



Service Quality Evaluation Of Internet Banking In Malaysia

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Abstract

This study evaluates the service quality of Internet banking in Malaysia. It focuses on the transaction sites of five leading anchor banks, which provide a platform for electronic banking and examines electronic banking performances through a set of 40 questions specifically prepared for this research. The survey was conducted in January 2002. Only two of the five banks surveyed obtained a four star rating out of a maximum possible of five stars. Three other banks have obtained three star ratings. The implications and future directions of Internet banking in Malaysia are discussed.

Key words: *electronic-banking, Internet, Malaysia, Bank performance, customer preferences and quality.*

Introduction

The Internet is an extremely important new technology. It is widely regarded as the third wave of revolution, after the agricultural revolution and the industrial revolution. The Internet has made significant changes to the ways companies are managed and operated and has also diminished entry barriers in many industries, which were mainly due to constraints in time, space, and information access. The financial services industry is currently in the process of a radical deconstruction. New technological forces, created and fueled by the Internet and new wireless communications, such as the wireless access protocol (WAP), have been exploited to reduce time-to-market and distances between buyers and sellers of goods and services.

Forester Research (cited in Deloitte Research, 2000) estimated that there were 400 million consumers

online in 2000 as compared to a measly 100 million in 1999. This gives a picture of how Internet has been changing the world. Analysts also expect the number of households using online banking services to increase by 500 percent globally, which suggests that we are just at the beginning of the growth curve in this sector (cited in Deloitte Research, 2000). In Malaysia itself a research done by Turner (2001) showed that Internet users in Malaysia in year 2000 were around 27% of total population.

Although the number of Malaysians going online is considerably small as compared to other nations across the globe, banks in Malaysia should not lag behind the changes of technology especially since the Malaysian financial industry is poised to open its doors to foreign banks by 2005. To face the competition from globalization, local domestic banks must fully utilize the Internet to improve their efficiency and profitability. On the first of June, 2000, the Malaysian government provided the legal framework for domestic banks to offer Internet banking services. It has been more than two years since domestic banks were allowed to engage in Internet banking.

The objective of this study is to determine the service quality of Malaysian Banks with respect to Internet banking. In the next section, we will review electronic banking development in Malaysia. Background information on Internet banking in Malaysia is then presented. The subsequent section describes the research methodology. Thereafter, the results of the study undertaken is analysed and discussed. The paper concludes with a summary and an attempt to view the possible directions of Internet banking in Malaysia.

Evolution of Electronic Banking

Since its independence in 1957, Malaysia's financial landscape has gone through tremendous changes. The first step in the revolutionary process was the gradual deregulation of the financial sector and computerization of financial institutions in the 1970s (Pang, 1985). With the onset of computerization, there had been an explosion of alternative delivery channels.

In the early 1980s, automated teller machines (ATMs) were introduced to the local banking scene to help customers carry out simple transactions like depositing and withdrawing money. The ATMs, to a large extent, released banks from the constraints of time and geographical location and the revolution brought by this technology was banking hours that extended beyond office hours. Besides, it provided banks with a more economical substitute for normal brick and mortar branches. The growth of ATMs in Malaysia is presented in Table 1.

Table 1: The Growth of ATM Machines in Malaysia

Year	Number of ATMS*	% of Growth
1985	278	22.0
1986	330	18.8
1987	609	84.5
1988	868	42.5
1989	1027	18.3
1990	1202	17.1
1991	1335	11.1
1992	1439	7.8
1993	1558	8.3
1994	1975	26.8
1995	2230	12.9
1996	2326	4.3
1997	2528	8.7
1998	2647	4.7
1999	3317	25.3
2000	3004	-9.4

Source: *BNM Annual Report (1986 ♦ 2001)** refers to commercial banks only, also excludes Islamic Banks

At a later stage, with technological developments in telecommunications, phone banking was introduced in the early 1990♦s (Guru et al., 2000). With phone banking, transactions were performed through dialing a touch-tone telephone that was connected to an automated system of the bank, utilizing Automated Voice Response (AVR) technology (Suganthi et al., 2001). Phone banking, therefore, provides yet another alternative delivery channel for banks as it was able to perform most of the functions available on the ATMs, except for withdrawal and depositing of cash. Table 2 presents a list of phone banking services in Malaysia.

