The Development of E-Banking in Developing Countries in the Middle East

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Abstract

The purpose of this research is to explore current developments in the field of e-banking in Jordan, as representative of similar developing countries in the Middle East. Many Jordanian commercial banks provide e-banking services for both individuals and companies. Such banks aim not merely to provide financial and banking services, but also to offer consultation on comprehensive financial, commercial and investment management. A crucial element in providing modern services to their clients is the provision of an independent online e-banking service. The aim of this research was to investigate which online e-banking services were most in demand in the banks in the study sample, and to explore the most influential variables which influenced customer demand for online banking services. The findings were that the most demanded services were requests for balance inquiries, bank statements, checks books, payment of bills, transfers from one account to another, telephone banking, requests for interest rates, and requests for currency rates and money wiring (internal and external). Furthermore, the variables

most influencing customer demand for these services were the diversity of online banking services , and their relative ease of use. Other variables were the level of education of customers, as well as their perceptions of the level of risk and the volume of costs.

Keywords: *E-banking, Financial Services, Online Banking, Jordan, Middle East*

Introduction

The technological revolution in the use of the Internet has directly impacted on world banking activities and financial regulations; the spread of computer access, along with innovation in banking services and methods, has enhanced speed in performance, costs and customer confidence in banking systems. These developments are reflected in the many Jordanian commercial banks which provide e-banking services to their individual customers or to institutions and companies. The online banking services provided by these banks include enquiries for account balances, interest rates and exchange rates, applications for credit facilities or account statements, requests for credit cards, payment of bills, cash transfers, transfers between accounts and notification of change of address. These e-banking services are provided in both Arabic and English. In addition to such services, most banks in Jordan conceive of the next step in their e-banking systems to be further development of customer services.

In order for Jordanian banks to go forward with confidence with their plans to develop customer services within e-banking, it is essential to research to what extent so far, current e-banking systems have been successful in increasing customers through cost reductions and increase in revenues, Additionally it is necessary to evaluate to what extent customer confidence and

satisfaction have been boosted by improvements in the banks' systems in terms of optimal time and effort.

Literature Review

The aim of Ala'Eddin & Al-Zu'bi (2011) study was firstly to investigate the extent of customer reliance on e-banking transactions in Jordanian commercial banks, and secondly to evaluate the impact of e-banking usage on customer satisfaction and willingness to engage in e-banking. In order to attain the objective of the study, interviews and questionnaires were administered to a sample of 179 customers of Jordanian commercial banks, investigating the factors that contributed to customers' decisions to engage in e-banking. Through this study, the researchers found that the satisfaction of the customer in respect to e-banking transactions was due to the provision of:

1- Security and privacy.

2- Convenience and accessibility.

3- Determination and speed.

The Ma & Zhao (2011) study set out to analyse the most important factors impacting on the quality of e-banking services in the Commercial Banking sectors in China, and to identify the extent to which these factors influences the quality of online banking services. The researchers, using a multiple regression data analyzer, analysed eleven factors to define the dimensions of the online banking service, namely: reliability, comfort and efficacy, comfort and service, security, privacy and affirmation, differentiation of the production for customers' services and appropriation. The study demonstrated that customers' service was the most important factor in

defining the quality of online banking services for commercial banks. Other significant factors were comfort, security and reputation, as well as reliability and differentiation in production.

Khalid et al. (2006) study, using the Arab Bank's web site as data, investigated customer satisfaction with e-banking services. A number of variables were identified, such as security, services, ease of use, customer support, payments and electronic products. The results however showed that customers were not equally satisfied across all e-banking factors, leading the researchers to recommend that banks must take into account customer behaviour and feedback, and pay more attention to developing customer relations. . The study also showed that there was little correlation between the level of customer satisfactions and variables such as demographic difference or rate of computer literacy amongst customers.

Louise West (2001) study investigated the proportion of online users of banking services in the countries of Europe during 2000 to 2003, finding that there are approximately 66.2 million online banking accounts in Europe in the year 20003 compared with 26 million at the end of 2000, an increase of around 36%. The study also revealed that in 2001 online credit cards and personal loans were the major internet services offered by banks, thus enabling bank accounts to be checked and accessed by their owners from anywhere by use of password. The study also demonstrated that the annual average growth of online banking accounts was the fastest in Italy, France and Spain. As for the actual growth rate of bank account numbers, it was in France, Germany, Italy and Britain. Conversely, Sweden had the highest number of users of online banking, reaching a percentage of 43% of all Swedish banking customers by the year 2000.

