Review Article

Attitude Towards Using Mobile Banking in Malaysia: A Conceptual Framework

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ABSTRACT

Despite various researches has been carried out on mobile banking adoption but only a small quantity of studies were conducted in Malaysia. As a result, literature on the key determinants of the intention to adopt mobile banking within Malaysia is insufficient. Therefore, there is a need to comprehend the factors influencing the intention to adopt mobile banking services in the Malaysian market. This research fills the gap by integrating Technology Acceptance Model (TAM) with perceived risk and perceived cost. The main objective of the study is to determine the factors that influences the intention to adopt mobile banking services. This conceptual study reviews the past literatures and proposes eight research hypotheses interlinking eight variables that are Usefulness, Easefulness, Relative advantage, Perceived risk, Attitude Towards Using, Perceived Cost, Age, Education and Intention to Adopt Mobile Banking. The paper concludes with a discussion of the future of mobile banking in Malaysia.

Keywords: Technology Acceptance Model, Relative advantage, Perceived Risk, Perceived Cost, Age, Education

1. INTRODUCTION

The development of the banking industry in Malaysia is also shaped by the rapid growth of telecommunication industry. The deployment of technology in financial services has changed the nature of selling and buying financial services [1]. In response to the technological evolution, banks have adopted strategies by offering better products and services while decreasing and building customer satisfaction concurrently [2]. Besides that, improved network bandwidth and wireless application technologies have developed opportunities for outspread deployment and usage of mobile commerce services [3]. There are several studies that have investigated the technology adoption but not many researches is done on the intention to adopt mobile banking within the telecommunication industry perspective in Malaysia. Mobile banking is still in its conception stage in Malaysia [4]. Mobile banking is elucidated as the ability to conduct bank transactions via a mobile device, or more broadly to conduct financial transactions via a mobile terminal [5]. Similarly, [6] defined mobile banking as “a channel whereby the customer interacts with a bank via mobile device, such as a mobile phone or personal digital assistant (PDA)”.

Innovative mobile applications are developed in tandem with the mobile banking evolution. In May 2009, Maybank became the first financial institution in Malaysia to introduce a free banking application, M2UMap on the newly launched iPhone [7]. Later, CIMB Clicks was introduced by CIMB Bank Berhad which went on to be the most popular and widely used banking app in Malaysia. Ostensibly, almost all the banks in Malaysia offers mobile banking services such as Al Rajhi Banking & Investment Corporation (Malaysia) Berhad, AmBank (M) Berhad, Bank Islam Malaysia Berhad, Bank Simpanan Nasional, CIMB Bank Berhad, Citibank Berhad, Hong Leong Bank Berhad, Malayan Banking Berhad, OCBC

Bank (Malaysia) Berhad, Public Bank Berhad, RHB Bank Berhad, and Standard Chartered Bank Malaysia Berhad [8]. After a successful pilot test, Malaysian Electronic Clearing Corporation Sdn Bhd launched "MyMobile", in 2013 which connects Maybank, CIMB Bank and Public Bank offered inter-bank funds transfer and a range of other banking services [9].

In September, 2014, Maybank launched Maybank2u App which created success with more than one million downloads. It went on to develop another App known as Quick Balance in February, 2015 which provides customers to only view their account and card balances on mobile devices which caters customers who purely want to check balances [10]. This holds true when in 2014, Bank Negara Malaysia reported that there are 5.639 million subscribers of mobile banking services' in Malaysia while Malaysian Communications and Multimedia Commission reported that Malaysia's mobile phone penetration rate is as high as 145% in the Q3 2014. If we compare the mobile banking services' subscribers to the mobile phone penetration rate, it is relatively low. Furthermore, the transaction volume via mobile banking per capita is comparatively low with other payments methods [11, 12].

