The Impact of Electronic Banking on customer service delivery in the Malaysian Banking industry: Using Sand Cone Model

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Abstract

This is a research in progress paper discussing the impact of Electronic banking on customer service delivery in the Malaysian Banking industry, issues from the customer’s points of view. Based on the literature it includes several factors that have a positive and direct impact on Electronic banking services. Thus, it includes several hypotheses derived from literature to be tested empirically. The research will be guided by the conceptual model presented as figure1 and figure 2, using Structural Equation Modelling. In addition the paper highlighting the relationship between Electronic banking, behavioral factors and customer service delivery in the banking industry. Hence, the expected outcome and gaps of the research could also provide some direction for future research.

Keyword: Electronic banking, behavioral factors, Customer service delivery, Malaysia

1. Introduction

A strong banking industry is an important in every country and can have a significant effect in supporting economic development through efficient financial services (Salehi and Azary, 2008; Salehi et. al., 2010). Similarly, Electronic Banking service (EBS) is an important driver in the banking industry and is critical for economic development in developing nations. As the banking industry is becoming global in nature, face a competitive environment, forcing banks to balance the goals of outreach and sustainability. Electronic Banking services (EBS) may be the instigator of this new environment and the potential solution to banks survival in the near future. Anise and Otubu. (2009), Musiime, (2010), Hazlina et al (2011).

Research has proven that, Electronic banking services (EBS) are the wave of the future banking by providing enormous benefits to consumers in terms of ease and cost of transactions, either through Online Banking, Mobile banking, ATM or other electronic delivery channels. Nsouli and Schaechter, (2002)

2. Electronic Banking

The term Electronic Banking services refer to "the provision of information or services by a bank to its customers, via a Mobile phone, ATM, computer or television"(Allen et al, 2001). The concept of Electronic Banking has been defined in many ways. Daniel (1999) defines Electronic Banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as Mobile Banking, ATM, and Online Banking etc.
Robinson (2000) believes that the supply of EBS enables banks to establish and extend their relationship with the customers. There are other numerous advantages to banks offered by EBS such as customer’s loyalty, market segmentations, innovation of new products and services, more effective marketing and communication at lower costs/fees. Tuchilla, (2000). According to Wise and Ali (2009) many banks want to invest in EBS to reduce branch cost/fees since customers prefer to use EBS instead of a branch to transact business. The financial impact of EBS is a marginal increase in cost/fee income substantially offset by the cost of significant increases in the number of customer transactions. Thus, EBS has a significant increase in the intangible item of “Customer Service Delivery”. Hence, this translates into improved customer service delivery that in result in higher customer loyalty, customer retention and growing organization value. EBS has become one of the most important factors in the business economy today, where it’s lower cost/fees delivery channel and a way to increase sales in the future.

Today, those Banks that are able to harness on the capability of the EBS in making strategic decisions in terms of enabling better alignment of business, enhancing organizational capacity/capability and risk management have an upper hand in building better customer service delivery. Thus, attention at the highest management level is therefore vital to ensure the formulation of the most appropriate Electronic banking strategies for banks to remain competitive and to break through in the future (Bank Negara Malaysia, 2003).

2.1 Automated Teller Machines (ATM)

Traditional society was devoid of any monetary instruments, while the exchange of goods and merchandise was managed by the “barter system”. The use of monetary instruments as a unit of exchange replaced the barter system and money in various denominations was used as the sole purchasing power. The modern contemporary era has replaced these traditional monetary instruments from a paper and metal based currency to “plastic money” in the form of credit cards, debit cards, etc. This has resulted in the increasing demand of Automated Teller Machine (ATM) all over the world.