Methodology

Qualitative and Quantitative

Quantitative aspects of the research are expressed in figures; i.e. answering questions such as how many people have embraced the use of e-banking technology, how many banks are willing to adopt it, what are the costs of setting up an e-banking system and so on. The aim is to arrive at precise measurements in order to demonstrate trends or changes overtime and to compare trends and/or individual findings (Wu Ling 2009). A qualitative approach has been applied to measure and express variables in terms of quality, presenting data which will offer insights into the problem of study. Interviews are the most common source of this kind of data.

There are three types of interviews: structured, semi-structured and unstructured interviews. Semi-structured interview is easier to analyze and does not take a lot of time compared with unstructured interviews. On the other hand semi-structured interviews take more time and are more difficult to analyze compared with structured interviews. Kvale (1996) defines a semi-structured interview as an interview whose purpose is to obtain descriptions of the life world of the interviewee with respect to interpreting the meaning of the described phenomena. It offers a sequence of themes to be covered, as well as a list of potential questions. At the same time, this method offers an openness to changes of sequence and forms of questions in order to follow up the answers given and the stories told by the subjects. These characteristics are compatible with the purpose of this research, where semi-structured interviews were piloted with three bank managers in order to check the quality of the instrument used to collect the data

Research Design

A research design is a plan, structure and strategy of investigation conceived to attain answers to research questions and to control variance. In this study the researchers use cross sectional and longitudinal factors. This design as observed by Niguel (2007) is appropriate for such a study intended to obtain information from the banking population, bank management personnel and other stakeholders contributing to the growth and development of e-banking in Jordan.The intended method is to conduct semi-structured interviews with identified key bank managers in Jordan in order to investigate how effective they perceive the current use of e-banking, as well as to check the quality of the instruments and their items.

Sampling

Williamson defines sampling as a way of limiting the number of participants in a population deliberately. The process involves selecting a number of individuals for a study in such a way that the individuals selected represent the larger group from which they are selected. In this study the researchers used random sampling to give each individual in the population an equal chance of being selected for the study. Random sampling uses statistical probability to ensure a representative sample. The researchers gave 200 questionnaires to respondents from various members of the banking community.

Target Population

This refers to all members of a people or objects to which we transfer the findings of the study, (Frank, 2005). The target population in this study includes e-banking customers, and the subordinate staff of institutions.

Sampling design and sampling procedures

According to Williamson (2007), a sample is a subset of the population which comprises members selected from it. Area sampling was used in this study where the population was divided into clusters along geographic boundaries. A measurement of all units was done within the sampled clusters after random sampling. In this study, the sample involved individuals and small micro enterprise citizens who currently do not have access to the existing e-banking in the Jordan. The researchers then used stratified random sampling as a procedure in order to obtain a desired representation of the entire population (O' Neil, 2010). 200 questionnaires were issued to the selected population regardless of whether the respondents were members of e-banking in Jordan. The sample selection was based on the criterion that these respondents had an idea as to what e-banking is.

Data Collection Procedures

The researchers sought advice from the managers of e-banking in Jordan and obtained authorization for the interviews of customers and employees. The researchers requested a meeting in each of the units under study in order to ensure respondents understood what would be required. The respondents were given two days to fill in the questionnaires, and a specific day for collection was given. To ensure confidentiality, the researchers ensured that the completed questionnaires were put in an envelope and properly sealed. Envelopes were provided

to make the collection easier, the completed questionnaires being placed into the envelopes provided and sealed. All respondents were assured of confidentiality of their responses.

Data Analysis and Procedures

The data were analyzed by adding and organizing them into themes and concepts. Data coding started in the field and processed as collected. The data analysis was conducted using computer software such as SPSS. Findings were analysed by use of percentiles. The data collected is presented by use of statistical tables to represent the various reactions by respondents to different research questions. The findings will be transferred to the e-banking management and available to other stakeholders for review.

Questionnaire

The questionnaire is an effective process for finding out what members of an organization think and feel about specific issues. The questionnaire is a series of questions developed in a specific sequence in structured questions to a selected sample. The various types of questionnaire to be used in this study were structured, non disguised questionnaires where questions were listed in a prearranged order. The respondents were told about the purpose of collecting information. Their privacy and confidentiality of the information was assured. The researchers used closed questions i.e. the respondent was asked to select from a fixed list of replies. Respondents had to choose any of the options given or multiple options. This helped in facilitating coding and quantifying the answers to the questions. A total of 200 questionnaires were distributed. The researchers personally distributed the questionnaires to customers in order to ensure the effectiveness and credibility of the questionnaire. Distribution of the questionnaire personally

allowed researchers to clarify for the respondent any elements which were not understood. The findings were analyzed by use of percentiles, presented by statistical tables in order to represent the various reactions by respondents to different research questions. The findings were then transferred to the E- Banking management in Jordan banks and to other stakeholders for review.