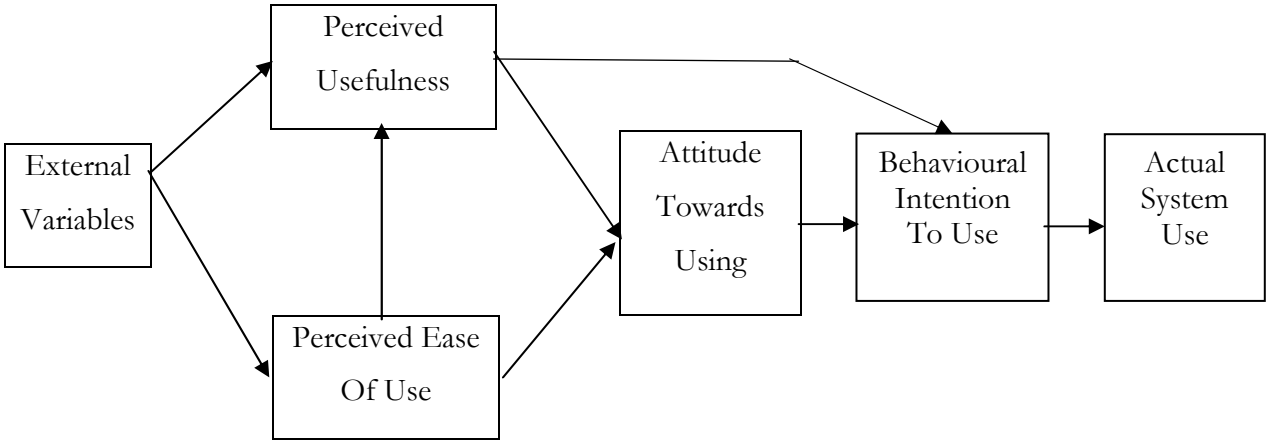
Hence, this conceptual paper determines the factors influencing the intention to adopt mobile banking services in the Malaysian telecommunication industry perspective by incorporating.

2. LITERATURE REVIEW

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was proposed by Fred Davis. He advocated that external stimulus comprising actual system's features and capabilities influences the users' motivation to use the system which predict the usage of the system. Davis further proposed that users' motivation of actual usage are determined by three factors that are perceived ease of use, perceived usefulness and attitude towards using a system which is mediated by their behavioural intention to use as shown in Figure 1. Perceived usefulness is illustrated as the degree to which a person believes that using a particular system would enhance his or her job performance. In contrast, perceived ease of use is explained as the degree to which a person believes that using a particular system would be free of effort [13].

Figure 1: Technology Acceptance Model [13]



[14] examined the factors affecting user's behavioral intention to adopt mobile knowledge managements in Taiwan which revealed that perceived usefulness and perceived ease of use significantly influences the consumers' attitude. Additionally, perceived ease of use exhibited significant effect on perceived usefulness. Apparently, attitude significantly effects their behavioral intentions too.

[15] studied the customer acceptance of internet banking in Brunei Darussalam and found that perceived ease of use affects significantly the intention to use the internet banking service. [16] investigated the e-filing behaviour among academics in Perak state in Malaysia which revealed that perceived use of use and perceived usefulness do influence the Perak state academic's e-filing adoption intention. [17] examined the factors that influences students' desire in using the loaning institutions websites for loan applications among university students in Kenya which found a significant influence of perceived usefulness on the behavioral intention of adopting websites as a loan applications channel. Besides that, its observed that students' perceived ease of use influences their perceived usefulness too.

[18] investigated the electronic banking acceptance in conditions of Slovak retail banking market which revealed that perceived usefulness has a positive effect on consumers' acceptance of electronic banking. [19] probed the technology acceptance of prospective English teachers in Ankara, Turkey which revealed that perceived usefulness and perceived ease of use has a positive effect on English teachers' attitudes towards using technology. Consistently, perceived ease of use positively influences perceived usefulness. Interchangeably, the English teachers' attitudes significantly affects their behavioral intention to use technology in classes.