Table 2: Phone banking Services

No.	Bank
1	Alliance Bank Malaysia Berhad
2	Arab Malaysian Bank Berhad
3	Bank Islam Malaysia Berhad
4	Citibank (M) Berhad
5	EON Bank Berhad
6	Bumpiputra-Commerce Bank Berhad
7	HSBC Bank Berhad
8	Malayan Bank Berhad
9	OCBC Bank (M) Berhad
10	Public Bank Berhad
11	RHB Bank Berhad
12	Southern Bank Berhad
13	Standard Chartered Bank (M) Berhad
14	Hong Leong Bank Berhad

Source: *The Star, Business Section, August 6, 2001*

Subsequently, PC-banking was introduced as a new alternative delivery channel for products and services provided by banks. PC-banking virtually established bank branches at the customer♦s premises via the usage of Intranet proprietary desktop electronic package and allowed the customer to perform account receivables, account payables and cash management at his/her convenience. PC-banking was popular among corporate customers as it offered advantages such as cost saving, increased speed and improved flexibility of business transactions. Retail customers, nevertheless, found that the disadvantages of PC-banking outweighed the advantages due to the high fees involved in setting up intranet facilities and purchasing relevant software (Shanmugam et al., 2000).

Another change that emerged during the past few years was the introduction of automated banking centers (ABC). An automated banking center is an electronic banking hall that incorporates an information counter, an ATM and phone banking facilities. These ABCs are located in shopping malls, train stations, office complexes and bank branch premises. ABCs perform banking transactions such as depositing and withdrawing of money, accepting chequebook request and allow other forms of banking transactions, even after office hours. With ABCs, banks have been able to reduce their face-to-face delivery channel by transferring their not so profitable retail customers to this alternative channel.

With the advent of Internet, it has become affordable even for retail customers to setup a virtual branch in their home. Internet banking is not only part of the evolution of the Malaysian financial industry but the whole global banking landscape, as it not only provides an alternative to the conventional distribution channel for banks, but also has a more economical transaction cost. It is estimated that transaction through the Internet costs only \$0.01, compared to \$0.27 per ATM transaction, telephone banking costs about \$0.55 per transaction and branch banking transactions cost about \$1.07 per transaction (Booz et al 1997 as cited in Stijn et al 2000).



Internet banking is also expected to increase consumer convenience, since consumers do not have to travel far to perform basic banking transactions like applying for loans, transferring funds, and paying bills. Most of all, customers do not have to worry about getting caught in queues. With Internet banking, it is expected that the number of service branches would be reduced in the future. Thus, banks would be able to minimize their overhead expenses.

On the first of June 2000, the Central Bank of Malaysia, Bank Negara Malaysia, finally gave the much-awaited approval for domestic banks to leap into the cyber wagon. With effect from June 1, 2000, local domestic banks were allowed to offer a full range of products and services over the Internet.

However, consistent with the no-branching rule imposed on the locally-incorporated foreign banks and the definition of branches that includes electronic terminal, the locally incorporated foreign banks on the other hand, were only allowed to set up communications websites with effect from January 1, 2001 and transactional websites from January 1, 2002 (BNM, 2000). The idea was to enable domestic banks to have a head start before the entry of local incorporated foreign banks, which are comparatively more experienced and more technology savvy in terms of services and products.

Internet Banking Services Providers - A Review

Malayan Banking Berhad (Maybank) is the largest domestic bank in Malaysia in terms of assets as well as network distribution. It became the first bank to offer Internet banking services on June 15, 2000, through its own portal, www.maybank2u.com. The services include banking enquiry functions, bill payment, credit card payment, funds transfer, account summary and transaction history.

In December 2000, Hong Leong Bank commenced its Internet banking operation  Ec-Banking  through its web site, www.hlbb.hongleong.com.my. Subsequently, the third bank to offer Internet banking in Malaysia was Southern Bank through its website, www.sbbdirect.com.my. Southern Bank provides services that are also offered by Maybank and Hong Leong Bank.

