

Review

Developing an Integrative Customer Satisfaction Model: An Application of Customer Experience in Malaysian E- Banking Services

Md Abdul Bashir^{*1}, Mass Hareeza Ali¹, Amirul Islam², Lam MunWai³ and
Md. Shumonur Rahman⁴

Abstract

^{1,3}Faculty of Economics and
Management, Universiti Putra
Malaysia, Seri Serdang, 43400,
Selangor, Malaysia

²Faculty of Management, Multimedia
University, 63000 Cyberjaya, Selangor

⁴Faculty of Business Studies,
Jahangirnagar University (JU), Savar,
Dhaka-1342, Bangladesh

*Corresponding Author's E-mail:
bashirupm@yahoo.com
Mobile No: +60163731959

Electronic Banking (e-banking) is referred to as e-finance services, provided by the banks in the form of goods or services through electronic delivery systems. The emergence of e-banking since its inception has played a major role in the country's economic development and boosting customer satisfaction. It has now become one of the pre-requisite guiding the decision of customers in making the decision of choosing a bank to relate with. This is happening because of the general global transformation into the e-world and the consumer awareness of their e-banking requirement and conveniences from a particular bank as compared to the initial conventional banking system. Taking from the existing literature of customer behavior, on e-banking services, research from different scholars has revealed the effects of demographic characteristics of the customers, such as age, gender, income and level of education etc. on e-banking provision of goods and services. It is on this ground that this study proposes an extension to the study by proposing an Integrative Model of Customer Experience in Malaysia E-Banking Service Delivery. However, from the theoretical discussion of the above review, it was observed that the original model suffers some limitations. As such, this paper deemed it necessary to examine an additional driver influences, perception, and attitude toward E-banking adoption in Malaysia.

Keyword: E- Banking, service quality, customer satisfaction and Malaysia.

INTRODUCTION

E-commerce and especially electronic commerce today is being renowned among the customer, because of the provision of e-commerce services offered by different companies'. The fast explosion of information and communication technologies led to change the concept of banking transaction. E-banking refers to the banking transactions done by telephone or computer instead of human interaction (Britannica, 2010). E-banking offers fast transaction, short processing time, flexibility of

business transactions and reduced charges (Ayo et al., 2010). Electronic banking is giving in popularity for numbers of reasons, including that it is convenient, cheaper, multifunctional services, trendy and hassle free. The products and services of e-banking now have shaken the decision of consumer while choosing a bank. This is because; consumer becomes concerned about their e-banking conveniences for particular banks instead of conventional banking system.

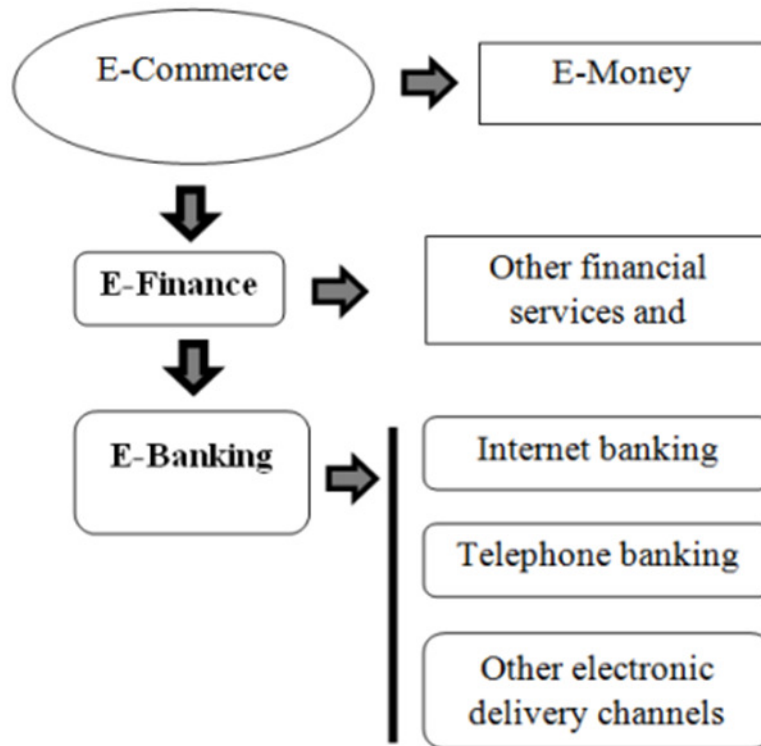


Figure 1. Flow chart of E-commerce and E-banking Adopted from Nsouli and Schaechter, 2002

Even though, Malaysia is thought to be fair in e-banking system, there still have some limitations in customer usage and reliability. Hanafizadeh et al., (2014) pointed for current financial industries, Information and Communication technology has provided the latest solutions and transferred the approach close to deliver banking service universally. Bashir et al. (2015); Odumeru, (2012); Ranjbarian et al., (2012); Zhou, (2011) stated that, in the recent business environment, especially with substantial contribution of the service sector to the development of world economy, the internet has become one of the indispensable technology tools being used by various business organizations. The reason for this is not farfetched since almost all aspects of human endeavors such as dating, governance, buying and selling, learning, communication, banking and so on, is being touched by the proliferation of the World Wide Web. However, the aim of this investigation is to reveal the effective factors influencing the customer satisfaction and develop an integral model of customer extension in Malaysia e-banking service delivery.

