Examining Factors That Influence The Usage Of Transact At Palm (TAP) Mobile Banking In Malaysia

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ABSTRACT

The objective of this research is to examine factors that influence the usage of Transact At Palm (TAP) Mobile Banking-i. The questionnaire will be distributed to a targeted population of the Bank Islam mobile banking customer. This study is perhaps one of the first the concentrates on TAP Mobile Banking-i.

Key words: Mobile banking, TAP mobile banking, Bank Islam

Introduction

As part of Bank Islam's continuous effort to improve its range of products, and services, the Bank has launched TAP Mobile Banking-i an enhanced version of SMS banking. The Bank are the first bank in Malaysia that offers one of a kind mobile banking without using any internet line to its customers as another alternative for its existing internet banking services. TAP Mobile Banking-i uses innovative smart card technology that displays a similar banking menu to ATM menu on user’s mobile phone, A screen that most customers are familiar with, thus take no hassles in remembering to keywords/commands or download applications. This is the expansion or enhancement of other bank existing current Short Messaging System (SMS) Banking. At this juncture, TAP focuses on local services like payment of bills, mobile pre-paid top-ups and inter-bank money transfers, before expanding into international services. The functionality of a mobile banking service increases user’s satisfaction. Furthermore, it creates the value for customers’ banking transaction as a wireless service delivery channel. However, it is a still minority of people using mobile banking in the market; a recent research has found that in Ireland approximately 1% of consumers’ use mobile banking while nearly 90% of the population has mobile phones (Foley, 2005). The use of mobile banking only focuses on basic functions provided by the mobile banking service rather than more complex ones. A recent Forrester research survey question asked: “What mobile banking activities would you mostly be interested in?” as seen in Figure 1 (Foley, 2005).

![Fig. 1: Mobile banking activities](source: ireach, www.ireach.ie)
As figure 1 show, most consumers did not use mobile banking at all. Those that used this service used it only for simple functions like checking account balances. More complicated functions of mobile banking have not been considered. Bank Islam Malaysia Berhad has introduced the first SIM card based mobile banking operations called Transact At Palm Mobile Banking-i (TAP Mobile Banking-i) to the market. Even though the number of customers has increased from month to month, the level of usage remains staggered which is below from the business target. Some prior work in the area of mobile business models and mobile services including mobile banking, has highlighted some of the more general issues related to the spread of mobile services and the shaping of the mobile business ‘landscape’ (Petrova, 2004; Petrova, 2005; Petrova and Qu, 2006). However, there is a still need to explore factors which influence the use of Bank Islam TAP Mobile Banking-i and more specifically, the factors limiting the use of the corresponding services available, as research results obtained from current study may not be entirely relevant to Bank Islam. Therefore, this study will focus in measuring the factors that influence the customers to use the services offered by Bank Islam TAP Mobile Banking-i. The outcomes of the study might serve to provide recommendations to Bank Islam especially the Deposit and Transaction Services Department, mobile banking sector and to the banking industry as well as the mobile phone industry. Thus based on the above statement the specific objectives of this study are:

1. To examine the factors that influence customers to use Bank Islam TAP Mobile Banking-i services as offered Bank Islam.
2. To identify the issues related to the slow adoption process towards Bank Islam TAP Mobile Banking-i.
3. To identify Bank Islam TAP Mobile Banking-i current strength, weaknesses, opportunities and threat.

**Bank Islam Mobile Banking TAP-i:**

TAP Mobile Banking-i (‘TAP-i’) offering, the first of its kind mobile banking product which does not require the use of Internet. TAP-i has contributed immensely to eliminating the cumbersome aspects of typical mobile banking services and making them accessible to everyone. Easy to apply, to use and highly secure, the product has been instrumental in promoting increased usage of mobile banking services among the masses. Drexelius and Herzig (2001) defined mobile banking as the ability to conduct banking transactions via a mobile device, or more broadly to conduct financial transactions via a mobile terminal. On the other hand, Barnes and Corbitt (2003) 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)”. In 2013 the Mobile TAP-i has been award The Trailblazer Awards, organized by Banking and Payments Asia is acknowledged as one of Asia’s most reputable programmes for the retail banking and payments industry. Now in its fourth year, the award was created to recognize and credit outstanding financial institutions and individuals that have exhibited a high degree of innovation and enterprise in product development, service delivery or process improvement. This awards features participation from over 40 retail banks across the Asia Pacific region and more than 100 submissions were received.

