Journal of Internet Banking and Commerce

An open access Internet journal (http://www.arraydev.com/commerce/jibc/)

Journal of Internet Banking and Commerce, December 2012, vol. 17, no.3
(*http://www.arraydev.com/commerce/jibc/*)

Internet versus Mobile Banking: A Study of Peshawar City (Pakistan)

MUHMMAD ZEESHAN AHMAD KHAN
Assistant Professor, City University of Science & I-T Peshawar, Pakistan
Postal Address: City University of Science and I-T Dalazak Road Peshawar Pakistan
Author's Personal/Organizational Website: http://cusit.edu.pk/cusitnew/index.php
Email: **xishan75@yahoo.com**
Muhammad Zeeshan Ahmad Khan is Assistant Professor and academic coordinator at City University of Science and information Technology Peshawar Pakistan. Having more then 12 years of teaching experience.

SHAHZAD KHAN
Lecturer, City University of Science & I-T Peshawar, Pakistan
Email: **Shahzadkhan.lecturer@gmail.com**
Postal Address: City University of Science and I-T Dalazak Road Peshawar Pakistan
Author's Personal/Organizational Website: http://cusit.edu.pk/cusitnew/index.php
Email: **Shahzadkhan.lecturer@gmail.com**
Shahzad Khan is Lecturer at City University of Science and information Technology Peshawar Pakistan. Having more then 4 years of teaching experience and has published more than 30 international publications. He is also pursuing his PhD from International Islamic University Islamabad Pakistan.

Abstract

The aim of this research is to consider the market status for difference between mobile and internet banking. The worldwide improvement of information technology has affected the banking industry. In the banking segment the impact of information technology is the preface of internet banking and mobile banking. The internet has created an incredible market space, another technology is the mobile phone has emerged to take more important role in business and society. Users attitude and behavioral characteristics for internet and mobile bank were examined in this study. A structured questionnaire was designed to collect responses. Bankers and common

mobile business executives included which use their cell phone for financial transactions and check their balances on cell phones. This research and its results give a close view that only the perceive usefulness of mobile banking and internet banking are same. Research also emphasize on more study on this regard that mobile banking is not same as internet banking.

Key Words: **Mobile Banking, Internet Banking, and differences.**

INTRODUCTION

Rapid growth in IT sector and its inclusion in service sector particularly in banking have revolutionized the business sector as a whole. The internet had already produced unbelievable market proficiency and it had taken a banking industry to a remarkable and tremendous growth track Internet banking uses the Internet as a remote release channel. Internet banking is a way through which the consumers using the Internet to obtain in contact with their bank account and to take on banking transactions. On the essential stage, the setting up of a web pages by a bank to give information about the product and its services.

Transactional online banking involves some conditions of facilities such as accessing accounts, transferring of funds, and buying of financial products or services online. Mobile phone or cell phone has emerged as another technology in early 2000s to engage in exercise a more and more significant part in business. Though mobile phone has started to serve communication sector at first instance but as numbers of mobile phone users increased, transferring of amount, purchasing products and services using mobiles phones have also increased. Samaneh barati, shahriar mohammadi (2009).

It is fact that the difference between the two technologies is obvious but the user perception regarding services is really volatile. Although Yang J., Whitefield M., Boehme K. (2007) have exposed the innovatory changes in both services with speedy advancement but the difference between e-commerce and m-commerce is due to the constraints of terminal devices, the communication style, interface functionality and the treatment patterns. Samaneh barati and shahriar mohammadi (2009) write in their study that m-commerce is more than an extension of e-commerce with more sophisticated and better friendliness.

No matter that the two different kind of technologies are overwhelmingly not only welcomed but also showing tremendous advancements in operations but there are some consumer oriented issues that are always been a interest area of researchers. Internet banking has many studies to highlight different aspects concerned to users, the reservations of the user of technology generally related to safety issues, services fulfillment, easiness of use, usefulness of technology and some other facilitating characteristics such as accessibility, competitiveness, cost saving and equipped skills etc are still require to be cleared and supposed to be understood.