Apparently, Automated Teller Machine (ATM) is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smartcard with a chip that contains a unique card number and some security information, such as an expiration date and serial number. Today, ATMs are placed not only near or inside the premises of banks, but also in locations such as shopping malls, airports, grocery stores, petrol/gas stations, restaurants, Cinemas, club, Hotels, Churches, Mosque, bus station, train station or any place large numbers of people may gather. Hazlina et al, (2011). Abdullah et al., (2011)

These represent two types of ATM installations: on and off premise.

- On premise ATMs are typically more advanced, multi-function machines that complement an actual bank branch's capability and thus more expensive.
- Off premise machines are deployed by financial institutions and also Independent Sales Organizations (ISOs) where there is usually just a straight need for cash.

Although ATMs were originally developed as just cash dispensers, they have evolved to include many other bank related functions, which are not directly related to the management of one's own bank account as it could be seen in the fig. 1:
ATM services are highly profitable for banks, and banks aggressively market the use of ATM cards. ATMs that are off bank premises are usually more profitable for banks because they attract a higher volume of non-bank customers, who must pay service fees. Ojo, (2007), Khan, (2010), Abdullah et al.. (2011), Shoewu and Edeko (2011).

2.2 Mobile Banking

Mobile banking can be considered as a form of remote or virtual banking which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail banking transactions by sending a text message (SMS), which is connected to an automated system of the bank. The mobile banking service provides yet another alternative to almost all the functions available on the Automated Teller Machines except withdrawal and deposit of cash.

Mobile banking has numerous benefits for both customers and banks. As far as the customers are concerned, it provides increased convenience, expanded access and significant time saving. Similarly, the costs of delivering mobile bank services are substantially lower than those of branch based services. In essence, the poor customer response to mobile banking in Malaysia might be due to the fact that:
Cash withdrawal is not possible via mobile.
- Poor marketing of this product on the part of the commercial banks.
- It may also be due to the lack of customer confidence on Mobile transactions.

This may however be contrary to the developments in other part of the world, where it has been reported that 90% of European banks are considering mobile banking services to be offered by the turn of the century. Leow (1999), Anyasi and Otubu, (2009), Khumbula Masinge (2010), Hamza et al 2011, Ching (2011), Shoewu, et al (2011)

2.3 Online Banking

Online banking can be defined as an Internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments. With the exception of cash withdrawals, Online banking gives customers access to almost any type of banking transactions at the click of a mouse. The use of the Online Banking as a new alternative channel for the distribution of banking services has become a competitive necessity instead of just a way to achieve competitive advantage with the advent of deregulations, globalization, technology and competition.

Thus, the banking industry in Malaysia has witnessed tremendous changes linked with the developments in Information and Communication Technology over the years. Hence, the Online banking adoption will improve three critical domains which are efficiency, quality, and transparency. Today, Malaysian Banks Has increasingly depended on the deployment of Information and Communication Technology, in order to remind relevant in the future. Booz Allen Hamilton (1997), Woherem (2000), Ovia (2001), Jasimuddin, (2001), Brücher, et al. (2003), Ovia (2005), Poon and Tan (2008), Anyasi and Otubu, (2009), Musiime, (2010), Hazlina et al (2011), Malarvizhi, (2011).

3. Behavioral Factors Inhibiting Electronic Banking Adoption

Behavioral factors are the important determinants of Electronic banking adoption, Rahmath and Abdullah (2011). Behavioral factors pertaining to convenience, security, privacy, trust and cost/fees were a focus of this study as they have a reciprocal influence on customer service delivery. Suganthi, 2010). Ombati, (2010), Ahmad, 2011, reveals that there is a direct relationship between technology and behavioral factors in the banking industry. Consequently, The Electronic banking customers seem to be quite satisfied in the Security, efficiency, accurate records, convenience and accurate transactions. Therefore, the level of Electronic Banking or its innovations in the banking sector will directly impact on the degree to which the bank customers are satisfied, in terms of customer service delivery. Museum, (2010). Subsequently, users find Electronic banking system useful, convenient, and easy to use, while privacy of data and security measures of the Electronic Banking service is the issues that bother the minds of users. Adesina, (2010), Khan, (2010).