Literature

E-banking

Electronic banking (E-banking) is an important distribution channel, which is served for fast banking

transactions. The e-banking system was introduced for the first time in the mid-1990s, and afterward it became progressively important (Allen et al, 2001). The e-banking is termed as "the provision of information or services by a bank to its customers, via a computer or television"(Allen et al, 2001). Goi (2014) defined e-banking as an automated system for delivery of the banking services and goods whether new or conventional to the customers by electronic means and interactive communication channels. According to Nsouli and Schaechter (2002), e-banking is part of the e-finance services, which provides banking goods and services through electronic delivery systems as shown in Figure 1.

Different forms of E-banking

E-banking ensures electronic communication between bank and customers with the purpose of preparing, managing and controlling financial transactions. E-banking comprises of several platforms such as, PC Banking, Internet banking, Tele-banking and mobile banking (Munir et al., 2016).

Automated Teller Machines (ATM) banking or PC banking

An automated teller machine (ATM) offers the customers

of a financial organization to have the bank accounts, make order, cash withdrawals and account check through an organization secured way. It is also called PC banking because customers can access their accounts with their passwords through software system provided by banks intranet proprietary using their personal computers at home or at their office (Dabholkar, 1996).

Internet banking

Internet banking is performed by an organizational protected website, which only allows the organizational customers. Any of online based transactions could be done through this e-banking form. Since the customers behaviors are changing quickly, individuality defines the financial services in the e-banking and it is independent in place, time and flexibility. (Bhattacharjee A., 2001; Durkin et al., 2008).

Tele-banking

Telephone banking or Tele-banking service is offered by financial organizations and they allow their customers to perform financial transactions over telephone or mobile, visiting bank branch or using ATM. In order to access their accounts, customers are needed to dial a specific telephone number (known as hot line or hunting number). It also offers several preferences of services. "Voice-to-voice" conversation between customers and the bank staff is believed to be as branch banking and not the telephone banking (Ahmad and Buttle, 2002).

Mobile banking

One of the very recent innovations in the e-banking services is Mobile banking or mbanking. It serves as a medium for checking balance, doing payments and transactions, credit applications and performing other banking operations over the combination of internet and a mobile device (Hoehle and Lehmann, 2008; Munir et al., 2016).

E-banking in the world

In the aspect of consumer's perception, new technologies offer novel approaches for accessing data, its analysis and decision-making in individual financial management (Lee, 2009). In the financial sector, first automated teller machines (ATMs) were introduced in 1970s as the first automated technologies that banks were connected to (Miles, 1985; Dabholkar, 1996). Afterward, in 1980s telephone banking services appeared and banks stretched again their existing system by providing web-

based banking after the advent of internet (Bhattacharjee, 2001). Past decade witnessed an explosion in mobile technologies with development of different mobile phones, smart phones and PDAs and banks grabbed the opportunity to offer their services over mobile banking applications (Barnes and Corbitt, 2003; Scornavacca, Barnes and Huff, 2006).

However, the usage rates from the e-banking shows that bank are experiencing fewer chances for transferring more clients to their e-banking channel (Meyer, 2006; Deutsche Bank research, 2010 and 2011). European statistics shows that while 73% of European banking customers use ATM machines, only 30% of the customers use internet banking systems (Meyer, 2006). Likewise, even though, most of the retail banks in North America and Australia offer mobile banking services and telephone banking, but around 5–10% customers practice these services (Forrester Research, 2009). Persuading clients to use e-banking has an importance for the banking industry to decrease the operational expenses. As an example, implementing E-Trade telephone banking could help in saving \$30 million annually (Frost and Sullivan, 2011). The customers of E-banking have the chance to choose those products which suit their needs and interests (Lee, 2009). Therefore, from 1984 to 2010, there has been carried out significant researches with published articles of around 247 associated with e-banking, which includes several fields such as business, management, e-commerce and marketing. Some scholars have studied the adaptation and usage of the banking systems (Hoehle et al, 2012), which it refers to the significance of e-banking in the present time. Table 1