Laukanen (2007) shows concern about these issues and he emphasized on the measurement as necessary for these issues.

This study is an effort to measure some behavioral differences in between the internet banking and mobile banking. It is obvious that behavioral characteristics regarding perception of consumer is really multidimensional but as this study is focusing on the differences in both technologies in particular region that is Khyber PakhtunKhwa (KPK) where no such study is found to unfold the facts regarding user perception in between internet banking and mobile banking.

MAIN OBJECTIVES

There are following objectives of this research work.

1. To find what is the attitude of consumers towards mobile and internet banking.
2. To set new ways for researchers and bankers about banking and financial process in a moderate way and improve their understating of technology in banking sector.
3. To find the new modifications in internet and mobile banking.
4. To find the target market for internet and mobile banking and find their attitude.

LITERATURE REVIEW

Technology has undoubtedly changed the style of every aspect of life. Particularly communication sector has really revolutionized with the technology, as Laukanen (2007) specifies business environment and mainly service sector, which is reshaped and modernized with the use of technology. He also refers the consumption pattern of service in the last few years that has really turned onto a new track.

Norizan Mohd Kassim, Abdel Kader Muhammad Ahmad Abdulla (2006) wrote that internet has revolutionized the banking services along with other sectors and people had completely transformed and become dependent on the technology. Taylor and Tod (2001) also declared Electronic banking is most successful practice and applications of electronic commerce. Banking and business through internet has quick acceptance for customers because attributes of internet satisfy customer because obligation concerning financial transaction (Nijaz 2006). The new strategies in financial sector mostly banking sector is now providing new kinds of added value to the customers through technological channels (Gordon and Gupta 2006), mobile phone technology with its emergence and speedy penetration in communicating channels has become most favorable technology in communication based sector like banks. Though internet has been very innovative in its versatile function (Mohd Abbas *et al* 2009; Laukanan, 2007; Norizan. *et al* 2006) but mobile phone technology has emerged in the same pace with its versatile functionality.

The development of electronic banking to mobile banking the services of bank have actually upgraded with the introduction of different kind of innovative functions and practices, the question arise, whether the technology will be adopted by the customer on same footing? Or the technological advancement would discover easy way for acceptance by the user as compare to the internet?

Many researchers take this question and the researcher conducted their research to discover in the financial service adoption and acceptance of new technology. Customer is now more interested to new channel and less willing in doing transactions physically; he/she is less loyal to traditional moves and methods and more demanding for superior service quality (Norizan. *et al* 2006). The increasing circulation of mobile technology and WAP-enabled strategy has brought very visible development in electronic banking (Mohd Abbas *et al* 2009).

Through internet banking has used in higher level but still some of the limitations bounded such as the internet user to operating system they get in front of their computer for longer time (Locket and Litter, 1997). The study on electronic commerce to mobile banking has evolved increasingly from the consumer attitude towards Automated Teller Machine (Rugimbana, 1995; Rugimbana and Iversen, 1994), Then to the telephone banking analysis (Lockett and Litter, 1997) then it comes toward personal computer banking (Sathye, 1999) and not last but the least the concentration of researcher is now on mobile banking and its implications. As said earlier that this study is a comparative analysis of internet banking and mobile banking therefore the discussion would be very precise and not covering to other kinds of technology.

Mobile phone provide many of the services in banking sector such as request for account balance, business from account, transfer funds, trading or buying and selling, price information etc (Laukkanen, 2007), it should be very clear that from mobiles phones it is not necessary to have net access on phone because now banks are offering wireless service connections with or without mediating internet on phones here mobile banking refers to any kind of banking services through phone on the other hand internet banking refers to have a desktop arrangements with proper land line connection.

Many of the determinants are taken from electronic banking are as same as the determinant of banking through mobile (Laukkanen, 2007). Time saving, and freedom from the place and time constraints, immediacy or service speed (Dennis *et al*, 1999), compatibility and convenience with life style are the factor that stimulate the use of technology in service, while complication of service like perceived cost, service ignorance of electronic devices, perceived credibility, perceived trust are factors which require a brief touch for better understanding as comparative issues in both technologies while Increasing features of mobile phones and increasing numbers of mobile users making this device as big channel and vast potential for service sector (Laukkanen, 2007).