This means that, effective customer service delivery has a higher impact on customer loyalty (which impacts their future consumption patterns) in relation to other factors just like it has on customer satisfaction. Nevertheless, behavioral factors have a direct bearing on a long term customer service delivery. Nick et al (2009), Shirshendu and Sanjit (2010). Thus, Banks should give high priority to customer service delivery and should consider behavioral factors as important key drivers towards successful implementation of customer service delivery. Khan and Mahendhiran (2006).

3.1 Convenience

Convenience has been identified by several studies as an important adoption factor of Electronic Banking services. Thus, Electronic Banking provides a higher degree of convenience that enables...
customers to access banking transactions via online bank, Mobile banking and ATM at all times around the globe. Nevertheless, the ease of access to Electronic Banking is perceived as a measure of relative advantage (Thoth et al. (2010), Abdullah et al. (2011). According to Amin, (2008), the provision of customer service delivery is an important criterion that attracts users in the delivery of Electronic Banking. Ahmad (2010) also identifies other factors of paramount importance in ensuring the success of Electronic Banking, i.e. The ability of an Electronic banking to meet users' needs using the different feature availability of the products. However, a Malaysian study uncovered seven key customer service delivery that attributed to the effective Electronic Banking services; such as Ease of use, cost/fees of service, trust in bank, security concern, awareness, internet and Government (Malarvizhi, (2011).

Today, convenience is considered to be one of the influential factors of the customer service delivery of Malaysian commercial banks. Research has proven that, positive relationship between convenience and service delivery as critical factors on the use of Electronic Banking. However, these are not surprising as when Malaysian commercial banks consider the convenience as a competitive tool; this might impact positively on generalizing the usage of Electronic Banking in Malaysia. As a result, we are able to confirm that convenience has a significant influence on customer service delivery. These findings are also consistent with other research findings. For example, Goi, (2006), Poon and Tan, (2008), Amin (2008), Alam, (2009 ), Suganthi, (2010), Hazlina et al (2011) found that Electronic Banking provides a higher degree of convenience that enables customers to access bank services at all times around the globe. Thus, the same study also indicated that the perceived convenience was the most influential variable of overall adoption of all three behavioral factor activities investigated.

The measure for the convenience factors consists of: - Ease of use, awareness, access anytime and anywhere, no queue, save time as compared to conventional banking, user friendly, easy login, check transaction details and efficiency. Thus, it is hypothesized that convenience has a positive effect on the adoption and customer service delivery on Electronic Banking services.

3.2 Security

Today, security is considered to be one of the very important factors in determining the decision of consumers to use Electronic banking services (EBS). Assurance about security relates to the extent to which the Electronic Banking guarantees the safety of customers’ financial and personal information, an area which has witnessed a proliferation of research interest Kimery and McCord, (2002), Miyazaki and Krishnamurthy, (2002).

Security accessibility has a positive significant influence on customer service delivery in the banking industry. According to Amin et al (2008), slow growth of Electronic Banking services is caused by security concerns and lack of knowledge about the availability of such a service. Hence, users find Electronic banking system useful, convenient, and easy to use, while privacy of data and security measures of the Electronic Banking technology is the issues that bother the minds of customers. Adesina, (2010). The same results obtained from the study of Booz et al. (1997), reveals that security concern among customers was the top-ranking obstacle for non-adoption of Electronic banking in Latin America. Therefore, it is posited that Security has a positive effect on the adoption and customer service delivery, in the banking industry. Also, to minimize customer’s security concerns, banks need to effectively educate their customers and assure them of the service’s security. Fleming, (2011).

Thus, the role of security was assessed by providing a trust in banks, security concern, check transaction details, accurate records, accurate transactions and safety etc.