**TAP Mobile Banking-i Customers Satisfaction:**

Satisfaction is a person’s feelings of pleasure or disappointment resulting from comparing a product’s perceived performance in relation to his or her expectations. If the performance falls short of expectations, the customer is dissatisfied. Kotler (2000) defined satisfaction as: “a person’s feeling of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations” If the performance matches the expectations, the customer is satisfied. If the performance exceeds expectations, the customer is highly satisfied or delighted. According to Oliver (1980), the customer satisfaction model explains that when the customers compare their perceptions of actual products/services performance with the expectations, then the feelings of satisfaction have arisen. Any discrepancies between the expectations and the performance create the disconfirmation. The working of the customer’s mind is a mystery which is difficult to solve and understanding the nuances of what customer satisfaction is, a challenging task. This exercise in the context of the banking industry will give us an insight into the parameters of customer satisfaction and their measurement. This vital information will help us to build satisfaction amongst the customers and customer loyalty in the long run which is an integral part of any business. The customer's requirements must be translated and quantified into measurable targets.

This provides an easy way to monitor improvements, and deciding upon the attributes that need to be concentrated on in order to improve customer satisfaction. We can recognize where we need to make changes to create improvements and determine if these changes, after implemented, have led to increased customer satisfaction. It serves to link processes culminating purchase and consumption with post purchase Global Banking Survey: A New Era of Customer Satisfaction with 37 Reference to India phenomena such as attitude change, repeat purchase, and brand loyalty (Surprenant and Churchill, 1982). This definition is supported by

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Jamal and Nasser (2003) and Mishra (2009). "If you cannot measure it, you cannot improve it." - Lord William Thomson Kelvin 1824-1907. Consequently the spatial and temporal distance between need recognition and need satisfaction can be considered important for doing banking via mobile phone. The ability to allow consumers to have more control over their financial situation is one attraction of mobile banking services (Laukkanen and Lauronen, 2005), as the consumer prefers to act for himself/herself when dealing with his/her own monetary transactions through the mobile device. Luakkanen (2005) found that the flexibility of being able to use the service wherever and whenever the users want enables immediate completion of banking tasks (transferring money or paying a bill). This would save time and be perceived as convenient and efficient. The bank provides several services through mobile media.

Review of Literature:

TAM and Extended TAM:

The Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989) has been widely used and adopted to understand user acceptance of IT/IS. TAM was adapted from the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975) which is a general, theory of human behavior. TAM is specific to IT/IS usage (Mathieson et al., 2001) and valid in predicting the individual’s acceptance of various corporate IT systems (Adams et al., 1992; Chin and Todd, 1995; Doll et al., 1998; Segars and Grover, 1993). “The Technology Acceptance Model (TAM) is an information systems (System consisting of the network of all communication channels used within an organization) theory that models how users come to accept and use a technology” (Mazha, 2006). TAM focuses on IS use based on social psychology theory, and has valid and reliable instruments (Luarn and Lin, 2004). As defined by Davis (1989), two basic determinants – perceived usefulness and perceived ease of use are instrumental in explaining the users’ intention and behaviour towards the use of new technology. Perceived usefulness was defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Ibid, p.320), While perceived ease of use was defined as “the degree to which a person believes that using a particular system would be free from effort” (Ibid, p.320). As noted by Davis (1989), future research of IS/IT usage has to address the other variables which affect usefulness, ease of use and user acceptance. Consequently these two determinants may not fully explain the factors which predict the acceptance of a technology application such as mobile banking. Prior studies have extended the original TAM with added constructs such as perceived playfulness (Moon and Kim, 2001), perceived enjoyment (Koufaris, 2002) and perceived credibility (Wang et al., 2003). Luarn and Lin (2004) added some constructs into the original TAM model to facilitate understanding of the intention to use mobile banking in Taiwan. The extended TAM was adopted and used in this research. Luarn and Lin (2004) modified the original TAM by adding perceived credibility which was defined by Wang et al (2003), perceived self-efficacy which was confirmed by several prior studies (Agarwal et al., 2000; Chau, 2001; Hong et al., 2001; Johnson and Marakas, 2000), and perceived financial cost which was found in Mathieson et al (2001).