Karjaluoto, H., Mattila, M. and Pento, T., (2002a) have mentioned many determinants where user tends towards using technology like low fees, less time consumption, privacy, freedom from time and place along with the PEOU and PU (cited in Suoranta, 2003). Black, N.J., Lockett, A., Ennew, C., Winklhofer, H. and McKechnie, S. (2002) and Karjaluoto, H. (2002) added speed of service delivery, convenience and compatibility with life style as external constructs to support the use of technology whereas there are some factors which inhibits the consumer to use the technology such as complexity of service or task, financial cost (Black et al., 2002; Lee et al., 2003) ignorance of electronic device, security risk (Sathye, 1999; Karjaluoto et al. 2002a). Mobile phone has faced some greater influence of inhibitors in using mobile for banking purpose, perceived

credibility and security issues (Luarn and Lin, 2005) but some of authors argued that the perceived cost and security are not remain a great hurdles in using mobile in banking.

The literature is not yet decisive about the comparative judgment of mobile banking vs. internet banking there is a mixed kind of arguments about the similarity and dissimilarity about the services.

For clearer picture and understanding of the topic and scope of this study, some hypotheses are set to be tested. Basic philosophy of TAM provides PEOU and PU as core built-in factors in influencing attitude toward use of technology H1, H2 and H3 are with the reference of basic TAM theme. Technology acceptance model (TAM) developed by Davis (1986) to evaluate the acceptance level of a consumer regarding technology, Davis(1999) argued that people plan to behave against technology on the basis of perceived ease of use (PEOU) of technology which refers the easiness in use of technical device which embedded task familiarity, and equipped skills whereas perceived usefulness (PU) which refers that how consumer reveals about the usefulness of the use like quickness of use, competitiveness, accessibility, efficiency and affectivity of the use of technology. Time and cost are two important attributes that may come under usefulness but many researchers have take cost effectiveness as separate variable along with perceived usefulness rather embedding it into PU (Li and Huang, 2009; Chau and Lai 2003; Taylor and Todd, 2001; Dennis *et al*, 1999).

H1: perceived ease of use of mobile banking is as same as internet banking.
H2: perceived usefulness of mobile banking is as same as internet banking.
H3: Attitude towards use of mobile banking is as same as internet banking.

Generosity of TAM allow to incorporate as many factors influencing PEOU and PU (Zeeshan M. A. K., 2011), Samaneh and Mohammadi (2009) are also sensitive about the factors other than ease of use or usefulness, So far as task familiarity, service delivery convenience and compatibility is concerned they unanimously approved significant in literature for both technologies as discussed earlier but security and risk are having different opinions, Luarn and Lin (2005) say that security and risk are inhibitors in using technologies whereas Karjaluoto et al. (2002a) declares the risk and security not as such inhibitors in using technology particularly mobile in banking. Here security and risk is summed up in perceived credibility as suggested by Adesina Aderonke A and Ayo Charles K. (2010) Perceived cost is considered to be very low in mobile banking (Laukkanen, 2007) as compare to internet banking but Tero Pikkarainen, Kari Pikkarainen, Heikki Karjaluoto and Seppo Pahnila. (2004) have mentioned the least cost effectiveness in internet banking as well, where they include time saving and physical appearance at bank as a cost along with financial cost.

Therefore here H4 and H5 are set to see the difference in perceived credibility and perceived cost of both technologies:
H4: perceived credibility of mobile banking is as same as internet banking
H5: perceived cost of mobile banking is as same as internet banking

Yale and Venkatesh (1986) have mentioned another dimension of accessibility in using technology (cited in Laukkanen, 2007) whereas accessibility refers to the distance of service and physical appearance of user obviously zero distance provide greater

accessibly that adds the value of the service. Mobile phones have greater accessibility (Chau P. Y. K. & Lai V. S. K., 2003; Karahanna and Straub, 1999). Whereas Sylvie Laforet and Xiaoyan Li (2005) show that the Chinese people are less impressed with the accessibility of new emerging technology, the need is felt to see the same issue in response to these different kind of behavior regarding perceived accessibility:
H6: perceived accessibility of mobile banking is as same as internet banking.