Questionnaires were analysed through the SPSS statistical program. Averages and percentages were calculated for all questions addressed in the questionnaire. The following statistical tests were used:

- T-test.
- Cronbach's alpha test, used to measure the reliability coefficient.
- Pearson correlation coefficients, used to know the relationships between the factors.

Analysis and Testing of Hypotheses

Table (1) below shows that the services receiving the highest percentages as to importance in the questionnaires were balance inquiries, bank statements, requests for credit facilities, transfers from one account to another, requests for interest rates, and requests for currency rates. These were ranked between (100% - 66.8%), according to the answers of members of the study sample. As for the lowest percentages, there were no investment management applications used by the banks. However, the interview data indicated that in some banks investment management applications will be the next step in e-banking services provided. Additionally, more than 90% of the respondents indicated interest in using investment management applications if offered.

Repetition and percentages of all answers provided by members of the study sample were extracted using Likert scale, where the typical five-level scale was rated and given the following

points: Strongly agree (5 points), Agree (4 points), Neutral (3 points), Disagree (2 points), Strongly disagree (1 point).

Table (1) The online banking services provide the banks, according to answers provided by the study sample

No	Question	Customer			
		Yes		No	
	Section I / General Information	Rep.	%	Rep.	%
1	Balance Inquiry	182	97.3	5	2.7
2	Request for bank statement	178	95.2	9	4.8
3	Request for a check book	142	75.9	45	24.1
4	Request for credit facilities	136	72.7	51	27.3
5	Request for interest rates	152	81.3	35	18.7
6	Request for currency rates	148	79.1	39	20.9
7	Transfer from one account to another	156	83.4	31	16.6
8	Application for investment advices	6	4.3	181	95.7
9	Application for share trading	0	0	187	100
10	Application for portfolio management	0	0	187	100

Repetition and percentages of all answers provided by the study sample will be demonstrated in tables (2) herein below.

Table (2) Repetition and percentages of answers provided by the study sample about the cost of the using the online banking services

No	Questions	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		Rep.	%	Rep.	%	Rep.	%	Rep.	%	Rep.	%
1	Online banking services do not pose any financial burden on customers.	15	8.0	30	16.0	10	5.3	95	50.8	37	19.8
2	The cost of online banking provided to customers is low if compared with the customer's need for such services.	15	8.0	23	12.3	20	10.7	99	52.9	30	16.0
3	The cost of online banking services is variable according to the kind of services provided.	4	2.1	73	39.0	69	36.9	26	13.9	15	8.0

Table (2) shows the highest incidence of the answer "strongly agree" in paragraph (1), which states: that the online banking services do not pose any financial burden on customers, with a percentage of 19.8% agreeing also with paragraph (2), which states that the cost of online banking services is low if compared with the customer's need for such service and with a percentage of (16.0%).

Table (3) shows the rate and percentages abstracted for all answers provided by the members of the study sample about the proceeds of using banking services.

Table (3) Repetition and percentages of all answers provided by the study sample about the proceeds of using banking services

No	Questions	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		Rep.	%	Rep.	%	Rep.	%	Rep.	%	Rep.	%
1	The use of online banking go beyond the amount of profits gained	12	6.4	81	43.3	77	41.2	17	9.1	-	-
2	The use of online banking exceeds the volume of transactions (contracts) concluded.	8	4.3	86	46.0	59	31.6	28	15.0	6	3.2
3	The online banking service is being used only because is it is faster and not because of any other reason	1	0.5	15	8.0	71	38.0	76	40.6	24	12.8
4	The use of online banking service reduces the face to face visits and direct contact with bank staff	11	5.9	110	58.8	31	16.6	24	12.8	11	5.9

Table (3) above shows the highest incidence of "strongly agree" at a percentage of 12.8% as set for paragraph (3), which states: The online banking service is being used only because is faster and not because any other reason, and then at a percentage of 5.9% for the following paragraph number (4), which states: The use of online banking service reduces the face to face visits and direct contact with bank staff

Table (4) shows the rate and percentages that have been abstracted for all answers provided by the members of the study sample about the risks of online banking.

