

PERCEIVED EASE OF USE, SECURITY AND PRIVACY OF MOBILE BANKING

Rubiah Abu Bakar
Najdah Abd Aziz
Adida Muhammad
Mazura Muda

ABSTRACT

The wide technologies enable people to connect and do the task wherever they are. The way people communicate and interact with others within their social circle has changed a lot with the evolution of internet. Today, rapid development in technology especially involving using of smartphone and tablet make the activities more easier and convenience in delivering the information. All parties especially financial institution today wants to give the best services to the customer and the competitive among banking sector keep rising day to day. The effective and efficient strategies management needs develop to face all the challenges. Since, mobile phone is one of the gadgets that all people use it in daily life so this is the opportunity for financial institutions to introduce mobile banking services. Regarding from that, most financial institution take initiative to provide variety facilities and bank transaction services to the customers just by using their fingertips anywhere and anytime. One of attractive services offered are using mobile banking where it helps customer viewing account details, fund transfer, balance inquiry, loan details, bill payments, credit card service and many more. However, even variety technology had implement in mobile banking services but the usage of mobile banking is still at low stage Therefore, this study aims to investigate the relationship between perceived ease of use, security and privacy towards mobile banking adoption services. The study conducted at CIMB Kuala Terengganu by distributed 200 set of questionnaires. Convenience sampline were used in this study. Then the data analyzed using SPSS through frequencies and correlation analysis. The result shows that security and privacy has significant relationship towards mobile banking adoption while perceived ease of use has not significant with the dependent variable.

Keywords: Mobile banking, perceived ease of use, security and privacy, SPSS, CIMB

INTRODUCTION

Today, many financial institutions provide variety facilities and services that enables the customers to use the bank transaction easily. With the high rapid technology, the banking industries also implement the mobile banking services. Thus, many financial institutions implement this new service to improve the standard of quality and the flexibility of business transactions. Mobile banking or mobile commerce is one of the new communication networks that give facility for people to send and receive information at anytime and anywhere by using mobile phone or Smartphone. This service can give a lot of benefit to the customer since it easy to use and just need less effort to do the banking transaction. Ching et al. (2011) mentioned that, the first bank that introduce the mobile banking services is Standard Chartered bank in the year 2007 followed by Bank Islam in year 2010 that call "first truly banking services". The Maybank also declares them as the Malaysian's first financial institution launch mobile banking application using iPhone. The services that provided by mobile banking services are balance inquiry, credit transfer, checking account status, selling stock and other businesses according to instruction through the mobile phones or Smartphone. There are three ways that customer can access this service which through browser-based applications, client-based applications and messaging-based applications (Tashmia & Khumbula, 2011). The browser-based applications are essentially a Wireless Access Protocol (WAP)-based internet access while on the messaging-based applications, the communication between the bank and the customer is carried out via text message. Next, the client-based applications are using by the software that already installed in the mobile phone.

CIMB bank berhad had launch mobile banking services to customer. They are very confident that this service will popular because of the existing of internet portal CIMB clicks. The services that available via mobile banking at CIMB bank berhad which are balance inquiry, fund transfer, pay bills, foreign telegraphic, transfer mini statement, prepaid reload, manage password, standing instruction, forex rate, eFixed deposit, forgot password, forgot ID and request TAC. Through this service the customer can save their time to do the bank transaction without go to the bank and wait the turn. The people that want to use this service they need to register their mobile phone number via ATM or online. Usually the phones that available to access the mobile banking service are Samsung, blackberry, Nokia, Sony Ericsson, HTC, and Toshiba.

Eventhough variety technology had implement in mobile banking services but the usage of mobile banking is still at low stage. In fact, Bank Negara Malaysia reported a slow rate increasing of mobile banking subscribers in year 2012 which is 1,889,400 subscribers with penetration rate of 3.0 percent among the entire populations and 2.5 percent among the mobile subscribers respectively). It can be illustrating by the Table 1.

TABLE 1: Mobile Banking Subscribers (Bank Negara Malaysia, 2012)

Number of subscribers ('000)		Penetration Rate (%)	
		To Population	To Mobile Subscribers
2008	574.6	2.1	2.1
2009	675	2.4	2.2
2010	898.5	3.1	2.6
2011	1560.3	5.4	4.3
2012	1889.4	6.5	4.9

Source: Bank Negara Malaysia (2012)

Therefore, this study aims to investigate the factors of perceived ease of use, security and privacy towards mobile banking services adoption by CIMB Kuala Terengganu. Through this study, the researcher will determine either the independent variables are significant with dependent variables.