RESEARCH METHODOLOGY

In order to achieve the objectives of this research study has used a comprehensive methodology. Study has used the following method to achieve its objectives in order tyo answer the research questions and accomplish it objectives.

Sources and nature of data

Primary data is collected through structured questionnaires from randomly selected sample of size 80. Population comprised of those people who use mobile or internet for transactions. The questionnaire is structured in the light of variables as suggested by literature Eighty respondents included Bankers and common mobile user business executives.

Analytical Technique

Technology acceptance model (TAM) is the successful method to evaluate the significant elements and factors that influencing the response of customer towards mobile banking (Hanudin et al, 2007; Dennis *et al*, 1999). Technological study is complete to using customized TAM after collecting the data from the media. Fred Davis in 1986 developed TAM where he has use two major elements, perceived ease of use and perceived usefulness (Hanudin *et al*, 2007). For the acceptance of technology several studies have completed and the majority of them are ruling out through technology acceptance model. In information technology and researches TAM is most popular (Tao, 2007). TAM has used 700 times Davis F. D. (2007) in the journal and articles (Cited in Tao, 2007). Five point of Likert scale as of strongly agree to strongly disagree is used to collect the responses of the questions. The technique of regression is also used for estimate and software of SPSS version 19 is used for the technical computation.

RESULTS AND ANALYSIS

The SPSS software which is use for the calculation of different variables such as mean, standard deviation, factor loading, item reliability and composite reliability. The measurement model was used for construct reliability and validity. Construct reliability have two levels item reliability and composite reliability. Item reliability can be obtained by squaring the factor loading. Item reliability is greater than .50 is considered and less than .50 does not considered.

As shown in Table 1 all item reliabilities surpassed the required minimum, except perceive ease of use which was .46 and attitude which was .32 perceive credibility which was .31 and perceive cost which was .43 accessibility which was ,26 below the required minimum.

Composite reliability is calculated as below (square of the summation of the factor loadings)/ [(square of the summation of the factor loadings)-(summation of error variances)]

TABLE 1
SUMMARY OF MEASUREMENT SCALE
INTERNET BANKING

CONSTRUCT	MEAN	STDANDARD DEVIATION	FACTOR LOADING	ITEM RELIABILITY	COMP: REL:
PERCIEVE EASE OF USE					
PEU1	1.53	0.616	0.68	0.4624	
PEU2	1.88	0.832	0.822	0.675684	0.822
PEU3	2.24	0.947	0.685	0.469225	
PERCIEVE USEFULNESS					
PU1	1.41	0.705	0.905	0.819025	
PU2	1.47	0.868	0.874	0.763876	
PU3	2.08	1.239	0.926	0.857476	0.893
PU4	2	0.979	0.799	0.638401	
PU5	1.94	0.801	0.7	0.49	
ATTITUDE					
ATT1	1.71	0.979	0.814	0.662596	
ATT2	2.12	1.467	0.875	0.765625	
ATT3	2.27	1.426	0.571	0.326041	0.799
ATT4	2.1	1.461	0.941	0.885481	
PERCIEVE CREDIBILITY					
PCR1	2.24	0.969	0.912	0.831744	
PCR2	2.86	0.935	0.689	0.474721	0.734
PCR3	2.61	0.953	0.557	0.310249	
PERCIEVE COST					
PC1	2.57	1.061	0.783	0.613089	
PC2	2.2	0.866	0.659	0.434281	0.682
PC3	2.53	0.793	0.724	0.524176	
ACCESSIBILITY					
ACC1	1.61	0.837	0.519	0.269361	0.333
ACC2	1.94	0.966	0.935	0.874225	

Composite reliability is greater than .70 than factor is reliable and if it is less than .70 than it is less reliable. The composite reliability for all the constructs was above .70 except perceive cost which composite reliability was .68 and accessibility which composite reliability was .33.