E-banking in Malaysia

Bank Negara Malaysia declared an announcement in 1999, "the alliance of 54 financial institutions under six anchored banks such as Maybank, Bumiputra Commerce Bank, Public Bank, PerwiraAffin Bank, Multi-Purpose Bank and Southern Bank (Bank Negara Malaysia, 1998) with each group having a commercial bank, merchant bank and finance company" (Bank Negara Malaysia, 1999). From 1st of June, 2000, domestic banks in Malaysia were permitted to serve internet banking facilities, mostly connected to informative, communicative and transactive facilities. On the whole, e-banking services which are offered by the financial agencies are correlated to services such as telephone banking, mobile banking, desktop banking, and home banking. It was Maybank that introduced internet banking in Malaysia and launched the service in June, 2000 (Bank Negara Malaysia, 2000).

According to the public announcement by Datuk Ahmad Maslan, Malaysian Deputy Finance Minister, with the expansion of smart phones and tablets throughout

Table 1. List of commercial banks in Malaysia offering e-banking services

Name of Commercial banks in Malaysia	Internet Banking	Mobile Banking	E-Money
1 Affin Bank Berhad	Y		
2 Agrobank	Y		
3 Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	Y	Y	
4 Alliance Bank Malaysia Berhad	Y		
5 AmBank (M) Berhad	Y	Y	Y
6 Amlslamic Bank Berhad	Y		
7 Bank Islam Malaysia Berhad	Y	Y	
8 Bank Kerjasama Rakyat Malaysia	Y		
9 Bank Kerjasama Rakyat Malaysia	Y		
10 Bank of America Malaysia Berhad	Y		
11 Bank of Tokyo-Mitsubishi UFJ (Malaysia) Bhd	Y		
12 Bank Simpanan Nasional	Y	Y	
13 BNP Paribas Malaysia Berhad	Y		
14 CIMB Bank Berhad	Y	Y	Y
15 Citibank Berhad	Y	Y	
16 Deutsche Bank (Malaysia) Berhad	Y		
17 Hong Leong Bank Berhad	Y	Y	
18 HSBC Amanah Malaysia Berhad	Y		
19 HSBC Bank Malaysia Berhad	Y	Y	
20 Industrial and Commercial Bank of China (Malaysia) Berhad	Y		
21 J.P. Morgan Chase Bank Berhad	Y		
22 Kuwait Finance House (M) Berhad	Y		
23 Malayan Banking Berhad	Y		Y
24 OCBC Bank (Malaysia) Berhad	Y	Y	
25 Public Bank Berhad	Y	Y	
26 RHB Bank Berhad	Y	Y	Y
27 RHB Islamic Bank Berhad	Y		
28 Standard Chartered Bank Malaysia Berhad	Y	Y	
29 Sumitomo Mitsui Banking Corporation Malaysia Bhd	Y		
30 The Royal Bank of Scotland Berhad	Y		
31 United Overseas Bank (Malaysia) Berhad	Y		
32 Mizuho Bank (Malaysia) Berhad	Y		
33 Bank of China (M) Berhad	Y		Y

[Symbol 'Y' indicates the presence of e-banking service availability 'Yes']

the country, internet banking has become popular considerably. Based on the statistics, in June 2013 Malaysia have had 14.6 million subscribers of Internet banking, which consists of the 49.1% of the consumer penetration. Considering the inclusion rate at 10.9% of the population, the total mobile banking consumers have reached 3.25 million. In conclusion, in terms of progress, Internet banking is capable to make savings in the GDP for around 1% per annum (The Star, 2013). However, local commercial banks in the country have the internet banking facilities in place and mobile banking is available in almost all of them. Only AmBank (M) Berhad, Bank of China (M) Berhad, CIMB Bank Berhad, Malayan Banking Berhad and RHB Bank Berhad at the moment are offering E-Money services as shown in Table 1.

Theories of adoption, utilization, and resistance of e-banking channels

There are five theoretical model are more preferable in

order to study the adoption, utilization, and resistance of e-banking channels. These are discussed as follows:

Diffusion of innovations (DOI)

The adoption theories have come from the field of sociology. Since 1960s, the diffusion of innovations (DOI) theory has been used for discovering the adoption of the technologies, from agricultural tools to organizational innovation (Rogers, 1995). DOI theory is a description of the innovations which are interconnected within different networks and certain social structures (Rogers, 1995). Customers have various level of interest to utilize the novelties. Rogers (1995) also explained this issue with classifying consumers into five groups of "innovators, early adopters, early majority, late majority and laggards". Rogers (1995) also recognized five factors associated with the rate of adoption of novelties such as, relative advantage, compatibility, trialability, observability and complexity. Moore and Benbasat (1991) showed that DOI