This was followed by Alliance Bank, offering its Internet banking delivery channel via www.alliancebank.com.my. Public Bank and its subsidiary, Public Finance, joined the bandwagon when they officially launched their fully interactive PbeBank.com Internet banking service on June 28, 2001. Currently, all local domestic banks offer real-time transaction via the Internet. Table 3 provides a sample of net offerings by banks in Malaysia.

Table 3: A Sample of Net Offerings

BANK	SERVICE	TRANSACTIONS
Southern Bank	PC Banking	Real-time fund transfers, credit-card payments, access account balances and auto alerts.
Hong Leong Bank	Bank@Home	Fund transfers, balance enquiries, statement download, bill payments, cheque-book request, cheque-status enquiry, stop cheque and credit-card payments.
	ec-banking	Account Summary, Funds Transfer, Credit Card Service, Bill Payments, Service Request
HSBC Bank	Hexagon	A desktop-banking system via the HSBC Group's proprietary worldwide communications network. Services include transfer of funds within own accounts and third-party accounts.
		Basic banking services - account balance enquiry, fund

Multi-Purpose Bank	Multi-Link	transfer, bill payments and product info. Also offers desktop share-trading via JB Securities Sdn Bhd.
PhileoAllied Bank	PALDIRECT PALWORLD	Provides banking, share investing, news and information, utility-bill payments, insurance, travel, electronic shopping and communications services.
RHB Bank	RHB OnLine	Balance enquiry, fund transfer, remittance services, fixed-deposit placements, credit-card payments, brokering and bill payments.

Source: Suganthi et al. (2001)

E-banking and Islamic Banks in Malaysia

Like most Muslim countries, Malaysia also has a dual banking system, that is, a conventional and an Islamic banking system. There are two Islamic banks in Malaysia, Bank Islam Malaysia Berhad (BIMB) and Bank Muamalat Berhad (BMB). Bank Islam Malaysia Berhad was established in July 1, 1983 whereas Bank Muamalat Berhad was established in October 1, 1999. Bank Muamalat, being at infancy state, has yet to venture into the electronic banking arena. Bank Islam Malaysia, however, is actively moving towards this digital divide and has announced to offer its customers Internet banking facilities by the end of 2001. As a start, the bank is currently negotiating to establish e-banking services for its corporate clients.

Research Methodology

To evaluate the service quality of Internet banking in Malaysia, an observation survey was conducted on transaction sites of five major banks that provide Internet banking services. The survey was conducted in January 2002. An observational survey was considered most appropriate as the research problem had been clearly defined and the information needed had been specified for this exploratory research. Further, to reduce the potential of observer bias, a structured observation technique was devised. A total of 40 questions were developed, which mainly focused on the areas of ease of usage, features and *extra mile* services provided by the banks. These questions were extracted from similar questionnaires employed by major Singaporean banks and adapted to suit the Malaysian environment.

To enhance the reliability of the findings, a specific method of measurement was developed. Each of the banks surveyed would earn 1 point for a question, if the requirements are fulfilled; a partial fulfillment would be given $\frac{1}{2}$ point and no points if it does not meet the requirements at all. For more complex questions like email support and helpfulness of phone support that involves two-way communication, the grading was based on a different scheme.

It is considered crucial for banks to provide Internet-based feedback channel. From a customer's point of view, it is important that he/she knows that someone is listening and is willing to provide useful information in a timely manner.

Therefore, the main prerequisite for receiving points was based on the instructional nature of reply, as well as the promptness of the reply. Considering these issues, the measurement devised for grading is based as follows: a reply within 24 hours would earn a bank 1 point; a reply within 48 hours would gain the bank $\frac{1}{2}$ point and no points were awarded if the response time exceeds 48 hours.

The grading on the provision for phone support services was based according to the ability of the respondent in answering technical questions. However, to be fair, the banks were not rated on a basis of a single telephone query, but four telephone calls were made at different times. If at least three of the calls were responded satisfactorily, the bank earned a full point. Half a point was given to the bank

if at least one of the calls was responded satisfactorily, and no points were awarded if none of the calls were responded satisfactorily.