Service quality:

The gap between customers’ expectation and real performance of a service is termed as service quality (Parasuraman et al., 1985; 1988). Parasuraman et al., (1988) developed the SERVQUAL model as mentioning five dimensions such as tangibility, responsiveness, reliability, assurance, and empathy. In 1992, Cronin and Taylor proposed the alternative method, referred to as SERVPERF. They argued that, to assess service quality, perception of customers regarding the performance of service provides better results than using SERVQUAL. Along with other researchers in 1994, Parasuraman et al. also mentioned that measurement method using SERVPERF is better than using SERVQUAL, though SERVQUAL can provide better diagnostic results of service quality. The dimensions (i.e. tangibility, responsiveness, reliability, knowledge, and accessibility) of service quality for mass service as well as banking service will be dominant. Information based, transaction-based and personal services (Laudon, and Laudon, 2002).

Risk and security:

Security and trustworthiness of a service was identified as one of the most important factors within every target customer segment when deciding on the use of a banking service delivery channel. Some agreed that “using mobile phone in banking is trustworthy” (Mattila, 2002, p.10). Fain and Roberts (1997, p.53) defined “risk is a perception of consumer, not a characteristics of a product”. It was found that the security factor could influence consumers’ attitudes towards online banking (Laforet and Li 2005). Furthermore, it was considered to be one of the greatest concerns in adoption of mobile banking services (Luarn and Lin, 2004; Brown et al, 2003), as individuals may worry about security issues during mobile banking service transactions.
such as data input and output mechanisms (Laukkanen and Lauronen, 2005), loss of connection risk (Kuismia et al., 2007; Black et al., 2001) and personal performance mistakes (Laukkanen and Lauronen, 2005; Kuismia et al., 2007). As a result, many people may decide not to use this service and ignore the extra benefits of using mobile banking. However, some previous studies have argued that, on the contrary, security issues were not major obstacles for consumers in adopting mobile banking (Suoranta, 2003; Laukkanen and Lauronen, 2005). It can be concluded that the security aspect is to be investigated as an important element which influences the use of mobile banking. As an example, Soroor (2005; 2006) focused on the security issue in mobile banking and proposed some evaluation techniques which could be used to improve the system in Iran and elsewhere:

1) First, the establishment of a secure channel to provide data confidentiality and integrity between the client and the bank service.

2) Secondly, the authentication of the client at the beginning of a mobile banking session (e.g. entity authentication, transaction authentication).

Socio-economic background and culture:

Customer preferences differ. Different customers may need different features. Demographic profiles can provide an excellent means of discerning which aspect of the population would be a likely target for a particular product or service. Moreover, they can provide a clear view of how key brands are perceived by customers in terms of advantages and disadvantages. However, in the study demographic information is only intended for profiling the respondents. Laforet and Li (2005) found that the lack of understanding of the concepts and benefits was a main barrier to consumers using mobile banking, subsequently, users of mobile banking were not intended to be highly educated and were typically younger people in China; this was in contrast to the situation in the western countries as discussed by Karjaluoto et al. (2002). As discussed by Trappey and Trappey (2001), the Chinese are used to carrying cash, and have little confidence in traditional financial management. Compared other Asian consumers, Chinese consumers seem to be more traditional and less affected by new technology advancements. Heinonen (2004) and Forman and Sriram (1991) found that some customers simply prefer to deal directly with a bank clerk instead of utilizing “arms-length technology” (e.g. mobile banking). In addition, Singh (2004) outlined that males used mobile banking more than females, and mobile banking users tended to come from high-income groups such as small business owners, salaried employees and senior managers. Furthermore, a negative, hard-to-use image (Fain and Roberts, 1997) of technologies and computers may have been perceived by consumers when thinking about using mobile banking. Therefore, the socio-economic background and culture of potential users could be factors that influence the usage of mobile banking.

Service characteristics:

The account balance service is one of the most promising mobile banking services, and is designed to help customers check their account balance and latest transactions immediately anytime/anywhere (Laukkanen, 2007). Luukkanen and Lauronen (2005) found that location free access created convenience in requesting account balances. Furthermore, accessibility and portability are classified as dimensions of convenience in the consumer behavior literatures (Yale and Venkatesh, 1986; Gehrt and Yale, 1993). Consequently the spatial and temporal distance between need recognition and need satisfaction can be considered important for doing banking via mobile phone. The ability to allow consumers to have more control over their financial situation is one attraction of mobile banking services (Laukkanen and Lauronen, 2005), as the consumer prefers to act for himself/herself when dealing with his /her own monetary transactions through the mobile device. Laukkanen (2005) found that the flexibility of being able to use the service wherever and whenever the users want enables immediate completion of banking tasks (transferring money or paying a bill). This would save time and be perceived as convenient and efficient. The bank provides several services through mobile media, information based, transaction–based and personal services (Laudon, and Laudon, 2002). The SMS service is the easiest way to check account balances and latest transactions via mobile phone (Laukkanen, 2007). Laukkanen et al (2007) found that speed of data transmission and the user interface impaired the added value of mobile services. Therefore, the characteristics of the service as perceived by the user and provided by the banking institution and service provider are important factors influencing the usage of mobile banking.