theory to seek a tool in order to determine the adoption of information technology. Several factors were found that impact on the adoption of IT such as, "visibility, ease of use, relative advantage, image, compatibility, results demonstrability and voluntariness of use" (Moore and Benbasat, 1991). Most of articles on the adoption and utilization in the e-banking channels is on the basis of diffusion of innovations theory (Ozdemir and Trott, 2009; Ravi, Carr and Sagar, 2006; Zolait, 2010). For instance, Polatoglu and Ekin (2001) analyzed the factors in adoption that were firstly identified by Rogers (1995). In a survey study on the Turkish customers, they analyzed relative advantage, observability, tradability and complexity in the usage of the Internet banking facilities. Their study found those younger bank customers and consumers who received better training perceived Internet banking as a very beneficial and convenient medium. Furthermore, they thought that Internet banking offers a relative benefit than conventional banks (Polatoglu and Ekin, 2001).

Theory of reasoned action (TRA) and theory of planned behavior (TPB)

Fishbein and Ajzen (1975) introduced theory of reasoned action (TRA) which is rooted in psychology. According to the TRA theory, behavior of the individuals can be measured as a function of individuals' attitudes in their behavior as well as subjective norms. They are driven from the behavioral intentions. They also defined "attitude towards behavior" as the feelings of the individual on performing such a behavior (Fishbein and Ajzen, 1975). In contrary, subjective norm is defined as the perception of the individual on whether he should execute a behavior or not. This might be performed due to the persuasion by the people's opinion.

Scholars have frequently used The TRA to define the purposes by the users for organizing information systems (Tan and Thompson, 2000). Following to TRA, Ajzen (1991) stretched the TRA theory developing theory of planned behavior (TPB). TPB also includes the perceived control of behavior to the TRA. If certain behavior is under volitional control, the intention of the behavior may appear in the said behavior (Ajzen, 1991). Behavior could be affected by non-motivational factors, for instance, availability of resources (Ajzen, 1991). Many of studies followed either the TRA (Fishbein and Ajzen, 1975) or the TPB (Ajzen, 1991) to observe consumer behavior towards e-banking channels (AbuShanab, Pearson and Setterstrom, 2010; Zolait, 2010; Lee, 2009). Some studies united the described models with definite theoretical hypotheses from the e-banking available literature, for instance, reliance in Internet banking solutions (Al-Somali, Gholami and Clegg, 2009). Tan and Thompson (2000) discovered the factors that influence on the adoption of Internet banking. They also expanded

the Rogers's DOI outline (Rogers, 1995) by mixing it with TRA and TPB. Their study focused on the realization of the effects of individual's attitude and also perceived behavioral control on their purpose to practice banking services available in Internet (Tan and Thompson, 2000).

Technology acceptance model (TAM)

Davis (1989) developed a model for technology acceptance, which can be considered as the most important adaptation of TRA theory. TRA theory purposes to forecast how users receive a technology and practice it. It also recommends that usefulness and ease of use which are perceived by the users have principal relevance to behaviors related to computer acceptance. Perceived usefulness shows the degree of the trust that a user can put on using a certain system and he believes that it can improve his daily performances of job. Perceived ease of use indicates the trusts that the user can put on the practicing a specific system. Both, perceived usefulness and perceived ease of use are used to measure the individual's purpose for practicing a system. It is also observed that there is a direct relation between perceived usefulness and perceived ease of use (Davis, Bagozzi and Warshaw, 1989). TAM is frequently identified as the most significant and mostly practiced theory in information systems (Benbasat, Barki and Quo vadis, 2007). Some researchers examined consumers' acceptance of different e-banking channels using the TAM model (Davis, 1989) or some adaptations of it (Lai and Li, 2005; Ozdemir and Trott, 2009). Suh and Han (2002), for example, mentioned that one of the major factors of customer acceptance of Internet banking is the trust. Incorporating this idea into the TAM model, it is stated by the researchers that in the Internet banking, trust has more significant effects on customer's attitude than perceived ease of use. Therefore, they observed that the total impact of perceived ease of use is greater on the customer's actual use.

Technology Resistance Theory

The acceptance theories and conventional adoption have basically emphasized on affecting factors in order to adoption of technology. These investigations focused the individual benefits and gain, when they practice the technology for their daily performances. Recently, IS researchers have tried to show the leading contribution of constraining factors that prevents individuals from using a particular technology (Cenfetelli, 2004; Cenfetelli and Schwarz, 2011). Cenfetelli and Schwarz (2011) verified the inhibitors of technology usage model (ITU). They defined the technology inhibitors as perceptions that a user has on a system's attributes with resultant effects on a decision to practice a system. The significant aspect of

use inhibitors, contrary to enablers, is that they perform exclusively to depress use (Cenfetelli and Schwarz, 2011). Durkin et al. (2008) studied both enabling and inhibiting factors that affect the use behavior of the online banking consumers. The authors recommended lack of face-to-face contact, lack of security reassurance and lack of trust would affect consumer's usage adversely in the Internet banking portals (Durkin et al., 2008).