As each question had a maximum of one point, the maximum that a bank would score was 40 points. The total score obtained by each bank was divided by 8 to determine the star ratings of each bank. This way, each bank earned a maximum of five star rating. Any fractional score of 0.25 and above were rounded up to half a star. Likewise, score of 0.75 and above were rounded up to a full star.

It must, however, be reiterated that this is only an exploratory survey to obtain an insight on Internet banking services and how well it is being handled. An alternate approach was to question consumers on their thoughts with respect to service quality. However, the study being restricted to Internet banking means that customers who patronize this service do not actually come to the banking halls where they can be approached to complete the questionnaire. Hence, the approach was the preferred mode of understanding this study. One may also argue that the rating scale is not totally objective. Admittedly, there is room for subjectivity but as mentioned earlier, this is only a starting point for a much larger study to be undertaken later in the year.

To avoid identifying the banks, their names have been omitted and the section below on Analysis and Discussion merely refers to the banks as A, B, C, D and E.

Analysis and Discussion

Table 4 provides an overview of the performance ratings of the five banks. Bank A and Bank B are the top performers with the rating of four stars. Incidentally, these were the only banks that boasted 24-hour transactional sites. Both banks have a distinguishing feature. Bank B offers more in terms of transactional function, that is, more focused in enhancing customer value. Bank A, on the other hand, tries to transform its website into the premier financial portal in Malaysia.



Table 4: Internet Banking Service Quality Review

		Bank A	Bank B	Bank C	Bank D	Bank E
	TOTAL POINTS	31.5	30	23	22	22
	RANKINGS	****	****	***	***	***
EASE OF USE						
1	Website address catchy and easy to remember	1	1	1	1	1
2	Other language in addition to English	0	0	0	0	0
3	Require 128-bit encryption	1	1	1	1	1
4	Clear instructions	1	1	1	1	1
5	Online banking demo	1	1	1	0	0
6	Require double authentication: user ID & password	1	1	1	1	1

7	style="mso-bidi-font-size: 12.0pt">Clear error messages	1	1	1	1	1
8	Remind customer to change password regularly	0	0	0	1	0
9	Comprehensive FAQ	1	1	1	1	1
10	Explains how to keep data safe	1	1	1	1	1
11	Online transaction hours	1	1	0.5	0.5	0.5
FEATURES						
12	Register online	0	0	0	0	0
13	Able to check account balances	1	1	1	1	1
14	Able to check credit card balances	1	1	1	1	1
15	Able to check foreign account balances	0	0	0	0	0
16	Able to check loan balances	1	1	0	0	0
17	Able to change password online	1	1	1	1	1
18	Able to make immediate bill payment	1	1	1	1	1
19	Able to schedule bill payment for a later date	1	1	0	0	0
20	Able to pay credit cards issued by same banks	1	1	1	1	1
21	Able to repay loan	1	0.5	1	0	0
22	Able to apply telegraphic fund transfer	0	1	0	0	0
23	Transfer between accounts at different branches	1	1	1	1	1
24	Transfer funds from your bank to another bank	0	0	0	0	0

25	Track at least 50 transaction per account	1	1	1	1	1
26	Transaction records available for minimum two months	0	1	1	1	1
27	Immediate open payment to non account holder	1	1	0	0	0
28	Fixed deposit placement	1	0	0	0	0
EXTRA MILE SERVICE						
29	Email support	1	1	1	1	0
30	24 hour phone support	0.5	1	0.5	0.5	0.5
31	Phone support is helpful	1	1	1	1	1
32	Phone number easy to find	1	1	1	1	1
33	Online stock broking	1	0.5	0	0	1
34	Able to purchase mutual funds	0	0	0	0	0
35	Online marketplace	1	0	0	0	0
36	Online insurance	1	0	0	0	0
37	Able to re-order cheque online	1	1	1	1	1
38	Able to change address	1	1	1	1	1
39	Credit/debit card applications	1	1	0	0	1
40	Hire purchase and housing loan applications	1	1	0	0	0

Note: Survey as of January 2002

One of the unique facilities offered by Bank  is that it provides customers immediate payment facilities, even if the payee does not maintain an account with them. All that is needed is the address of the payee and the bank would send a cheque to the payee. Apart from that, Bank  is the only bank among the five, which supported request of telegraphic transfers through their Internet banking facilities.