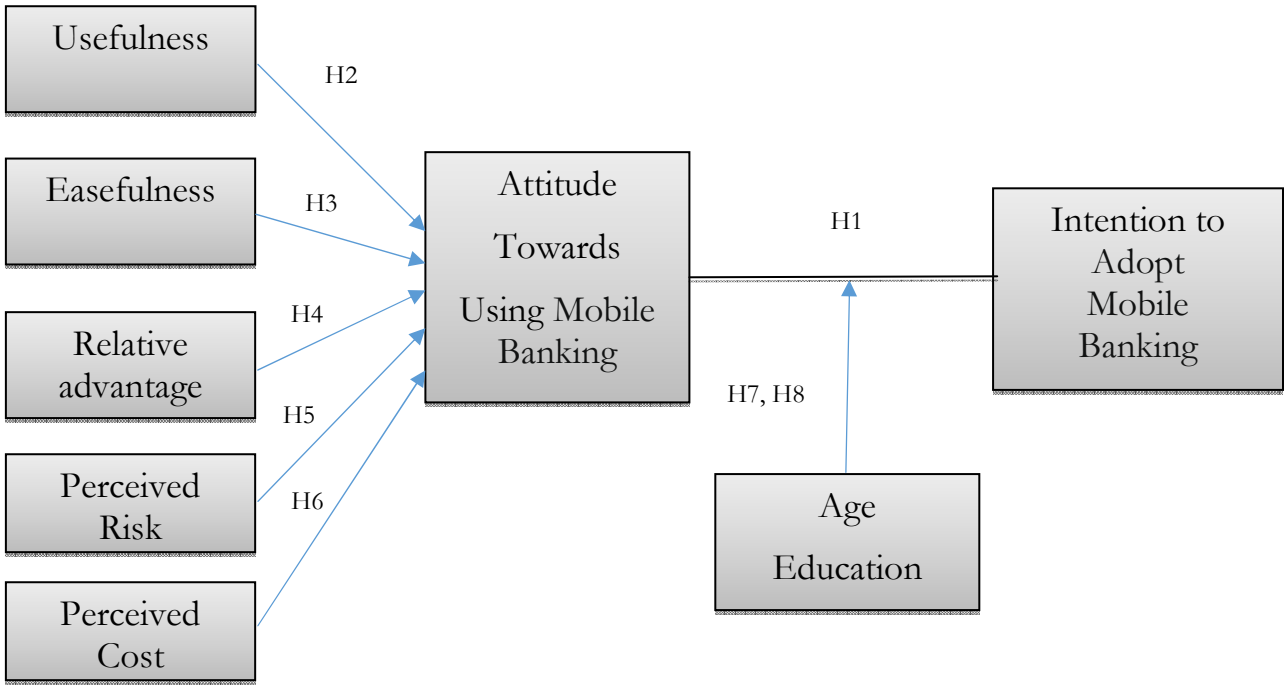
[20] examined the consumer participation in online product recommendation services among online consumers that revealed that perceived ease of use of recommendation agents has significant effect on its perceived usefulness. On the other hand, perceived usefulness displayed significant effect on consumers' intention to reuse the recommendation agents. [21] examined the adoption factors of Korean smartphones at Jinju-Si in Korea which posits that perceived ease of use and perceived usefulness have a positive effect on attitude of smartphone users adoption. Attitude and perceived usefulness is found to be significant predictor of intent to use the smartphone. Also, perceived ease of use also affects the on intention to use.

[22] investigated the experience factors related to students' perceptions of eTexts among undergraduate students at a Canadian open university which revealed that perceived ease of use is associated with behavioural intention to use. [23] investigated the academic researchers' absorptive capacity influence on collaborative technologies acceptance in Malaysia whereby they empirically identified significant effects of perceived usefulness and perceived ease of use of collaborative technologies on their behavioral intention towards the acceptance it.

[24] examined the ICT adoption behavior of rural young entrepreneurs in in four states of peninsular Malaysia that are Negeri Sembilan, Selangor, Perlis, and Terengganu. The result shows that perceived usefulness and attitudes are significantly related to entrepreneurial intention. Besides that, attitude mediates the effects of perceived usefulness on entrepreneurial intention significantly. Moreover, perceived usefulness influences attitude significantly. [25] investigated the broadband television users' continuance intention to use in Taiwan that revealed that perceived ease of use of broadband television influences consumers' attitude to use it. Furthermore, users' attitude to use has significant effect on their intention to continue to use the broadband television.

3. Conceptual Framework

Figure 2: Conceptual Framework



Intention to Adopt and Attitude Towards Using Mobile Banking

In Brazil, consumers' attitude influences the consumers' intention to adopt mobile banking technology [26]. Similarly, the effects of attitude towards mobile banking adoption is significant in United Arab Emirates [27]. Comparably, attitude has a significant effect on the intention to use mobile banking among Spanish consumers' [28]. Moreover, attitude significantly influences consumers' behavioral intention to switch from online banking to mobile banking [29]. Additionally, in Johannesburg, Republic of South Africa, its found that the attitude of consumers' significantly influences the consumers' intention to adopt mobile banking applications [30]. Consistently, its delineated that consumers' attitudes towards the use of mobile banking in Iran influences their intention to continue using mobile banking [31].