Different factors affecting in customer satisfaction

Electronic banking (e-banking) is a current business model that associated with the use of modern information and telecommunication technologies in performing banking dealings from home, the office, or from a business trip, 365 days in a year and 24 hours a day. According to the Lexicon of banking (2003), electronic banking is providing a wide variety of banking services. Based on the technological capabilities of electronic data processing or banking services for physical and juristic persons (companies) that are offered and performed with the use of electronic support.

Bank Image is one of the most vital indicating elements of Customer satisfaction, followed by Service Quality, Customer Experience and Perceived Value. Bank Image has a direct and positive impact on e-banking customer satisfaction. Mohamad, Building, and Ismail (2014) reported that Grönroos defined similarly and focused the significance on bank Image, which is consistent with the outcomes of this research. His outcomes represent that Customer image is an important parameter of customer satisfaction. A substantial effect of bank image is exposed in the research of Carvajal et al, (2012). The outcome of this investigation verifies the findings of Naser et al. (1999); Chen et al. (2008), that the clients are further pleased, when the bank has greater brand image.

Auka (2012) noted that Zeithaml defined Perceived value can be portrayed as the customer's utility assessment of a particular product in perspective of impression of what is gotten and what is given. This conceptualization suggests that customers have a "give and get" mentality in regards to the matter of perception of value. Kumbhar (2011) reported that Perceived value is weight between price or charges paid for the organizations by the customer as atonement of the money and utility derived by organization acknowledgment. Yeh (2013) found that perceived value depends on the institution or organization strongly communicating customer encouragement abilities to the clients by improving consumer faith and satisfaction. Institutions concentrate on collecting wide-ranging data concerning their clients, and then use the data in order to divide and distinguish their offers and marketing communications.

Johnson (2014) reported that Kerin, Jain, and Howard defined perceived value is characterized by client perception of a well purchasing experience, well price and decent quality. Perceived value is a perceptive evaluation that measures the sensitive reaction of consumer gratification and then constancy interactive purposes (Cronin et al., 1992). In the retailing context, Chaudhuri and Ligas (2009) found that the value of the perceived merchandise can result in the rise not only in the repurchase loyalty but also on the effect towards a store, which leads to higher attitudinal loyalty and eventually greater willingness to pay more. Hence perceived value can be considered as a key determinant in the behavioral and attitudinal consumers. Therefore, representing that customer belief has a substantial effect on perceived value should offer further proof of the significance of consumer privacy beliefs in customer buying decisions.

Service quality is defined as the discrepancy between consumers' prospects about a specific institution services and their perceptions of the services provided (Parasuraman et al., 1985). E-banking is one kind of banking business and it offers services to individual customers as well as corporate entities. Such banking services are provided through the use of computer networking systems and telecommunication technology. E-banking offers performing banking actions using modern technologies. Ali (2015) and Auka, (2012) reported that defining Service quality and consumer satisfaction alone can't keep up distinct advantage in light of the fact that customer requirements are fast changing and firms need to reorient themselves to focus on passing on pervasive customer regard.

Electronic banking is an attempt to merge a number of different technologies (electronic cash, ATM, POS/EFTPOS terminals, credit cards, home banking, online banking, Internet banking, mobile banking, etc.), each of them evolved in a different direction and in a different way, with the aim of providing various banking products and services to end-users. Creating favorable conditions for development of electronic banking contributes to increasing IT literacy among young people, informative jobs, reducing the price of hardware and software, and cost of banking services. Under the influence of the technological revolution, comes to the harsh separation of electronic operations in banks: 1. electronically guided inter-bank activities; 2. electronically conducted business with clients on their behalf: retail electronic banking, and corporate electronic banking. Abbam, et al., (2015) pointed out globally banks are faced with keen competition for customers and as a result banks embark on different marketing strategies to attract and retain customers.

Markku (2012) argued that there is wide consensus among the scholars that E-banking services (EBS) are the future trend of the upcoming banking by offering vast advantages to customers in terms of ease and cost of

transactions over online banking. E-banking is an effective way for distributing banking facilities (Ali et al.,2019; Al-Smadi and Al-Wabel, 2011). Azad (2001) argued that E-banking channels can be deemed analogous and he defined it as the conduct of banking services and business using electronic delivery systems for instance, ATM, Tele-banking and PC banking. Rashmita and Sahoo (2013) reported that the banking was unsuccessful in India to persuade their clients on their CRM efforts. Different CRM dimensions determined in this investigation is reported negative reaction. This under-performance has happened despite technological improvements. Recently, banks are concentrating on marketing approach. The dynamics of the marketplace have formed burden on staffs for insistent products to the consumers instead of helping good experience to the consumers. Sharma (2011) also defined E-banking aids in improving the bond between bankers and clients.