Bank A's Internet banking could be regarded as the most comprehensive and advanced in Malaysia. It transforms its website into a one-stop financial center, which not only performs banking transactions, but also caters to its customer's needs by offering insurance, online broking, online shopping and online education. Other than that, two other features offered only by Bank A are repayment of loans and placement on fixed deposit through its website.

The three other banks under the study, C, D, and E, are rated three stars. There were no major distinguishing features that could differentiate these banks' Internet services. This is probably due to the fact that these banks are quite new to Internet banking, as they commenced these services at a much later stage.

Future Direction of Internet Banking

It has been more than two years since Bank Negara Malaysia gave its endorsement on Internet banking in Malaysia, and all of the 10 domestic anchor banks have been operating full real-time transaction websites. The more recent introducers of Internet banking are more involved in low complexity electronic information products or outbound-only information flow. Some of these activities include displaying interest-rate sheets, loan descriptions, product information, company accounts, company backgrounds, job opportunities, press releases and information on the address of the bank's branches around the country. This serves as an informative site in promoting the banks as well as increasing awareness to consumers of their current products by building brand preferences.

It is also observed that the websites of these banks are offering a moderate complexity product that applies to communications products such as e-mail and credit card applications. These banks are currently at Level 1-Basic Presence and are gradually shifting towards level 2-Prospecting of the Deloitte model of Internet Banking (Deloitte Research, 2000).

As an extension to the survey of five banks, an e-mail test was run on the remaining five anchor banks to test the effectiveness of banks in replying emails. It is interesting to note that none of the emails sent were replied, meaning that these banks score 0 on this count. This raises the issue of achieving effective communication with banks. The purpose of giving an email address itself is being defeated. Beside, this could also lead to reducing the bank's image.

Security remains the main concern of Internet banking. Security should always come first as any mishap would cost the bank severe losses and jeopardize its reputation as well as reduce public confidence towards Internet banking. To make sure that there is no room for mishaps, all banks that provide Internet banking should operate at the highest level of security. These banks depend on Secure Sockets Layer protocol as well as 128-bit encryption to encrypt data entering the bank server and verify the bank server to the user.

It is noticeable that local domestic banks have established this new delivery channel as a competitive tool and a money saver rather than a revenue earner. This is mainly because online market for traditional services is limited. Nevertheless, the Internet promises more potential than mere cost reduction. Some may regard the Internet era as full of chaos but chaos brings changes as well as opportunities for banks to venture out from their traditional activities.

Therefore, delivery channels provided by the Internet should not be seen just as a means of cost-saving but should be fully utilized to add to the profitability of the banks as well as to help banks meet the increasing demand and expectation of consumers by offering more banking products from their foray of online and offline possibilities.

One of the opportunities for banks is setting up a website as a platform for business-to-business marketplace, which brings together corporate buyers and sellers. This marketplace expands the choice of buyers, gives sellers access to new customers and reduces overall transaction and purchasing costs. Although digital marketplace is still in embryonic stages of development, two different exchange models are emerging. These are the vertical exchange, designed to meet industry specific needs, and the horizontal exchange, designed to meet common business needs (KPMG, 2001).

Whilst little had been done in this space to date in Malaysia, it is evident that banks are playing the

◆wait and watch◆ game until financial transactions becomes clearer. In fact, one of the leading banks is developing its web portal towards the path of digital marketplaces. Malaysian banks are following the lead of banks from other parts of the world to try moving up the value chain by getting more involved in the exchange of non-financial information. Banks are also collaborating with non-financial service providers in order to offer a broader range of non-traditional services such as logistics and distributions.