The SPSS software is used for the calculation of different variables such as mean, standard deviation, factor loading, item reliability and composite reliability.

The measurement model was used for construct reliability and validity. Construct reliability have two levels item reliability and composite reliability. Item reliability can be obtained by squaring the factor loading. Item reliability is greater than .50 is considered and less than .50 does not considered.

TABLE 2
SUMMARY OF MEASUREMENT SCALE
MOBILE BANKING

CONSTRUCT	MEAN	STANDARD DEVIATION	FACTOR LOADING	ITEM RELIABILITY	COMPOSITE RELIABILITY
PERCIEVE EASE OF USE					
PEU1	1.88	0.904	0.793	0.628849	
PEU2	2.14	1	0.955	0.912025	0.924
PEU3	2.49	1.293	0.98	0.9604	
PERCIEVE USEFULNESS					
PU1	2.47	1.386	0.92	0.8464	
PU2	2.71	1.458	0.936	0.876096	
PU3	2.31	0.918	0.805	0.648025	0.708
PU4	2.41	1.039	0.836	0.698896	
PU5	2.71	1.242	0.622	0.386884	
ATTITUDE					
ATT1	2	0.979	0.761	0.579121	
ATT2	2.41	1.135	0.726	0.527076	0.935
ATT3	2.33	1.144	0.932	0.868624	
ATT4	2.51	1.082	0.933	0.870489	
PERCIEVE CREDIBILITY					
PCR1	2.39	0.64	0.834	0.695556	
PCR2	2.73	0.995	0.978	0.956484	0.892
PCR3	2.55	1.209	0.902	0.813604	
PERCIEVE COST					
PC1	2.24	0.855	0.918	0.842724	
PC2	2.35	1.091	0.928	0.861184	0.963
PC3	2.31	1.004	0.801	0.641601	
ACCESSIBILITY					
ACC1	2.08	0.886	0.926	0.857476	0.806
ACC2	2.45	0.765	0.735	0.540225	

As shown in Table 2 all item reliabilities surpassed the required minimum, except one for perceive usefulness which was .38 below the required minimum. Composite reliability can be calculated as follows (square of the summation of the factor loadings)/ [(square of the summation of the factor loadings) -(summation of error variances)].

Composite reliability is greater than .70 than factor is reliable and if it is less than .70 than it is less reliable. With the exception of accessibility, the composite reliability for all the constructs was above .70

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
PU	Equal variances assumed	.205	.652	4.549	96	.000	.74286	.16331	.41870	1.06702
	Equal variances not assumed			4.549	95.648	.000	.74286	.16331	.41868	1.06703
PEU	Equal variances assumed	29.008	.000	1.633	96	.106	.28517	.17460	-.06141	.63175
	Equal variances not assumed			1.633	85.413	.106	.28517	.17460	-.06196	.63230
ATT	Equal variances assumed	.081	.776	1.250	96	.214	.26020	.20819	-.15304	.67345
	Equal variances not assumed			1.250	95.542	.214	.26020	.20819	-.15307	.67347
PCR	Equal variances assumed	2.279	.134	-.086	96	.932	-.01442	.16771	-.34732	.31848
	Equal variances not assumed			-.086	94.205	.932	-.01442	.16771	-.34740	.31856
PC	Equal variances assumed	.188	.666	-.806	96	.422	-.13721	.17015	-.47496	.20054
	Equal variances not assumed			-.806	88.981	.422	-.13721	.17015	-.47530	.20088
ACC	Equal variances assumed	.909	.343	3.324	96	.001	.48980	.14737	.19727	.78233
	Equal variances not assumed			3.324	95.409	.001	.48980	.14737	.19724	.78235

NULL HYPOTHESIS:

The entire hypothesis is tested through traditional way of testing. Z statistic is being used to test hypothesis of difference between the means of two samples. Level of significance is 5% and critical region of z at 5% is ≠ 1.96.