PROBLEM STATEMENT

Even the mobile banking quite familiar but some studies found that the mobile banking services still at the low stage and the usage of mobile banking still not achieve the industrial expectations (Ching et al., 2011). Besides that, there are some people do not aware and do not know how to use this service. Omwansa et al. (2012) found that acceptance of mobile banking among people still at low rank compared with the mobile operator led transfer services using mobile phones. It might be influence by a few factors adoption of using mobile services among customer in doing bank transaction.

OBJECTIVE OF STUDY

1. To analyze the relationship of perceived ease of use towards mobile banking adoption.
2. To examine the relationship of security and privacy towards mobile banking adoption.

SCOPE OF STUDY

This research focus on the factors of mobile banking adoption services. The respondents that involve in this study are customers from CIMB Bank Berhad in Kuala Terengganu. It will include the publics that usually do the bank transactions through this bank. 200 set of questionnaires were distribution to all customers of mobile banking services at CIMB Bank Berhad in Kuala Terengganu. The researcher wants to determine whether the independent variables which are perceived of ease of use, security and privacy has significant with adoption of mobile banking which is dependent variable

LITERATURE REVIEW

MOBILE BANKING ADOPTION

Mobile banking is the services that provided to customer using mobile devices specifically the operation of bank current and deposit or saving accounts. Financial services are very complex and to use this technology the customer need trust and convince that services are safe. Although all people nowadays very educated and well known about the technology but the adoption or acceptance mobile banking services among customer still low (Sharma & Kansal, 2012). There have a lot of study done regarding to the mobile banking adoption services. Negash & Gamel (2011) stated that adoption is one of the fundamental to implement the mobile banking services because none other aspect can be meaningful without it. Adoptions of mobile banking usually depend on person's physiological and sociological circumstances as well as the level of technological innovation. The adoption by both bank and customers also is not straightforward because of organizational, perceptual and societal challenges.

PERCEIVED EASE OF USE

Perceived ease of use is defined the level of a person believes that using a mobile banking system would be free effort (Omwansa et al. 2012). By using this particular system it's do not need a lot effort as it very easy and convenient. Since, mobile banking services is easy to use it will increase the customer satisfaction while do the bank transaction instead of waiting in line at the bank counters (Abdoul Reza et al., 2011). Previous study done by Rahmath et al. (2011) found that perceived ease of use has positive impact on the intention to adopt mobile banking. Sometimes customer will judge the best services that will give advantages and convenient while use it.

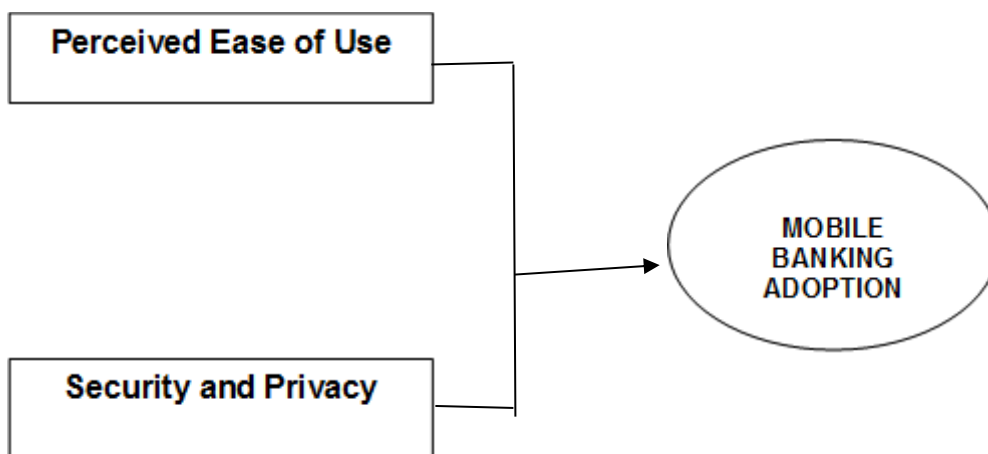
Mobile phone can be used and bring at anywhere so the user can access the system anytime to do the bank transaction. Therefore, most the customer that use this service can adopt to their daily life especially the customer from government or private sector because they do not need go to the bank and also can save their time. The previous study by Chung & Kwon (2009) found that the factor of perceived ease of use was positively have related to behavioural intention to adopt mobile banking. Besides that, Lee et al. (2008) also reported that perceived ease of use was found to be significantly affecting consumers' intention to use mobile banking. In fact, banks should simplify the usage of mobile banking services and continue to design more user-friendly system interface (Ching et al., 2011). When the customer find that the mobile banking is easier to understand and implement so they have intention to adopt it (Zohra & Kashif, 2011). Based on previous studies, it is highly predictable that the perceived ease of use one of the factor that influence customer to adopt the mobile banking.