As far as customer satisfaction is concerned, Parasuraman (2005) found this study electronic service quality indicates to customer perceptions and expectations of e- service quality. The e-service quality (SQ) dimensions of this study was adapted and modified based on E-servqual developed by Parasuraman et al. that can be categorized into two scales; core scale and recovery scale. Anyasi, Musiime and Hazlina (2009, 2010 and 2011) reported that online banking could be considered as the initiator of the new environment and the prime mover as it provides the potential solution for banking survival. Jiang (2008) has mentioned that security can be assured through providing a privacy statement and information related to the security of the shopping mechanisms and displaying the logos of trusted third parties.

Shamim and Sardar (2010) find out “security and privacy, late access to the account, distrust factors, awareness, government policies and different banks infrastructure as constrains in adopting e-banking”. The conceptual definition of customer satisfaction is developed by Kolsaker, Payne, and Dong-Her (2002 and 2004) argue that this via the internet all transactions are done in a secure server from the bank. In order to execute the transactions the bank needs and holds all of the required data and software. Customers go to the bank’s Web site, log in by using ID and password, and then utilize the internet services. Typical banking services include accessing the account, transferring the funds between different accounts, issuing pay order, bill payment, giving loan and a wide range of other new services and products. Security is an important element in internet banking.

Hence, there are several protocols for internet security of encoded data packets. In addition, Joseph, Wang, Sohail and Shanmugham (2003) said that the internet transactions can have in different ways such as, customer payments, securities transactions applications for loans or insurance acquisitions. Rotchanakitumnuai

(2003) stated banks have more interests in E-banking, but they have also concerns over the possible risks associated with processes for transactions through internet. Today, fraud in the cheques and credit cards has brought big losses to the banks. Therefore the security solution for the upcoming generation is the main concern for banks. If customers doubt about the security, it might be of losing clients on E-banking. Even though, the banks themselves consider that bank transactions over the Internet have satisfactory security levels, they also believe that their customers’ satisfaction exists in the security solutions.

Customer Experience in Malaysia E-Banking Service Delivery

In much of the customer behavior research from various disciplines, including banking, the effects of demographic characteristics of the customers – such as age, gender, income level and level of education have investigated. This study proposes an extension to the Integrative Model of Customer Experience in Malaysia E-Banking Service Delivery. In the original model, there have some limitations. From the review of theoretical discussion above, it is deemed necessarily to examine additional driver influences perception, and attitude toward E-banking adoption Malaysia. Thus, the purpose of this research is to develop an Integrative Model on Customer Experience in Malaysia E-Banking.

CONCLUSION

This study is to find out the literature gap in order to develop an integrative model on E-banking use, which takes in the customers’ personal perceptions and their views on the E-banking. An integrated view is provided on the E-banking use, including personality dimensions and interactions between those factors which reflect the trade-offs and provide the alternatives to the processes that require human decision-making system. In the research model, different variables such as the age of the users, their gender and computer experience are relevant (Yoon and Steege, 2013). Overall, the current study has implications in practice as it helps in the research on the motivating factors and the obstacles in the usage of the E-banking services. It also provides help in the complex interactions in the factors and assists the managers in the banks and other shareholders in the e-channel.

REFERENCES

- Abbam A, Dadsonl, Say J (2015). An empirical analysis of customer choice of banks in Ghana. *Eur. J. Business. Manag.* 7(12),49–55.
- Abu Shanab E, Pearson J, Setterstrom A (2010). Internet banking and customers’ acceptance in Jordan: the unified model's perspective, *Communications of the Association for Information Systems*, 26.