H_1: There is a relationship between Attitude Towards Using and Intention to Adopt mobile banking.

Usefulness & Easefulness of Mobile Banking

Perceived usefulness has a significant effect on consumer's attitude towards mobile banking adoption in Ghana [32]. At the bottom of the pyramid in South Africa, perceived usefulness and perceived ease of use has a significant effect impact on the adoption of mobile banking [33]. Apparently, perceived ease of use induces intention to use mobile banking among university students in South Africa [34]. Interchangeably, the perceived ease of use of short message service (SMS) mobile banking has a significant influence on the adoption of SMS banking in the West Nile Region in Uganda [35]. Persistently, the study of M-commerce adoption in Oman shows that perceived usefulness and perceived ease of use has significant effects on the adoption of M-commerce services [36]. In addition, both perceived ease of use and perceived usefulness of mobile banking exhibits significant effect on users' attitudes towards use of mobile banking in Iran [32]. In the same manner, another study found that perceived ease of use and perceived usefulness of mobile banking services influences consumers' attitude toward mobile banking significantly in Tehran, Iran [37].

H_2: There is a relationship between Usefulness and Attitude Towards Using mobile banking.

H_3: There is a relationship between Easefulness and Attitude Towards Using mobile banking.

Relative advantage of Mobile Banking

Relative advantage is defined as the degree to which an innovation is perceived better than the ideas it supersedes [38]. Relative advantage influences the Brazilian's adoption intention of mobile banking services [39]. Intriguingly, investigation of the factors affecting the mobile banking adoption in Saudi Arabia that revealed that relative advantage has a significant effect on mobile banking adoption [40]. Interestingly, relative advantage is significantly related to the intention to use mobile banking in Mauritius [41]. The relative advantage of mobile banking services is a significant determinant in predicting mobile banking adoption in Taiwan [42]. Furthermore, relative advantage is found to be statistically significant with the intention to use mobile banking services in Bangladesh [43]. Consumers attitude of switching from online banking to mobile banking are significantly influenced by the relative advantages of mobile banking [29]. Allegedly, relative advantage of mobile banking has a significant effect on consumers' attitude in Banda Aceh, Indonesia [44]. Moreover, a study of the challenges affecting adoption and use of mobile banking done in Kenya revealed that there exists a strong, positive and significant relationship between relative advantage and adoption of mobile banking [45].

H_4: There is a relationship between Relative advantage and Attitude Towards Using mobile banking.

Perceived Risk of Mobile Banking

Perceived risk is defined as the nature and amount of risk perceived by a consumer in contemplating a particular purchase decision. Basically, perceived risk by the consumer is a function of the amount at stake in the purchase decision, and the individual's feeling of subjective certainty that he or she will win or lose all or some of the amount at stake [46]. Perceived risk has a significant influence on the Brazilian's adoption intention of mobile banking services [39]. Also, perceived risk has a significant effect on consumer's attitude towards and intention to use mobile banking adoption among Australian consumers [47].

Apart from that, perceived risk of mobile money transfer service in Ghana significantly influences customers' intention to use it [48].

Perceived risk has a significant effect on the mobile banking adoption in Saudi Arabia [40]. Similarly, in Pakistan its identified that consumers' intention to adopt mobile banking services was significantly influenced by perceived risk [49]. In Taiwan, consumers' demonstrated that perceived risk affects their attitudes towards adopting the mobile banking services and the intention to use it [42]. Risk also has a significant effect on among Spanish consumers' intention to use mobile banking [28]. Indistinguishably, perceived risk is a significant predictor for user resistance towards adopting mobile banking services in China [50]. In addition, perceived risk affects consumers' intention to adopt mobile banking in Saudi Arabia [51]. Moreover, perceived risk is a significant predictor of adoption of mobile banking in Iran [52]. In addition, perceived risk affects consumers' attitude toward using the internet banking in Bangladesh [53]. Furthermore, in Bangladesh itself, perceived risk has significant influence over consumers' behavioral intention in adopting or to continue use mobile banking [54].

H_5: There is a relationship between Perceived Risk and Attitude Towards Using mobile banking.

