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Information And Communication Technology In Banking Operations (E-Banking): From The Perspective of Malaysian Islamic Bankers

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ABSTRACT

The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness. Internet banking is a new delivery channel that offers a one-stop service and information unit to gain competitive advantage in the banking sector. While it promises enormous benefits both to consumers and banks, what do bank managers, as providers perceive internet banking? This article seeks to examine the perceptions of Islamic Bank managers on internet banking with respect to strategic, operational, customer-related and technological issues. A total of 150 responses were received from questionnaires distributed to Islamic Bank managers and bankers in Terengganu, Pahang, Selangor and Kuala Lumpur. They provide no conflicting views. As we know internet banking enhances customer service, it is perceived to have not reduced human resource and banker-customer relationships. Hence, this finding suggests that the management should continue to offer services to its customers by internet. Internet banking should be used as an informational and transactional tool to complement and enhance banking operations.

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INTRODUCTION

The electronic revolution in Malaysian banking sector is now more noticeable as banks are trying to keep abreast with information, communication and technology (ICT). With the rapid diffusion of the internet, domestic banking sectors like an Islamic Banking need to be prepared for greater competition and challenges arising from liberalization and changes in consumer banking behavior and preference. Indeed, the emergence of internet banking has prompted many banks to rethink their strategic plans especially their information technology strategies to stay competitive. This is because internet banking is seen to be transforming fundamental aspects of banking, the environment in which banking services are delivered, the elements of banking business, the product and services delivered by banking institutions, and the systems and technology used by banking institutions.

While many studies in the past cover internet banking from the customers' perspectives, very few papers addressed the managers' and bankers' perspectives. What do the managers, as providers, perceive internet banking? Thus, his paper attempts to investigate internet banking from the managers' and bankers' of Islamic Banking perspective. In fact, there is paucity in research concerning perceptions of bank managers and bankers on internet banking issues, pertaining to the banks' strategic, operational, customer and technological issues.

Therefore, this study aims to fill this gap in the literature in addition to providing perceptions from bank managers and bankers operating in Terengganu, Pahang, Selangor and Kuala Lumpur.

Furthermore, as noted by Nehmzow (1997) and Seitz and Stickel (1998), Internet is now considered as a strategic weapon and will revolutionize the way banks operate, deliver and compete against each other.

Thus, the objectives of this article are:

- to identify the perceptions of bank managers and bankers on strategic issues in internet Islamic banking services in Malaysia
- to identify the perceptions of bank managers and bankers on operational issues in internet Islamic banking services in Malaysia

- to identify the perceptions of bank managers and bankers on customer-related issues in internet Islamic banking services in Malaysia
- to identify the perceptions of bank managers and bankers on technological issues in internet Islamic banking services in Malaysia

This paper is organized as follows. Section two reviews the development of E-Banking in Malaysia. Section three describes the research methodology followed by analysis of results in section four. Section five concludes the paper.

2. Development Of E-Banking In The Malaysian Banking Sector:

The revolutionary process of E-banking in Malaysia was due to the gradual deregulation of the financial landscape and the computerization of financial institutions in the 1970s. The Automated Teller Machine (ATM) was the first E-banking product introduced in the early 1980s. It serves customers with the facilities to conduct simple transactions such as checking balance, withdrawing, depositing and transferring money to a third party. Overall, it helps customers to overcome time and geographical constraints since ATM networks are easily found in various locations and its operating hours are extended beyond office hours (Shanmugam & Vijayan, 2003).

Technological advancements in telecommunication that took place in the early 1990s led to the introduction of Telebanking. It is a form of remote or virtual banking that allows bank customers to perform banking transactions via telecommunication devices (Ahmad, Ahmad, & Haron, 2001). As an alternative to ATM, it provides most of the ATM functions except for the deposit and withdrawal of cash.

The introduction of PC banking adds to the list of E-banking products. However, it is widely used by corporate customers rather than retail customers. PC banking virtually established bank branches at the customer's premises via the usage of a proprietary desktop electronic package and allows customers to conduct banking transactions by subscribing to and dialing into the bank's intranet facilities (Suganthi, Balachander & Balachandran, 2001). Another alternative E-banking product is the Automated Self-banking Center (ASC). It serves as an information counter, ATM, telebanking and banking booth facilities for 24 hours of service.

The most eminent innovation in the Malaysian banking sector was the introduction of internet banking. It is not only part of the evolution in the Malaysian banking industry but also the whole global banking landscape. Internet banking provides an alternative to the traditional distribution channel for banks with its economical value. It is estimated that a single transaction through the internet costs only \$0.01 as compared to \$0.27 per ATM transaction, telephone banking costs about \$0.55 per transaction and branch banking transactions costs about \$1.07 per transaction (Booz-Allen & Hamilton, 1997 as cited in Stijn *et al.*, 2000).