This move is aimed at retaining customers and satisfying customer demands. At the same time, it allows banks to maintain their control of the payment space while allowing broadening of service offerings. These also need new resources of service revenues as some of the bank◆s lucrative assets bleed off to mutual funds, insurers etc.

While technology offers new opportunities to banks, it also brings new challenges, especially the increasing competition from non-banks and new players like technology companies. The central role of banks in the payment system is under fierce attack from these new players offering electronic bill presentment and payment.

Transpoint, conceived by Microsoft and First Data, estimates that consumers today spend two hours per month paying bills that could be cut in half (Deloitte Research, 1999). Online bill-payment promises benefits for both payee and payer. Payee would save postage fees, printing fees as well as a faster payment cycle whereby the payer will experience much convenience. These factors will increase the popularity of the online payment system. Banks should act fast before they lose ground. This is similar to a battle that banks fought and lost, over credit card transactions. When credit card transactions become electronic, merchants found that third-party providers usually did the processing better and cheaper. Failing to act fast would cut the banks out of the chain and cause banks to lose their special relationship with customers, especially corporate customers. Considering all the facts, banks ought to be proactive to maintain their role in the payment system. After all, banks, relative to all other parties involved, have the most arrows in their quiver when it comes to being a successful payment merchant. They have large operation center environments in their back offices, which can handle not only large volume transactions but also micropayments. Lastly, the most important factor is that banks remain the most trusted link in the chain.

Conclusion

Internet delivery channel and the traditional delivery channel are not mutually exclusive. Checking an account balance, transferring funds, paying bills and applying for credit cards do not require personal contact or a large physical space, and hence, are well suited for delivery over the Internet channel. But setting up a new account, applying for business loan, retirement planning, closing a mortgage and other complex transactions often require a secure physical space and/or person-to-person communication.

Furthermore, getting cash is impossible over the Internet and requires either branches or ATMs. Because some banking transaction are more conducive to some channels than to others, and because some customers prefer certain delivery channels, most (but not all) banks deploy a combination of delivery channels. However, bankers should strive to integrate all these new delivery channels and traditional channels into a coherent whole.

The traditional person-to-person channels need to be reinvented as sales centers for complex products and for cross-selling products to more profitable customers. Routine transactions and sales of less complex products should be transferred to alternative channels such as the Internet or Automated Bank Centre. It may not be easy to achieve this goal, as customers are accustomed to traditional delivery channels. Nevertheless, given time, the Internet would become a major component of current delivery channels. This is because the younger generation, who are considered to be more technology savvy, is expanding and older customers are learning to get used to the Internet.

References

Bank Negara Malaysia (2000), ◆2000 Annual Report◆, Bank Negara Malaysia.

Deloitte Research (1999), *Millennium Top Ten Global Banking and Securities, Industry Outlook*, Deloitte Research.

Deloitte Research (2000), *Re-Inventing Financial Services Business Models Winning Market Plays*, Deloitte Research.

KPMG (2001), *Transaction Banking e-VOLUTION*, <http://www.kpmg.com/>

Guru, B., Vaithilingam, S., Ismail, N. and Prasad, R., (2000), *Electronic Banking in Malaysia: A Note of Services and Consumer Reactions*, Journal of Internet Banking and Commerce, Vol. 5, No.1, June.

Pang, J., (1995), *Banking and Finance in Malaysia*. Federal Publications Sdn. Bhd. Malaysia.

Shanmugam, B. and Guru, K., (2000), *E-banking developments in Malaysia: Prospect and Problems*, Journal of International Banking Law. Vol. 15, No10, pp250-256.

Stijn, C., Glaessner, T. and Klingebiel, D., (2000), *Electronic finance: Reshaping the financial landscape around the world*. World Bank. Financial Sector Discussion Paper No.4

Suganthi, Guru, K. and Shanmugam, B., (2001), *Internet Banking Patronage: An Empirical Investigation of Malaysia*, Journal of Internet Banking and Commerce. V6, no1, May.

Turner, P., (2001), *E-finance and Financial Stability*, 3rd Annual Financial Markets and Development Conference.