Perceived Cost of Mobile Banking

Perceived cost is defined as the extent to which a person believes that using mobile banking will cost money [55]. Cost is significant factor of behavioral intention to use [56]. Perceived cost is a significant barrier on the Brazilian's adoption intention of mobile banking services [39]. Homogeneously, perceived cost is a significant predictor of adoption of mobile banking among young consumers' in Germany [57]. Similarly, cost has a significant effect on consumer's attitude towards and intention to use mobile banking adoption among Australians [47]. In Taiwan, perceived financial cost of mobile banking significantly influences individuals' intention to adopt mobile banking [58]. Similarly, perceived cost has significant effect on the adoption of m-banking in rural Bangladesh [59]. Nevertheless, its also identified that perceived cost influences the adoption of mobile commerce by online consumers [60]. The behavioral intention to use the internet banking is effected by the perceived financial cost [61]. [52] found that perceived cost is a significant predictor of adoption of mobile banking in Iran. Perceived financial cost has significant influence over consumers' behavioral intention in adopting mobile banking in Bangladesh [53].

H_6: There is a relationship between Perceived Cost and Attitude Towards Using mobile banking.

Demographic Characteristics

Demographic characteristics is been used by many researchers to improve the explanatory power of consumer's intention to adopt new technologies. Consumers vary in various ways. One method is to categorize them is via education. Education level is a way to place them in groups. Most researches concentrate on consumer education which means that the emphasis is on educating consumers to be effective and sensitive customers. But limited studies have looked into the area of the education level of the consumers itself. An undergraduate will make decisions in a different manner than a doctorate [62, 63]. [64] found that age has a significant impact on users' intention to adopt electronic banking technologies in the United States of America.

In Greece [65] found that consumer's age and education influences the decision of internet banking adopters. [66] examined the mothers' attitude towards over weight preschool children's nutritional patterns in Iran which revealed that parents' education level

significantly influences their attitude and behavioral intention about nutritional patterns. [67] found that education level significantly influences the Iranian high school teachers' perceived ease of use when dealing with technology acceptance decision making. [59] learned that education is a demographic factor that has significant effect on the adoption of m-banking in rural Bangladesh. Consumers' age and income displayed significant effect on individual's attitudes to adopt mobile payment services in Sweden [68].

H_7: There is a relationship between Age and Intention to Adopt mobile banking.

H_8: There is a relationship between Education and Intention to Adopt mobile banking.

Based on established relationship found by previous scholars, a conceptual framework is developed for these variables involved in this study which consists of Usefulness, Easefulness, Relative advantage, Perceived risk, Attitude Towards Using, Perceived Cost, Age, Education and Intention to Adopt Mobile Banking as shown in Figure 2.

4. DISCUSSION

Perceived ease of use and perceived usefulness of mobile banking services influences consumers' attitude toward mobile banking significantly in Iran [37]. The effect of diffusion of innovation aspect, relative advantage of mobile banking is significant toward intention to use mobile banking through the consumer attitudes in Indonesia [44]. Even in Kenya, there exists a strong, positive and significant relationship between relative advantage and adoption of mobile banking [47]. Furthermore, [52] found that perceived risk is a significant predictor of adoption of mobile banking in Iran. Moreover, [42] also found that perceived risk influences consumer attitudes towards mobile banking services. [53] found that perceived risk and perceived financial cost has significant influence over consumers' behavioral intention in adopting or to continue use mobile banking in Bangladesh. The age and income of consumers' displayed significant effect on individual's attitudes to adopt mobile payment services in Sweden [68].

5. CONCLUSION

Mobile banking is relatively a new area in Malaysia with limited studies about it in the Malaysian context [4]. Most mobile banking related studies have been conducted in Western countries and samples include mainly university students or a particular user group. In addition, most studies have ignored the mediating and moderating effects on the intention to adopt mobile banking services. This research is an addition to the limited number of literatures and also fills the gaps of previous studies. The principal aim of this research was to identify the factors that influence the intention to adopt mobile banking services among Malaysians.

This research can be useful for future researchers in this mobile banking domain. It updates the knowledge of the behavioral intention to adopt mobile banking. Besides that, the findings of this study that will provide an insight to the knowledge of behaviour and expectations of Malaysians will help banks, mobile banking service providers and mobile banking app developers that intend to venture or expand into the Malaysian market to make the right decision and policy in the future in order to stimulate the growth of mobile banking. Apart from that, they can use the findings of this research as a reference to improve their marketing strategy in capturing the market share by providing a more personalized service to the customers. Ultimately, it will contribute to the country's economic growth. Hence, this conceptual paper is a good starting point.

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