3.3 Cost/Fees
Customer Service Delivery attributes in the Electronic Banking industry are important, in view of the fact that online banking, Mobile Banking and ATM interaction are the main sources of service delivery. Therefore, offering high quality services to satisfy consumers' needs, at lower cost/fees, will be the potential competitive advantage of Electronic Banking sustainability and growth in the future. At present, studies show that Electronic Banking has successfully reduced operating and administrative cost/fees Migdadi, (2008), Suganthi, (2010), Felix et al (2011), (Ahmad, 2011), while at the same time research has proven that, cost/fee savings have helped e-based banks offer lower or no service cost/fees. Ahmad, (2008).

Subsequently, cost/fees are also considered to be one of the influential factors on the service delivery of Malaysian commercial bank customers. Prior research has empirically found a positive relationship between cost/fees and customer service delivery as a critical factor with the use of Electronic banking. Khumbula, (2010), Ching et al, (2011).

On the same note, the cost/fees determine by Malaysian banks are an important element to facilitate the using of Electronic Banking which is reflected in the customer service delivery. According to Peter Drucker (1985), Electronic Banking is the answer to reduce cost/fees, and to solve the tension between sustainability and reaching the very poor or the less privilege among society. By creating new channels that deliver financial services at low cost, banks may find that these customers, who once seemed beyond the frontier of formal financial services, are in fact a profitable and attractive market. Hence, it is hypothesized that fees/charges have a positive significant influence on the adoption and customer service delivery. The role of fees/charges were assessed by measuring: Electronic banks charge, lower transaction fees, Continue using although need to pay low subscription fees, I won’t terminate services even if the bank charge annual fee, Electronic banks charge an annual fee and Price of service fees is acceptable etc.

4. Customer Service Deliver In The Banking Industry

According to Parasuraman et al. (1985), the study of customer service delivery has gained interest just after the concern on improving the quality of products appeared, and services are increasingly important in the global. Today, information and communication technology has changed the Banking industry in such a way that it becomes characterized as based on services (Fitzsimmons, 2000).

Fierce competition has obliged Banks to look for an effective way to differentiate in the market and augment the likelihood of customer service delivery. However, even though customer service delivery in banks was not always targeted when looking for mediating factors towards financial performance (Mukherjee et al., 2003); additionally, banks struggle to find or develop instruments to measure the quality of their customer service delivery (Bahia &Nantel, 2000; Bhat, 2005). Delivering customer service is indeed an important marketing strategy (Berry &Parasuraman, 1995), but the difficulty in defining customer service delivery and customer satisfaction, as well as problems in deploying to specific contextual instruments for measuring such constructs, represent important constraints for the Banks to approach their markets.

However, contemporary factors like more demanding and informed customers, the emergence of new technologies, and the competition increase (Cooke, (1997) modified the relationship between banks and customers, and strategies for survival and business expansion started to approach this seriously (Global Finance, 2000) and target customer service delivery (Frei et al., 1997). Hence, customers who are satisfied with service delivery are less likely to shift to other banks, therefore increasing such things as loyalty and retention (Al-Hawari et al., 2005; Angelis et al., 2005).

Interestingly, computers and information technology (IT) in particular play an important role (Shoebridge, 2005), and this is one reason why the banking industry is among the most intense in
deploying information systems (Drucker, 1999). With the increase of Electronic Banking services the most recurring problems have been mitigated (and, in some cases, solved); as an effect, the volume of services increased, service fulfillment became easier, and the customer experience turned out to be more comfortable. It is noticeable that the new technologies, particularly in Electronic Banking, enabled banks to service customers not only in branches and other dedicated servicing sites, but also in domiciles, work places and stop-and-shop stores, as well as in a myriad of other channels (Lovelock, 1996; Al-Hawari et al., 2005).

5. Benefits Of Electronic Banking Services


- Electronic Banking has reduced the cost of doing business and made organizations more profitable.
- E-base Banks are offering more than banking services; they are offering services on the bank website.
- Electronic Banking eliminated geographical and time differences’/constraint.
- Electronic banking may be more cost effective for banks, which can then lower the fees for the customers.