3. Methodology:

The research framework for this study was adapted from Loay *et al.* (2011). Data for this study were collected using questionnaires. These questionnaires were collected through self-administered questionnaires distributed by researcher, by phone, by e-mail and by mailed (post) to bank managers and bankers in Terengganu, Pahang, Selangor and Kuala Lumpur, to test their understanding and perceptions of internet banking. The literature in this field was reviewed extensively in order to generate an initial list of questionnaire items. This study focused on the perceptions of bankers on strategic, operational, customer-related and technological issues on internet banking in Malaysia. Each question was worded so that it can be measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

The sample consists of all bank managers of Islamic banks taken from a population of 230 bank branches. The list of branches was obtained from the respective bank's website as of October

2012. The sampling method used in this study is the clustered sampling technique where the number of bank managers selected depends on the number of bank branches in each state. This gives a total of 150 bank managers and bankers as respondents for this study.

The questionnaires were mailed to the bank managers along with a postage-paid return envelope and a cover letter explaining the purpose of the study. Telephone calls were made to ensure the respondents received the questionnaires and voluntarily agree to respond to the survey. They were requested to complete the questionnaires or forward it to an executive familiar with internet banking. The bank managers were chosen as the contact person because they would be cognizant of the strategic value of internet banking, thus could provide reliable and valid feedback, and could also result in a higher response rate. Answers from each bank were analyzed using descriptive analysis. The data obtained from the questionnaires were keyed into the SPSS version 20.0 program for analysis.

4. Analysis Of Results:

150 questionnaires were completed and returned. This gives a response rate of 100.00%. The following section describes the findings in detail from the analysis of the four issues related to internet banking, which are strategic, operational, customer-related and technological issues.

Table 1 shows the analysis of strategic issues pertaining to the implementation of internet Islamic banking in Malaysia

Table 1: Descriptive Statistical Analysis of Strategic Issue

Item	Mean	SD	D	N	A	SA
First (SI1) ICT is only a fad.	2.63	27	38	51	32	2
Second (SI2) ICT is essential for banks' survival	4.31	1	13	5	51	80
Third (SI3) Gives the impression of a cutting edge bank.	4.02	n/a	24	2	65	59
Fourth (SI4) ICT is mandatory to compete effectively in the near future	4.33	1	8	9	55	77
Fifth (SI5) Banks not offering ICT will lose customers to other banks	4.21	1	-	24	67	58
Sixth (SI6) ICT is a threat to your business	2.78	29	38	28	47	8
Seventh (SI7) Will lead to a decreased number of bricks-and-mortar banks.	3.72	-	4	24	67	55
Eighth (SI8) Banks prefer customers to use ICT	4.21	1	-	17	81	51
Ninth (SI9) ICT is good only for large banks	2.65	27	45	47	16	15

SD = Strongly Disagree D = Disagree N = Natural A = Agree SA = Strongly Agree - = not applicable

The analysis from Table 1 reveals that 43.3% of the managers agreed that internet banking is not a fad and a mean score of 2.63 for this item, suggests that most managers perceive that internet banking is not a fad. 87.3% of the respondents perceived that internet banking is essential for bank's survival, while only 9.4% disagreed. The third item stated that internet banking gives the impression of a cutting edge bank and 79.6% of respondents agreed to this statement, while 16% disagreed. The mean score for third item is 4.02, which strongly suggests that the managers agree that internet banking is an effective strategy for banks to gain a cutting edge over their competitors. This opinion is reinforced by the finding that 88% of respondents totally agreed that it is a mandatory to implement internet banking in order to compete effectively in the near future. This item scored the highest mean of 4.33, which shows that most of the respondents gave a positive response to this issue.

The questionnaire also reveals that 83.4% of respondents agreed that banks that do not offer internet banking would lose customers to other banks and only 0.7% disagreed. 44.6% of the managers are opposed to the statement that internet only banks are a threat while 36.6% agreed. The seventh item shows that 81.4% of respondents agreed that internet banking would lead to a decreased number of brick-and-mortar banks in lieu with the perceptions of bank managers that 88% of them prefer their customers to use internet banking. The result implies that implementation of internet banking as a strategic weapon would likely diminish the existence of the brick-and-mortar banks. Also, 48% disagreed on the view internet banking is only suitable for large banks. 20.7% agreed, while 31.3% were natural. This implies that majority of the respondents believe that small banks can and will compete with larger banks in offering internet banking.