Cost of service and device:

According to Nah, Siau, and Sheng (2005), the cost of mobile devices and mobile services was identified as an investment concern. Luarn and Lin (2004) argued that financial cost was one of the greatest concerns in adoption of mobile banking services. Furthermore, Ram and Sheth (1987; 1989) stated that it was not viable for consumers to change their way of performing their banking tasks without offering a strong performance-to-price advantage. The price of banking services may have an opposite effect with respect to the adoption of mobile
banking, which may result in consumers preferring the traditional banking services (Laukkanen et al., 2007). Users agree to pay a reasonable fee to use this service; however this would depend on the banking and service provider. Provision of a lower service cost is also a major benefit for users using mobile banking and performing banking transaction functions through a mobile device; so the “value for money” barrier may be another factor influencing the adoption of mobile banking services.

Device features:

The somewhat limited input and display capability of current mobile devices is seen as limiting the use of mobile banking applications (Pousttchi, and Schurig, 2004; Laukkanen, and Lauronen, 2005). For example, a mobile phone’s small screen cannot accommodate enough information about an account, and scrolling up and down would be needed. However, the mobile phone device itself may have little effect; Laukkanen (2007) found that when customers had experience in using a mobile phone service, they did not stress the importance of screen size in the service, but rather focused their attention on the spatial issues in the service consumption. Therefore device features may not be an issue for bank customers when considering using mobile banking.

Service Quality and Customer Satisfaction:

There is a great deal of discussion and disagreement in the literature about the distinction between service quality and satisfaction. The service quality school view satisfaction as an antecedent of service quality - satisfaction with a number of individual transactions "decay" into an overall attitude towards service quality. The satisfaction school holds the opposite view that assessments of service quality lead to an overall attitude towards the service that they call satisfaction. There is obviously a strong link between customer satisfaction and customer retention. The relationship between expectation, perceived service quality and customers satisfaction have been investigated in a number of researches (Zeithaml, et al., 1988). They found that, there is very strong relationship between quality of service and customer satisfaction (Parasuraman et al., 1985; 1988). Increase in service quality of the banks can satisfy and develop attitudinal loyalty which ultimately retains valued customers (Nadiri, et al., 2009). The higher level of perceived service quality results in increased customer satisfaction. When perceived service quality is less than expected service quality customer will be dissatisfied (Jain and Gupta, 2004). According to Cronin and Taylor (1992) satisfaction super ordinate to quality-that quality is one of the service dimensions factored in to customer satisfaction judgment. Customer's perception of Service and Quality of product will determine the success of the product or service in the market. If experience of the service greatly exceeds the expectations clients had of the service then satisfaction will be high, and vice versa. In the service quality literature, perceptions of service delivery are measured separately from customer expectations, and the gap between the two provides a measure of service quality.

Methodology:

Data and Sources of Data:

For this research, the survey method of collecting data is applied. The data consists of the following:-

a) Primary Data – Original data collected at source such as questionnaire.

b) Secondary Data – Information which already existed such as journals and books.

The survey instruments used in this research is questionnaire. This questionnaire is designed based on five-point Likert scales where “1= strongly disagree” to “5= strongly agree”. It has two sections, the first section of the questionnaire is about respondents demographic information, in which is designed to collect related data from the respondent such as age, occupation, education, gender, and in addition some questions intended to investigate more in terms of experience and involvement with Internet Banking and financial literacy of the participants. The second section of the questionnaire of Likert scales to investigate on the research variables. It comprised six items on availability, satisfaction, application, confidentiality, integrity and availability whereby four items was taken from Donn Parker (2002) and two items was taken from Sarrafiaghdam (2008), six items on verification whereby all was taken by Hutchinson and Warren (2001), six items on privacy whereby four items was taken from Smith et.al., (1996) and balance of two items was taken from Attaran and Van Laar (1999) and six items on perceived information security which was taken from Sarrafiaghdam (2008).