Table (4) Repetition and percentages for all answers of the study sample about the risks of online banking

No	Questions	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		Rep.	%	*Rep.*	%	Rep.	%	Rep.	%	Rep.	%
1	There are no risks when using the online banking services	5	2.7	8	4.3	14	7.5	102	54.5	58	.31
2	Risks constitute an impediment to benefit from banking services	14	7.5	100	53.5	34	18.2	23	12.3	16	8.6
3	There is an adequate protection for the process of access to sensitive data and services (for both customer and the bank)	4	2.1	8	4.3	36	19.3	104	55.6	35	18.7
4	Banking services are not provided to any customer but there are bases by which the identity of the customer is confirmed (for good customers)	5	2.7	38	20.3	44	23.5	64	34.2	36	19.3
5	Customers are prohibited from making any changes to files and programs over the Internet.	8	4.3	39	20.9	17	9.1	84	44.9	39	20.9
6	User IDs & passwords are known by the bank	13	7.0	54	28.9	60	32.1	46	24.6	14	7.5
7	Online banking services are available to all customers	13	7.0	54	28.9	51	27.3	41	21.9	28	15.0

Table (4) above shows that the highest percentage of 31% was given to "strongly agree" for paragraph (1), which states: There are no risks when using the online banking services, then a

percentage of 20.9% in the following paragraph (5), which states that: customers are prohibited from making any changes to files and programs over the Internet.

Table (5) above shows that the highest repetition of "Strongly Agree" provided by the study sample was 146, at a percentage of 78.1% set for paragraph (4), which states: Some banking services cannot be performed over the Internet, but through the bank directly. As for the highest repetition of the answer "Strongly Disagree" this was found in paragraph (3), at a percentage of 12.3% stating: The direct banking services are more obvious and understandable.

Table (5) Repetition and percentages of all answers of the study sample about the easiness of online banking

No	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree	
		*Freq	%	Freq	%	Rep.	%	Rep.	%	Rep.	%
1	Online banking services are easier than the direct banking services through the bank	10	5.3	49	26.2	22	11.8	71	38.0	35	18.7
2	The online banking services need a specialist to benefit from them	0	0	52	27.8	24	12.8	78	41.7	33	17.6
3	The direct banking services are more obvious and understandable	23	12.3	43	23.0	32	17.1	65	34.8	24	12.8
4	Some banking services cannot be performed over the Internet but through the bank directly	1	0.5	6	3.2	4	2.1	30	16.0	146	78.1
5	The technological system (Internet) makes online banking services easier	9	4.8	34	1.2	19	10.2	103	55.1	22	11.8
6	Online banking needs specific software and some devices to be installed to complete the process	15	8.0	46	24.6	44	23.5	64	34.2	18	9.6

Conclusion

The above findings and conclusions support the hypothesis that customers will use e-banking when they perceive that usages of e-banking are useful and accessible. The study reinforced the literature in finding variables such as risk, cost, ease of use, and usefulness to be understood as important factors in the use of e-banking systems. This study was successful in other respects, in that it was also able to suggest that the factors listed above, if improved in banking systems, could help to increase the adoption of e-banking systems. As hypothesized, usefulness and ease of use had a direct effect on the use of e-banking systems. To encourage customers' intention to use e-banking, bank managers and designers might focus on enhancing systems along the lines recommended. This would make it easier to predict ways in which e-banking would be acceptable to new customers, in addition to allowing bank managers and designers to diagnose reasons why the system as stands might be less acceptable. Take up of such findings would enhance the potential for taking corrective action to increase the acceptability of e-banking systems. Interestingly, the demographic characteristic most significantly likely to affect the use of e-banking systems in Jordan is its high level of education among the populace. The results of this research provide managers with information about the planning of e-banking Websites and service selection. In the planning and development of e-banking services, software developers should pay attention to ease of use of the systems.

References

Ala'Eddin Ahmad & Hasan Ali Al-Zu'bi (2011). E-banking Functionality and Outcomes of Customer Satisfaction: An Empirical Investigation. International Journal of Marketing Studies, Vol. 3, No. 1; 50-65.

Anderson, Ross. (2008). Financial ombudsman losing it? Light Blue Touchpaper.

Ashby, Quentin. (2005). Trading place: where now for internet banking? *ESOMAR conference on Financial Services*, London (UK).

Baten, M. & Kamil, A. (2010) E-Banking of Economical Prospects in Bangladesh. *Journal of Internet Banking and Commerce*, 15(2).

Centeno, C. (2004). Adoption of Internet services in the Acceding and Candidate Countries, Lessons from the Internet banking case. *Telematics and Informatics*, 21, 293–315.

Chau, Patrick and Lai, Vincent. (2003). An Empirical Investigation of the Determinants of User Acceptance of Internet Banking. *Journal of Organizational Computing and Electronic Commerce*, 13(2), 123-145.

Claessens, S., Glaessner, T. & Klingebiel, D. (2001). E-Finance in Emerging Markets: Is Leapfrogging Possible?. *Financial Sector Discussion*, Paper No. 7.