Table 2: Descriptive Statistical Analysis of Operational Issue

Item	Mean	SD	D	N	A	SA
First (OI1) ICT benefits outweigh the costs	3.52	4	20	51	44	31
Second (OI2) ICT allows banks to increase customer base	4.14	1	-	21	83	45
Third (OI3) Improves customer service.	4.78	1	51	-	24	74
Fourth (OI4) ICT lower transaction cost	4.03	1	1	25	89	34
Fifth (OI5) Offers opportunities to provide additional services.	4.41	-	1	2	80	67
Sixth (OI6) Accounts are less costly to be maintained with ICT	4.03	1	6	19	86	38
Seventh (OI7) ICT increases attempted fraud	3.15	26	3	45	74	2

Legend: SD = Strongly Disagree D = Disagree N = Natural A = Agree SA = Strongly Agree - = not applicable

Table 2 presents the analysis of operational issues pertaining to the implementation of internet Islamic banking in Malaysia. On the item measuring whether the benefits of internet banking outweigh its costs, 50% believed that its benefits outweigh the associated costs. This finding is further reinforced by the fact that 85.3% of the managers believed internet banking allow the banks to increase their customer base. The mean score for this item is 4.14 which show respondents positively agreed to this statement. Also, 65.3% believed that internet banking helps improve customer service while 34.7% disagreed. The mean score for this item is the highest in the operational issues (4.78). This indicates that managers strongly perceive that internet banking contributes to bank's effort in increasing the quality of customer service as well as provide additional service to customers (94.7% agreed to this).

In addition, 82% of the managers perceived that internet banking lowers the transaction costs since customers' accounts are less costly to maintain through internet banking (82.6% in agreement). 50.6% of the managers believed that the likelihood of attempted fraud increases with internet banking.

Table 3: Descriptive Statistical Analysis of Customer Issue

Item	Mean	SD	D	N	A	SA
First (CI1) Electronic banking significantly benefits customer	4.70	1	-	-	41	108
Second (CI2) Electronic banking reduces the frequency of customer visits to a physical bank	4.00	3	9	21	69	48
Third (CI3) Electronic banking reduce customer loyalty	2.35	43	37	45	24	1
Fourth (CI4) Electronic banking reduces customer-banker relationship	2.73	39	25	37	35	14
Fifth (CI5) Electronic banking reduces customer trust in the bank	2.20	44	45	48	13	-
Sixth (CI6) Electronic banking customers mind paying a monthly fee for electronic banking	3.16	15	16	57	54	8
Seventh (CI7) Electronic banking access to accounts 24hours and 7days is important to customers	4.59	1	-	6	46	97
Eight (CI8) Electronic banking security is a concern for our customers	3.70	30	13	7	22	78

Legend: SD = Strongly Disagree D = Disagree N = Natural A = Agree SA = Strongly Agree - = not applicable

Table 3 shows that 99.3% of the managers agreed that internet banking will significantly benefit their customers. The mean score for this item is the highest in the customer-related issues (4.70). However, 78% of the managers believed that internet banking would reduce the frequency of customer visits to a physical bank. It shows that majority of the managers agree that internet banking reduces contact between bankers and customers. And 53.4% disagreed that internet banking would reduce customer's loyalty also 42.7% of the managers not believed that internet banking would reduce customer-banker relationships but 32.6% agreed. It is shows that customer's loyalty and customer-banker relationship not reduce because of internet banking, customer's still want their services and want know deeply about their new technology application, then they believed this situation can be their relationship more strong. Also, 59.3% of respondents disagreed with the statement that internet banking would reduce the customer's trust in the bank. Only 32% were natural while 8.7% agreed.

The sixth item stated that the customer minds paying a monthly fee for internet banking and 41.3% agreed to this statement, while 20.7% disagreed and 38% were natural. In addition, 95.4% totally agreed that access to accounts 7 day and 24 hours a day is important to customers which has the mean score of 4.59, which was the second highest mean in the customer related issues. Also, 66.7% of the managers viewed that internet banking security is a major concern of their customers, while 28.7% disagreed and only 4.7% natural.

Table 4: Descriptive Statistical Analysis of Technological Issue

Item	Mean	SD	D	N	A	SA
First (TI1) ICT is technologically easy to get started	3.03	2	59	29	52	8
Second (TI2) ICT is technologically easy to maintain	2.80	5	69	36	31	9
Third (TI3) It is difficult to find talented technicians to run ICT	3.10	6	49	26	62	7
Fourth (TI4) ICT expensive to implement	4.02	-	15	1	79	45

Legend:

SD = Strongly Disagree D = Disagree N = Natural A = Agree SA = Strongly Agree - = not applicable

Table 4 presents the analysis of technological issues pertaining to the implementation of internet Islamic banking in Malaysia. The first item in the technological issues stated that it is technologically easy to get started with internet banking, 40.6% disagreed and 40% agreed then for this item shows same figure, while the remaining managers were natural. Furthermore, 49.3% of the respondents not claimed that internet banking is technologically easy to maintain. While most of the managers perceived that internet banking is not easy to implement and maintain, it is because of difficult to find talented individuals to run internet banking (46%) and that internet banking is expensive to implement (83.5%). The mean for this item ranks the highest (4.02) is the fourth item. This shows that most of the respondents had positively agreed with this statement.