SECURITY AND PRIVACY

Security is defined as a potential loss due to fraud or a hacker compromising the security of a mobile user. Fear of the lack of security is one of the factors that have been identified in most studies as affecting the growth and development of e-commerce. Therefore, it is very important to ensure the mobile banking system is secure while the user doing the financial transaction. Besides that, it will increase the customer satisfaction of mobile banking and encourage the user to adopt this service. Privacy, on the other hand, refers to the protection of various types of data that are collected with or without the knowledge of the users during user's interactions with the Mobile banking system.

The perception by the users of the privacy policy and rules followed by Mobile banking systems may affect the usage of the systems. Tashmia & Khumbula (2011) used the construct perceived credibility which means as the extent to which a person believes that using mobile banking will have no security or privacy threats. In the same studies, a lack of credibility will be considered to be similar to security and privacy risk. Meanwhile, Luarn and Lin (2005) and Amin et al. (2008) supported security and privacy as two important dimensions under the construct of perceived credibility. Several studies have supported the main cause that people unwilling to use mobile banking because of perceived credibility. The study show that perceived credibility significantly affects people intention to use mobile banking (Chian, 2012). An adoption of mobile banking the customer very concern about security and privacy. Therefore, security and privacy will influence the mobile banking adoption.

RESEARCH FRAMEWORK



HYPOTHESIS

H1: Perceived ease of use has significant relationship towards mobile banking adoption.

H2: Privacy and security has significant relationship towards mobile banking adoption

SAMPLING AND DATA COLLECTION

POPULATION

Population refers to the entire group of people, events, and things of interest that the researcher wishes to investigate. For this study, the population refers to all customers using mobile banking from all branches of CIMB Bank Berhad in Kuala Terengganu area.

SAMPLE

Convenience sampling is used in selecting the sample subjects. The respondents are customers from CIMB Bank Berhad in Kuala Terengganu who have mobile phones and adopted mobile banking facility. Since mobile banking is relatively up-to-date in Malaysia, this research focuses on the adoption of bank customers to use it for financial transactions. The respondents are randomly selected from bank customers in the banking halls and invited to complete the questionnaires.

DATA COLLECTION METHOD

For the purpose of this research, the researcher uses both primary and secondary sources to gather data for the study. The primary sources are gathering by distribution of questionnaire to customer at CIMB Bank Berhad, Kuala Terengganu. For this study, the researcher distributes 200 set of questionnaires to all customers CIMB Bank that choose randomly, uncluckly only 150 out of them were valid. The secondary sources were collected from the journal, newspaper and internet.

INSTRUMENT

The structured questionnaires were used in gathering data for the study. The questionnaires have been designed properly in order to get the maximum accuracy information and the questionnaire also designed in easy way in order to make respondent clear about the questions. The questionnaires were designed into section by section. There are five sections in the questionnaire which are demographic profiles, mobile banking adoption, perceived of useful, security and privacy, the last one is open ended question.

DATA ANALYSIS

Data was analysed by using Statistical Package Social Science (SPSS). SPSS is a sophisticated piece of software used by social scientists and related professionals for statistical analysis. It can perform variety of data analysis including statistical analysis and graphical presentation of data. Other than that, it is also used to identify relationship between two or more variables. Meaning that, it involves the process of hypothesis testing.

FINDINGS

Frequency table

Table 2: Result of Perceived ease of use in Frequencies Analysis Variables

ITEMS ON PERECEIVED EASE OF USE	N		Mean	Std. Deviation	Skewness
	Valid	Missing			
PEOU: Easy to conduct banking transaction	149	1	4.07 ^a	.684	-.086
PEOU: Does not require a lot of mental effort	148	2	3.84	.667	.187
PEOU: MB is very convenient	150	0	4.05	.663	-.059
PEOU: MB will make your life become easier	150	0	3.74	.561	.007
PEOU: MB is less time consuming	150	0	3.63 ^b	.719	-.180

a. THE HIGHEST MEAN SCORE
b. THE LOWEST MEAN SCORE

Table 2 shows the items used to measure the level of perceived ease of use towards mobile banking adoption. The highest mean score is ‘Easy to conduct banking transaction’ which 4.07 and the lowest mean score is ‘Mobile Banking is less time consuming’ which 3.63. Besides, the highest standard deviation is ‘Mobile Banking is less time consuming’ which 0.719 and the lowest standard deviation is ‘Mobile Banking will make your life become easier’ which 0.561.