- Ahmad R, Buttle F (2002). Retaining telephone banking customers at Frontier Bank, *Int. J. Bank. Market.* 20(1):5–16.
- Ajzen, I. (1991). The theory of planned behavior, *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ali MH, Bashir MA, Rahman MM, Wai LM, Adnan M, Rahman ABAH (2019). Relationships between Service Quality, Customer Experience and Customer Satisfaction of E-Banking in Bangladesh. *J. Advanced Research in Business and Management Studies* 15(1), 23–32.
- Ali MI, Bashir MA, Basher M (2015). Measuring customer satisfaction of e-banking in Bangladesh. *Development Compilation*, 11(01), 103–116.
- Allen F, McAndrews J, Strahan P (2001). E-finance: an introduction, 01–36. Financial Institutions Center, Wharton University, Philadelphia.
- Al-Smadi M, Al-Wabel S (2011). The impact of e-banking on the performance of Jordanian banks. *J. Int. Bank.* 16(2), 2–10.
- Al-Somali AS, Gholami R, Clegg B (2009). An investigation into the acceptance of online banking in Saudi Arabia, *Technovation*, 29(2), 130–141.
- Anyasi F, Otubu P (2009). Mobile phone technology in banking system: Its economic effect. *Res. J. Info.* 1(1), 1–5.
- Auka D (2012). Service quality, satisfaction, perceived value and loyalty among customers in commercial banking in Nakuru Municipality, Kenya. *Afr. J. Market. Manag.* 4(5), 185–203.
- Ayo C, Adewoye J, Oni A (2010). The state of e-banking implementation in Nigeria: A post-consolidation review. *J. Emerging Trends*, 1(1), 37–45.
- Bank Negara Malaysia (1999). Governor Tan Sri Ali Abul Hassan's speech at the Japan-Malaysia Association Symposium—"Towards revitalising the Asian economy" at Tokyo, Japan on 7 September 1999. Available at:
- Bank Negara Malaysia (2000). Consolidation of domestic banking institutions. 14 February. Available at:
- Barnes SJ, Corbitt B (2003). Mobile banking: concept and potential, *Int. J. Mobile Com.* 1(3), 273–288.
- Bashir MA, MH Ali, M Reaz, (2015). Customer's satisfaction towards E-banking in Bangladesh. *Int. J. Admin. Governance*, 1(14 S): 37–44.
- Benbasat I, Barki H, Quovadis (2007). TAM? *J. Assoc. Info. Systems*, 8(4), 211–218.
- Bhattacharjee A (2001). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 32, 201–214.
- Bhattacharjee A (2001). Understanding information systems continuance: an expectation–Confirmation model, *MIS Quarterly*, 25(3):351–370.
- Britannica.com.(2010). Electronic banking. Retrieved from <http://global.britannica.com/topic/electronic-banking>.
- Cenfetelli RT (2004). Inhibitors and enablers as dual factor concepts in technology usage, *J. Assoc. Info. Systems*, 5, 472–492.
- Cenfetelli RT, Schwarz A (2011). Identifying and testing the inhibitors of technology usage intentions, *Info. Systems Res.* 22(4), 808–823.
- Cronin JJ, Taylor SA (1992). Measuring service quality: are examination and extension, *J. Marketing*, 56(3), 55–68.
- Dabholkar PA (1996). Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality. *Int. J. Res. Market.* 13(1):29–51.
- Davis FD (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13(3), 319–339.
- Davis FD, Bagozzi RP, Warshaw PR (1989). User acceptance of computer technology: a comparison of two theoretical models, *Management Sci.* 35(8), 982–1002.
- Deutsche Bank research, online banking and research: the state of play in 2010, 2010.
- Deutsche Bank research, Social media in finance: users want tangible benefits, not friendship, 2011.
- Dong-Her S (2004). Internet security: malicious e-mails detection and protection. *Management and Data*, 104(7), 613–623.
- Durkin M, Jennings D, Mulholland G, Worthington S (2008). Key influencers and inhibitors on adoption of the Internet for banking, *J. Retail. Consumer Services*, 15(5):348–357.
- Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.
- Forrester.
- Frost and Sullivan (2011). How E*TRADE boosted customer success by Tellme.
- Goi C (2014). Sustainability of e-banking in Malaysia: opportunities and challenges in the new era. *J. Int. Bank. Comm.* 19(3):1–11.
- Hanafizadeh P (2014). A systematic review of internet banking adoption. *Telematics and informatics*, 1(12), 2–20.
- Hoehle H, Lehmann H (2008). Exploring the state-of-the-art of mobile banking literature, 7th Global Mobility Roundtable Conference, Proceedings published by University of Auckland, Auckland, New Zealand.
- Hoehle H, Scornavacca E, Huff S (2012). Three decades of research on consumer adoption and utilization of electronic banking channels: A literature analysis. *Decision Support Systems*, 54(1), 122–132. http://www.bnm.gov.my/index.php?ch=en_press&pg=en_press_all&ac=194&lang=en. http://www.bnm.gov.my/index.php?ch=en_speech&pg=en_speech_all&ac=54&lang=en.
- Johnson D (2014). Opting Out: The Effects of Consumer Information Sharing Concern on Perceived Value in E-Banking Service Relationships. *Int. J. Market. Studies*, 6(2), 1–15.
- Joseph M, Stone G (2003). An empirical evaluation of US bank customer perceptions of the impact of technology on service delivery in the banking sector. *Int. J. Retail*, 31(4), 190–202.
- Kolsaker A, Payne C (2002). Engendering trust in e-commerce: a study of gender-based concerns. *Marketing Intelligence and Planning*, 20(4), 206–214.
- Kumbhar VM (2011). Factors affecting the customer satisfaction in e-banking: some evidences from Indian banks, 3(4), 1–14.
- Lai VS, Li H (2005). Technology acceptance model for internet banking: an invariance analysis, *Information Management*, 42(2), 373–386.
- Lee MC (2009). Factors influencing the adoption of internet banking: an integration of TAM and TPB with perceived risk and perceived benefit. *J. Elect. Comm. Res. Applications*, 8(3), 130–141.
- Lee MC (2009). Predicting and explaining the adoption of online trading: an empirical study in Taiwan, *Decision Support Systems*, 47(2), 133–142.
- Markku T (2012). Impact of future trends on banking services. *J. Int. Bank. Comm.* 17(2), 1–15.
- Meyer, T. (2006a). Banking online boosts and curbs customer loyalty. Deutsche Bank Research E-Banking Snapshot, 16.
- Miles J (1985). Automatic Teller Machine Robberies: Theories of liability automatic teller machine robberies: theories of liability. *Fordham Urban Law J.* 14(1), 1–42.
- Mohamad, R., Building, A., & Ismail, N. A. (2010). Journal of internet banking and commerce. *Journal of Internet Banking and Commerce*, 15(1), 1–11.
- Moore GC, Benbasat I (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation, *Information Systems Research*, 2(3), 192–222.
- Munir, M. M. M. (2016). E-Banking Service Quality and Customer Satisfaction of a State Owned Schedule Bank of Bangladesh. *J. Int. Bank. Comm.* 20(2):1–11.
- Nsouli, S. M. & Schaechter, A. (2002). Challenges of the e-banking revolution. A quarterly magazine of the IMF, 39(3). Available at: <https://www.imf.org/external/pubs/ft/fandd/2002/09/nsouli.htm>.
- Ozdemir S, Trott P (2009). Exploring the adoption of a service innovation: a study of Internet banking adopters and non-adopters, *J. Fin Services Market.* 13(4), 284–290.
- Parasuraman A (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *J. Service*, 7(X), 2–22.
- Parasuraman A, Zeithaml V, Berry L (1985). A conceptual model of service quality and its implications for future research. *The J. Market.* 49, 41–50.
- Polatoglu VN, Ekin S (2001). An empirical investigation of the Turkish consumers' acceptance of internet banking services, *Int. J. Bank Market* 19(4/5), 156–165.
- Ravi V, Carr M, Sagar NV (2006). Profiling of internet banking users in India using intelligent techniques, *J. Services Res.* 6(2), 61–74.
- Research, Technographic survey highlight: Canadian online trust and mobile banking. Matiesanu, C. 2009.
- Rogers E (1995). Diffusion of Innovations, ed. F. Press, New York.