5. Reliability Test (Cronbach's Alpha):

The reliability test is established by testing for both consistency and stability. The consistency would be showing that how well the items measuring a concept hang together as a set. Cronbach's alpha that generates from this test is a reliability coefficient that indicates how well the items in a set are positively correlated to one another.

The Cronbach's alpha is computed in terms of the average inter correlations among the items measuring the concept. According to Sekaran, 2010 the closer Cronbach alpha is to 1, the higher the internal consistency reliability. Sekaran has explained more that, reliabilities less than 0.60 are considered to be poor, those in the 0.7 range are acceptable and those over 0.8 are considered good.

Table 5: Reliability test between Islamic banking and Strategic, Operational, Customer and Technological Issues.

Average of Issues	Cronbach's Alpha	No. Of Items
Strategic Issues Average (SI)	0.817	8
Operational Issues Average (OI)	0.824	5
Customer Issues Average (CI)	0.802	8
Technological Issues Average (TI)	0.811	3

Table 5 has shown that the alpha value for the all variables (SI, OI, CI and TI) in this study is 0.81, 0.82, 0.8 and 0.81. This all Cronbach's alpha value of Islamic banking is above 0.6 and the reliability value considered as having high trusted and accepted for this study.

Discussion of Findings and Implications:

The findings of the study imply that bank managers and bankers, as a whole, perceive that internet banking is a sound strategy to increase service quality and provide the cutting edge for banks, thus the implementation of internet banking is mandatory for banks to compete effectively in the future. However, implementation of internet banking as a strategic weapon for survival would likely diminish the existence of the brick-and-mortar banks.

This study suggests that most of the bank managers are concerned about the operational issues. A possible explanation for this is due to the fact that internet banking for Islamic Banks in Malaysia is still at a nascent stage, thus its full potential will take time to materialize.

The study also finding no conflicting views regarding the perception of internet Islamic banking and human resource. Firstly, internet banking is not perceived to reduce customer-banker relationship as the number of contact points. Secondly, there is no a tendency that customers' loyalty towards bank is reduced. Hence, this finding suggests that bank management should continue to offer services to their customers by internet, but for personalized services also can be offer if the service is suitable with their customer demand.

Internet banking should be informational and transactional tools to complement and enhance banking operations. Given the speed of changes is technology, the Malaysian government has taken necessary steps to encourage the development of new delivery channels including internet banking. Then, as outlined in the Financial Sector Master Plan, the government requires the management of banking institutions to give greater attention to the development of information, communication and technology as well as to improve awareness in internet banking to further improve the institutions.

REFERENCES

- Ahmad, N., N. Ahmad, & S. Haron, 2001. "E-banking as a Strategy Towards Meeting Globalisation". The International Conference on Management Education, Ho Chi Min City, Vietnam.
- Booz-Allen & Hamilton, 1997. "Booz-Allen's Worldwide Survey Revealed a Huge Perception Gap Between Japanese and American/European Banks Regarding Internet Banking". <http://www.bah.com/press/jbankstudy.html>
- Loay Salhieh, Jamal Abu-Doleh and Nada Hijazi, 2011. "The assessment of e-banking readiness in Jordan", International Journal of Islamic and Middle Eastern Finance and Management, 4: 4 (1997).

The Internet will Shake Banking Medieval Foundations. *Journal of Internet Banking and Commerce*. 2(2), March. (<http://www.arraydev.com/commerce/jibc/9702.01.htm>)

Seitz, J. & E. Stickel, 1998. "Internet Banking: An Overview." *Journal of Internet Banking and Commerce*. 3(1), January. (<http://www.arraydev.com/commerce/JIBC/http://www.arraydev.com/commerce/JIBC/9801-8.htm>)

Shanmugam, B. & P. Vijayan, 2003. "Service Quality Evaluation of Internet Banking in Malaysia". *Journal of Internet Banking and Commerce*, 8(1), Jun. (<http://www.arraydev.com/commerce/jibc/0306-6.htm>)

Stijn, C., T. Glaessner, & D. Klinebiel, 2000. "Electronic Finance: Reshaping The Financial Landscape Around the World". World Bank: Financial Sector Discussion, 4.

Suganthi, Balachander & Balachandran, 2001. "Internet Banking Patronage: An Empirical Investigation of Malaysia". *Journal of Internet Banking and Commerce*, 6(1): (<http://www.arraydev.com/commerce/jibc/0301-01.htm>)