Table 3: Result of Perceived ease of use in Frequencies Analysis Variables

DESCRIPTIVE ON SECURITY AND PRIVACY

ITEMS ON SECURITY AND PRIVACY	N		Mean	Std. Deviation	Skewness
	Valid	Missing			
SP: MB is financially secure	150	0	3.43 ^b	.855	-.116
SP: Confident while using this svcs	150	0	3.79	.574	.033
SP: Trust in this svcs	150	0	3.73	.587	.132
SP: Do not worried about the security of MB	149	1	3.59	.707	.196
SP: Details of any transaction is guarantee safe	150	0	4.13 ^a	.662	-.152

a. THE HIGHEST MEAN SCORE

b. THE LOWEST MEAN SCORE

Table 3 shows that the items used to measure the level of security and privacy towards mobile banking adoption. The highest mean score is ‘Details of any transaction is guarantee safe’ which 4.13 and the lowest mean score is ‘Mobile Banking is financially secure’ which 3.43. Besides, the highest standard deviation is ‘Details of any transaction is guarantee safe’ which 0.855 and the lowest standard deviation is ‘Confident while using this services’ which 0.574.

Correlation analysis

Table 4: Correlations between mobile banking adoption and perceived ease of use

		Correlations	
		Mean Mobile banking adoption	Mean Perceived ease of use
Mean Mobile banking adoption	Pearson Correlation	1	.107
	Sig. (2-tailed)		.193
	N	150	150
Mean Perceived ease of use	Pearson Correlation	.107	1
	Sig. (2-tailed)	.193	
	N	150	150

Based on the measurement scale given, the result of Pearson Correlation test showed that there is very weak relationship between two variables which is 0.107. However, the two-tailed significance test is $p = 0.193$ which is more than significance level of 0.05 showing that the outcome of the test is by chance, and therefore cannot be confidently accepted. The result confirms to reject H1. **Therefore, there is no significant relationship between perceived ease of use and mobile banking adoption.**

Table 5: Correlations between mobile banking adoption and security and privacy

		Correlations	
		Mean Mobile banking adoption	Mean security and privacy
Mean Mobile banking adoption	Pearson Correlation	1	.283**
	Sig. (2-tailed)		.000
	N	150	150
Mean security and privacy	Pearson Correlation	.283**	1
	Sig. (2-tailed)	.000	
	N	150	150

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the measurement scale given, the result of Pearson Correlation test showed that there is weak relationship between two variables which is 0.283. However, the two-tailed significance test is $p = 0.000$ which is less than significance level of 0.05 showing that the outcome of the test is by chance, and therefore can be confidently accepted. The result confirms to accept H2.

Therefore, there is significant relationship between mobile banking adoption and security and privacy.

CONCLUSION

This study was undertaken to identify and create a better understanding about the factors that influence mobile banking adoption. The result from the analysis shows only security and privacy has significant relationship with the mobile banking adoption. It possibly because of the advanced technology practices by the bank that can ensure all the detail of customer is guarantee safe. Then, the remain independent variable which is perceived ease of use do not significant with mobile banking adoption. It is because the customers of CIMB still do not think this service is easy to conduct and it might be the lack of knowledge about technology. Mobile banking is still relatively new in Malaysia, an understanding of the factors affecting customer adoption to use mobile banking may important for the researcher and marketer. The collections of information in this study very useful to help them analyze the profile of consumers. This is importance in identifying their potential customers thus design more accurate targeting and positioning strategies. Meanwhile researchers need such instruments and information to use in further studies by focusing on different factors and measurements. Moreover, this information helps them in creating new theories and or test existing hypotheses (Ackroyd & Hughes, 1981). Finally, consumers need the information from this study as a guideline to be more effective and efficient in dealing with financial institutions. Therefore, in order to achieve the implementation of mobile banking services the bank should do a lot of promotions and incentives to increase the level of awareness among the customers.