Computer Science Technical Report 641, Indiana University, Dec 2006.
Retrieved from http://www.symantec.com/avcenter/reference/Driveby_Pharming.pdf.

Dolan, Liz. (2005). Money surgery: Barclays plays fast and loose with chip and pin. *The Telegraph*.

Furst, K. Lang, W & Nolle, D. (2002). Internet Banking. *Journal of Financial Services Research*. 22(1/2), 95-117

Furust, et al. (2000). Internet banking: developments and prospects. *Economic and Policy Analysis*, Working Paper.

Grossman, Jeremiah and Niedzialkowski, T.C. (2006). Hacking intranet websites from the outside. *In Black Hat USA 2006*.
Retrieved from http://www.blackhat.com/presentations/bh-usa-06/BH-US-06-Grossman.pdf

Guru, Calin. (2001). E-banking in transition economies: The case of Romania. *Journal Of Financial Services Marketing*, 6(4), 362-378.

Hall, Steven, et al. (1999). Using internet for retail access: Banks found lagging. *Journal of retail banking services*, 21(1), 51.

Hazell, P & Rapheal, Z. (2001). Internet Banking: Disruptive or Sustaining Technology?".
Retrieved from http://www.ziadraphael.com/ebanking

Jayawardhena, C. & Foley, P. (2000). Changes in the banking Sector: the case of Internet banking in the UK. *Electronic Networking Applications and Policy*, 10(1), 19-30.

Kalaf, A. & Alzubi, H. (2011). E-banking Functionality and outcomes of Customer Satisfaction: An Empirical Investigation. *International Journal of Marketing Studies*, 3(1), 50-65.

Kanedaaa. (2007). Firefox phishing protection bypass vulnerability. Securiteam, Feb. Retrieved from http://www.securiteam.com/securitynews/5MP0320KKK.html

Khalid, K., Abdallah, R., Elrafe, E. & Elbaset, E. (2006). Customer satisfaction with internet banking web site (case study on the Arab bank). *The Arab academy for banking and financial sciences*, Jordan.

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage Publications

Leelapongprasut, P. & Praneetpolgrang, P. & Paopun, N. (2005). A Quality Study of Internet Banking in Thailand". Proceedings of the Fourth International Conference on eBusiness, November 19-20, 2005, Bangkok, Thailand

Lustsik, Olga. (2004). *Can e-banking service be profitable?*. University of Tartu- Faculty of Economics& Business Administration, Estonia.

Ma, Zhengwei & Zhao, J. (2011). EVIDENCE ON E-BANKING QUALITY IN THE CHINA COMMERCIAL BANK SECTOR. *Global Journal of Business Research*, 5(1).

Mermod, A. (2011). Customer's Perspectives and Risk Issues on E-Banking in Turkey; Should We Still be Online*?*. *Journal of Internet Banking and Commerce*, 16(1).

Nath, Ravi, Shrick, Paul and Parzinger, Monica. (2001). Bankers' Perspectives on Internet Banking. e-*Service Journal*, 1(1), 21-36.

Onay,C. & Ozsoz, E. & Helvacıoğlu, A. (2008). The Impact of Internet-Banking on Bank Profitability- The Case of Turkey. *Oxford Business & Economics Conference Program*.

Polatoglu, V. N. and Ekin, S. (2001). An Empirical Investigation of the Turkish consumers' acceptance of Internet Banking services. *The International Journal of Bank Marketing*, 19, 156-165.

Ross Anderson, Mike Bond, and Steven J. Murdoch. Chip and spin. Retrieved from http://www.chipandspin.co.uk/spin.pdf

Shanab, Abu and Pearson, J. (2007). Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective. *Journal of Systems and Information Technology*, 9(1), 78-97.

Stoneman, Bill. (2001). Rational For Online Banking Starts to Shift, *American Banker*, 166(48), 1

Sullivan, Richard J. (2000). How Has the Adoption of Internet Banking Affected Performance And Risk In Banks?. *Federal Reserve Bank of Kansas City*, Financial industry perspectives, 1-16

Uppal, R.K. (2011). STRATEGIES TO MITIGATE RISK IN INTERNET BANKING. *IJMMR*, 2(1).

West, Louise. (2001). Online Banking Becomes a Commodity in Europe. *Bank Technology News*, 14(5), 64.

White, Helen and Nteli. (2004), Internet Banking in the UK: Why are there not more Customers. *Journal of Financial Services Marketing*, 9(1), 49-56.

Williamson, J. (2008), *Research Design and Sampling.* Texas. John Hops Publishers.