6. A Conceptual Model And Hypotheses

For the purpose of understanding the factors influencing Electronic Banking services, towards customer service delivery, this paper proposes a conceptual model (figure 1). This conceptual model is developed based on several previous studies relating to Electronic Banking, customer service delivery, banking application and the impact of the technological characteristics of Electronic Banking are especially considered.

![Conceptual research model](image)

Fig: 1 Conceptual research model

However, from the literature review and the conceptual model, the following hypotheses are thus stated:
Ho1 There is no significant relationship between mobile banking and electronic banking in Malaysia.
Ho2 There is no significant relationship between ATM and electronic banking in Malaysia.
Ho3 There is no significant relationship between online banking and electronic banking in Malaysia.
Ho4 There is no significant relationship between electronic banking and customer service delivery in Malaysia.
Ho5 There is no significant relationship between convenience and intention to use electronic banking in Malaysia.
Ho6 There is no significant relationship between security and intention to use electronic banking in Malaysia.
Ho7 There is no significant relationship between cost/fees and intention to use electronic banking in Malaysia.
Ho8 There is no significant relationship between behavioral factors and customer service delivery in Malaysian Banks.

7. Research Model

The research framework of this study is based on the adaptation of Sand Cone Model first developed by Ferdows and DeMeyer (1990). The Sand Cone Model of improvement is an analogy that seeks to explain how assigning priorities to operations objectives may result in lasting improvements in Organisational performance. We consider Electronic Banking in terms of Mobile Banking, Online Banking and ATM, while behavioral factors such as Security, Convenient and cost/fees as banking capabilities at the root of effective customer service delivery in the Banking industry.

![Sand Cone Model](image)

Fig: 1. Figure: Sand cone model (Ferdows and de Meyer, 1990), Takalaet al., 2006).

The model implies that each lower layer must be extended in order to support any increase in any higher layer. Ferdows and De Meyer (1990) stressed that this analogy helps this research to explain an important characteristics of the model, which that moving up each step in the path towards development of Customer service delivery. All of this could provide a unique opportunity to understand the impact of Electronic Banking on customer service delivery and identify the categories of Electronic Banking devices and behavioral factors to be managed and to support Malaysian Banks’ in strategizing their...
decision toward enhancing effective and efficient customer service delivery. Hence, this model shows the best way for putting the fundamental principles of good Electronic Banking devices and behavioral factors in place and continually expanding and enriching that set of principles. In addition, as customer’s are becoming more in lighted as a resulted of deregulation, Technology and globalization; this implies that Banks need to quickly adjust and adapt to those new changes around them in terms of customer’s needs, demography and Technology so as to scale relevant in the near future.

8. Research Methodology

Research methodology constitutes a process of how research hypothesis are operationalized and measured to achieve the overall research aim and objectives (Brewerton and Milward, 2001). The methodology in this thesis is quantitative approach, while Research Hypotheses state in clear terms and subjected to empirical test to verify them. Because this study involved structural model, the use of structural equation modelling techniques are suitable way to evaluate the fit of the proposed model (Hoyle, 1995). The decision to adopt a quantitative approach in this instance is aimed squarely at the need to gain a deep understanding of an area that has previously received little research. In addition, the research design will consist of compilations of relevant literature and response from interviews. It will also include the use of a structured questionnaire. Thus, the quality of data collected for a research is one of the prerequisites of any meaningful framework.

9. Conclusion

This is a research in progress paper, providing an overview of Electronic banking services, addressing a number of issues identified from the literature. Literature review discussed above address Electronic banking services and behavioral factors as well as customer service delivery issues. The hypothesis presented above will be empirically tested to identify customer satisfaction and loyalty in Electronic banking services. Research will be guided by the conceptual model presented above as figure 1 and figure 2.

10. References


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