FUTURE RESEARCH

The researchers need to focus on more variables so it can give more accurate result from the analysis. It is important to identify which variable can influence mobile banking adoption. Besides, it is necessary to expand this study by focusing the race, religion and level of academic. Therefore, it will help the bankers in targeting and segmenting their marketing strategies in their business.

REFERENCES

- Abdoul Reza, B. et al. (2011). *Assessing the Mobile Banking Adoption Based on the Decomposed Theory of Planned Behavior*, European Journal of Economics, Finance and Administrative Sciences – Issue 28 (2011).
- Amin, H. (2008). *Factors affecting the intentions of customers in Malaysia to use mobile phone credit cards*, Management Research News, Vol. 31 Issue: 7, pp.493-503, <https://doi.org/10.1108/01409170810876062>
- Bank Negara Malaysia (2012).
http://www.bnm.gov.my/index.php?ch=ps&pg=ps_regulatees&eld=box1
Retrieved 17 October 2012.
- Chian, S. Y. (2012). *Factors Affecting Individuals to Adopt Mobile Banking: Empirical Evidence from the Utaut Model*, Journal of Electronic Commerce Research, Vol 13, No 2.
- Ching, M. C. et al. (2011). *Factors Affecting Malaysian Mobile Banking Adoption*, An Empirical Analysis International Journal of Network and Mobile Technologies, Vol 2 / Issue 3.
- Chung, N. & Kwon., N. J. (2009). *The Effects of Customers' Mobile Experience and Technical Support on the Intention to Use Mobile Banking*, Cyber Psychology and Behavior, Vol. 12, No. 5, pp. 539-543, 2009.
- Lee, Y. K. et al. (2008). *An Exploratory Study of Factors Affecting Usage Intention Toward Mobile Banking: A Unified Perspective Using Structural Equation Modeling*, Society for Marketing Advances Proceedings, 2008.
- Luarn, P., & Lin, H.H. (2005). *Toward an Understanding of the Behavioral Intention to Use Mobile Banking*, *Computers in Human Behavior*, 21(6), 873-891.
<http://dx.doi.org/10.1016/j.chb.2004.03.003>
- Negash, S. (2011). *Mobile Banking Adoption in the United States: Adapting mobile banking features from low-income countries*, Proceedings of SIG GlobDev Fourth Annual Workshop, Shanghai, China December 3, (2011)
- Omwansa, T. K. et al. (2012). *Application of Technology Acceptance Model (TAM) in M-Banking Adoption in Kenya*, International Journal of Computing and ICT Research, Vol. 6, Issue 1.
- Rahmath, S. et al. (2011). *Customer's Adoption of Mobile-Commerce: A Study on Emerging Economy*, International Journal of e-Education, e-Business, e-Management and e-Learning, Vol. 1, No. 3, August 2011.
- Sharma, A. & Kansal, V. (2012). *Mobile Banking as Technology Adoption and Challenges: A Case of M-Banking in India*, International Journal of Scientific and Research Publications, Vol 2, Issue 2, February 2012.
- Tashmia, I. & Khumbula, M. (2011). *Mobile Banking: Innovation for the Poor*, United Nations University Working paper series. Available <http://www.merit.unu.edu/publications/wppdf/2011/wp2011074.pdf>, [Accessed on: 21 October 2014].
- Zohra, S. & Kashif, R. (2011). *Relationship between Customer Satisfaction and Mobile Banking Adoption in Pakistan*, International Journal of Trade, Economics and Finance, Vol. 2, No. 6.

Rubiah Abu Bakar
Academy of Contemporary Islamic Study
Universiti Teknologi MARA Cawangan Terengganu
Kampus Kuala Terengganu, 21080, Kuala Terengganu, Malaysia
Email: Rubiah73@tganu.uitm.edu.my

Najdah Abd Aziz
Faculty of Business and Management
Universiti Teknologi MARA Cawangan Terengganu
Kampus Bukit Besi, 23200, Dungun, Terengganu, Malaysia
Email: najdahaziz@yahoo.com

Adida Muhammad
Faculty of Applied Science
Universiti Teknologi MARA Cawangan Terengganu
Kampus Kuala Terengganu, 21080, Kuala Terengganu, Malaysia
Email: adida109@tganu.uitm.edu.my

Mazura Muda
Faculty of Business and Management
Universiti Teknologi MARA Cawangan Terengganu
Kampus Dungun, 23000, Dungun, Terengganu, Malaysia
Email: Zuzu@yahoo.com