- Rotchanakitumnuai S, Speece M (2003). Barriers to Internet banking adoption: a qualitative study among corporate customers in Thailand. *Int. J.* 21(6/7),312–323.
- Sahoo,R.(2013).Astudyofcustomerperceptionandimportanceofcrinitiati veintheIndianbankingsector. *VSRDInternationalJournalofBusiness*,2(1),1–363.
- Scornavacca E, Barnes SJ, Huff SL (2006). Mobile business research published in 2000–2004: emergence, current status, and future opportunities, *Communications of the Association for Information Systems*,17:635–646.
- Sharma H (2011). Bankers' perspectives one-banking. *National J. Res. Manag.* 1(1),1-15.
- Sohail MS (2003). E-banking and customer preferences in Malaysia: An empirical investigation,150,207–217.
- Suh B, Han I (2002). Effect of trust on customer acceptance of Internet banking, *Electronic Commerce Research and Applications*,1(3–4),247–263.
- Tan M, Thompson SHT (2000). Factors influencing the adoption of Internet banking, *J. Assoc. Info. Sys.* 1,1–43.
- The Star (2013). Deputy Finance Minister: 14.6m Internet banking subscribers in Malaysia, *Business News. The Star.* 2 October. Available at: <http://www.thestar.com.my/business/businessnews/2013/10/02/deputyfinanceminister-internet-banking-subscribers-in-malaysia.aspx>.
- Yeh Y (2013). The impact of customer advocacy on customer perceived value. *J. Bus. Retail Manag.* 8(1),91–102.
- Yoon H, Steege L (2013). Development of a quantitative model of the impact of customers' personality and perceptions on Internet banking use. *Computers in Human Behavior*, 29(3),1133–1141.
- Zolait,A.H.S.(2010). An examination of the factors influencing Yemeni Bankusers' behavioral intention to use Internet banking services, *J. Fin. Serv. Market.* 15,76–94.