010). Then it has been modified with the purpose to examine the relationships between perceived ease of use, perceived usefulness, personal innovativeness, subjective norm and behavioral intention of individual to use mobile commerce. In this conceptual framework, there are four independent variables: subjective norm, perceived ease of use, perceived usefulness and personal innovativeness. Alternatively, behavioral intention toward using mobile commerce serves as dependent variable in this research project.

There are four hypothesis developed to examine the relationships between the variables.

2. 4 Hypothesis Development

2. 4. 1 The Relationship Between Subjective Norm and Behavioral Intention Toward Using Mobile

Commerce

Subjective norm is the perceived social pressure to engage in a certain behavior (Rita et al., 2012). It is the person's perception that individual relied on referent's thinking (Fishbein and Ajzen, 1975).

Individuals regularly react to social normative influences to create a favorable image in a group. Meanwhile, image is defined by Moore and Benbasant as the degree to which use of an innovation is believed to improve an individual's status within social system (Venkatesh and Davis, 2000). To examine antecedents of subjective norms, Ghassan et al. mentioned that TRA and TPB have proven the impact of subjective norm toward human's behavioral intention (Ghassan et al., 2013). Hence, we hypothesize that: Hypothesis 1 (H1): There is a significant relationship between subjective norms and behavioral intention toward using mobile commerce.

2. 4. 2 The Relationship Between Perceived Ease of Use and Behavioral Intention Toward Using Mobile Commerce

2. 4. 3 The Relationship Between Perceived Usefulness and Behavioral Intention Toward Using Mobile Commerce

Studies from Chung and Kwon (2009) demonstrated that the constructs of PU and PEOU were positively related to behavioral intention to adopt mobile banking. Likewise, Lee et al. (2009) reported that PU and PEOU significantly affect consumers' intention to use mobile banking. Perceived usefulness defined by Heijden et al. (2003) as the degree of person believes the usage of system can enhance the performance. PU and PEOU are influencing the acceptance level of an system or new technology which in the prior research has empirically found the positive relationship between PEOU and PU as critical factors on the use of e-banking (Poon, 2008, Venkatesh and Davis, 1996; Hong et al., 2001; Chau, 2001). Hence an application or a system perceived to be useful meanwhile perceived to be easier to use is more likely to be accepted by the users. By applying these into mobile commerce context, we can hypothesize: Hypothesis 2 (H2):

There is a significant relationship between perceived ease of use and behavioral intention toward using mobile commerce. Hypothesis 3 (H3): There is a significant relationship between perceived usefulness and behavioral intention toward using mobile commerce. 2. 4. 4 The Relationship Between Personal Innovativeness and Behavioral Intention Toward Using Mobile Commerce Consumer innovativeness study acceptance behavior of products and services (Yang, 2005). Innovativeness is always known as customer innovative tendencies to adopt technological innovations (Venkatraman & Price, 1990; Wood & Swait, 2002). And, personal innovativeness is the adoption and transmission of the innovation and is related to the users' adoption of the new information technology (Rogers, 1995). Prior researches (Agarwal and Prasad, 1998; Lockett and Littler, 1997) agreed that personal innovativeness strongly influence level of technology acceptance in the view of internet shopping (Citrin et al., 2000) and mobile commerce (Hung et al., 2003). Agarwal and Prasad (1998) show that innovative of person will include higher propensity in developing positive beliefs on new technology when beliefs of combination of information (Agarwal and Prasad, 1998). Lastly, in the studies of Citrin et al. (2000), innovativeness means propensity of individual to obtain information about and adopt innovations toward specific system, while innovativeness also predict consumer adoption of internet purchasing (Citrin et al., 2000). It assumes that consumer innovativeness is to be expected to have similar effect with PU and PEOU. Thus, the following hypothesis is developed: Hypothesis 4 (H4): There is a significant relationship between personal innovativeness and behavioral intention toward using mobile commerce. 2. 5

Conclusion Literature review of the relevant constructs, methodologies and findings related with researches as the foundation to develop the proposed conceptual framework in this chapter. Hypotheses have been developed based on the relationship among the variables in the conceptual framework. Thereby, the next coming chapters will provide an introductory overview of research methodology and design of questionnaire after the developed of conceptual framework based on the literature reviews.