Measurement:

The questionnaire was developed to gather required data for the usage of this study. The measurement of the questionnaire of the questions was designed with proper scaling as follows:
Likert Scale:

The first part is divided into four parts and was related to the mobile banking using likert scale. The likert scale is designed to examine how strong is the subject agree or disagree with the statement which is defined on a seven point scale.

Sample of Study:

The questionnaire will be distributed to a targeted population of the Bank Islam mobile banking customer. Purposive sampling is used in selecting the sample subjects due to complying with the Islamic Banking Act (IBA) 1983 and the Banking and Financial Institution Act (BAFIA) 1989 which prohibit the acquisition of lists of bank customers and their contact numbers and addresses from banking institutions. The targeted population was estimated 120 of Bank Islam mobile banking users. The customers were then selected due to their experience of using mobile banking services as this is very crucial in determining the customer perception towards mobile banking services. The respondent first were asked if they have experience in using mobile banking prior to answers the survey questions. A purposive sampling procedure was used to select for the respondents. This sampling procedure has the least bias and offers the most generalizability (Sekaran, 2003).

Theoretical Framework:

To address the research questions, an initial research model based on the Technology Acceptance Model (TAM) (Davis, 1989) and the Extended TAM (Luarn and Lin, 2004) was built (Figure 2).

![Fig. 2: Initial Research Model](image-url)

The initial model is based on the Extended TAM, with two added constructs: Customer service and perceived risk (indicated by the dashed line boxes in Figure 2)
In summary, the research model used in this study was initially based on the TAM and Extended TAM models, as used in prior literature. It was modified to reflect the Bank Islam context. The hypotheses linking independent and dependent variables as formulated are further tested and analysed.

**Analytical Procedure and Techniques:**

In interpreting the primary data, all the data collected was analyzed by using Statistical Package for Social Science (SPSS). SPSS software is a tool used to enter data, analyze and interpret the results obtained. The results of questionnaires were entered and processed into SPSS software on the structure of the questionnaires.

**Reliability Analysis:**

The researchers will conduct reliability tests to measure the quality of questions of the 6 dimensions of customers’ satisfaction. The Cronbach’s alpha coefficients helped in identifying the consistency of items in independent variables and dependent variable for this study.

**Descriptive Statistics:**

The frequency procedure provides statistics that are useful for describing many types of variables. In this study, frequency distributions were used for interpreting the marketing strategies data and level of satisfaction data for Bank Islam mobile banking user. In addition, the researchers will select mean score procedure in helping them to rank the level of customers’ satisfaction of using Bank Islam mobile banking. The mean and standard deviation procedure is useful for both description and analysis of scale variables. The use of mean also
helped in making the interpretation of all the Likert-scale questions more meaningful. In this research, the mean value of more than 4 is considered high ranking, between 3 to 4 is moderate ranking and less than mean of 3 is considered low ranking.

**Pearson Correlation Coefficient:**

The researchers will use the Pearson correlation coefficient to establish the correlation for independent variables and dependent variables in using Bank Islam mobile banking. From the correlation analysis, the correlation matrix is derived.

**Multiple Regression:**

The researchers have used the multiple regression method to evaluate the effects of independent variables on dependent variables in using Bank Islam mobile banking. Furthermore, the most dominant marketing mix i.e. having the highest impact on the customers’ level of satisfaction also will be derived from standardized Beta value.

**Conclusion:**

A recent survey by InMobi (2011), the world’s largest independent mobile ad network, found that out of 1,091 Malaysians, 57 per cent of the respondents primarily or exclusively accessed the web via their mobile devices. The study also revealed that the mobile was the top media choice for Malaysians using the web, and mobile banking in particular was expected to increase all across demographics. In Malaysia, as of January 2012, the banks that offer mobile banking are 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 (Central Bank of Malaysia, 2012). However, all of these banks, TAP mobile banking introduced by Bank Islam is consider matured and positively impact on the success of banking industry (Norzaidi et al, 2011a). Thus, the current study is attempted to examine success factors of TAP mobile banking usage in Malaysian scenario. Perhaps, with this initiative it could assist policy maker in banking industry as well as similar industry to promote TAP banking usage, as technology usage could improve non-financial (Davis, 1995) and financial performances (Norzaidi et al., 2001b).

**References**