H1: perceived cost is in mobile banking is same as internet banking
For PC

Critical Region: $\pm Z_{\alpha} = 1.96$, $\alpha = 0.05$ (level of significance), $Z^* = 1.123$, $Z^* < 1.96$
So H_o is accepted
The H1 formulated in the study that reveals the perceive costs is in mobile banking is not same as in internet banking because the null hypothesis is accepted so the H1 is negative.

H2: perceived credibility is in mobile banking is same as internet banking
For PCR
Critical Region: $\pm Z_{\alpha}$= 1.96, α= 0.05 (level of significance), Z^* = -0.063, Z^* <1.96
So H_o is accepted
The H2 formulated in the study that reveals the perceived credibility is in mobile banking is not same as internet banking because the null hypothesis is accepted so H2 is negative.

H3: perceived ease of use is in mobile banking is same as internet banking
For PEU
Critical Region: $\pm Z_{\alpha}$= 1.96, α= 0.05 (level of significance), Z^* = 1.051, Z^* <1.96
So H_o is accepted
The H3 formulated in the study that reveals the perceived ease of use is in mobile banking is not same as internet banking because the null hypothesis is accepted so H3 is negative.

H4: Attitude toward mobile banking is same as internet banking
For ATT
Critical Region: $\pm Z_{\alpha}$= 1.96, α= 0.05 (level of significance), Z^* = 1.604, Z^* <1.96
So H_o is accepted
The H4 formulated in the study that reveals the attitude toward mobile banking is not same as internet banking because the null hypothesis is accepted so H4 is negative.

H5: perceived usefulness is in mobile banking is same as internet banking
For PU
Critical Region: $\pm Z_{\alpha}$= 1.96, α= 0.05 (level of significance), Z^* = 4.552, Z^* >1.96
So H_o is rejected
The H5 formulated in the study that reveals the perceive usefulness is in mobile banking is same as internet banking because the null hypothesis is rejected so H5 is positive.

H6: Accessibility of mobile banking is as same as in internet banking. For ACC
Critical Region: $\pm Z_{\alpha}$= 1.96, α= 0.05 (level of significance), Z^* = 0.813, Z^* <1.96
So H_o is accepted
The H6 formulated in the study that reveals the accessibility of mobile banking is not same as in internet banking because the null hypothesis is accepted so H6 is negative.

FINDINGS AND DISCUSSIONS

The study was focused on the search of mobile banking vs internet banking. In relative to this idea, all hard work was made to get consistent enough outcomes that can show somewhat true image of the concept. In developing countries Mobile banking getting place and by the users it got good attachment in developed counties. Many studied have conducted to investigate about the attitude of the user toward mobile banking. Different models are followed for the better understanding.

The study show that the perceive cost of mobile banking is not same as internet banking. Perceived credibility, perceived ease of use, is also different in mobile banking and internet banking. Attitude toward mobile banking and internet banking is not same.

The usefulness of mobile banking and internet banking is same. Six hypotheses were set to get complete view of the consumers.

A questionnaire was designed with the six factors. The questionnaire collected from different consumer and analyzed through SPSS version 19. Perceived cost is in mobile banking is not same as internet banking. This show the cost of mobile banking and internet banking are different. The results show that the perceived usefulness of mobile banking is same as internet banking. Classical t test is followed for the results.

CONCLUSION

As more financial institution launch the mobile banking, it will be necessary for banks to focus all the factors. For rapid communication Mobile phone as a medium for the service providers has gotten attentions to use this technology as communication with the customers. Some of the limitation We took the data from peoples to find out the difference between mobile banking and internet banking. For that purpose we selected different banks of Peshawar and then concluded that the mobile banking is not same as internet banking. Only the usefulness of mobile banking is same as internet banking.

As the results have been taken our conclusion are that the mobile banking is not like internet banking. But still some of the boundaries surrounded such as the internet user have to get in front of his computer to operate for longer time. Mobile phone provide many of the services in banking sector such as request for account balance, business from account, transfer funds, trading or buying and selling, price information. Mobile banking is preferable and more attractive than internet banking Majority of people prefers to use mobile banking. The usefulness of mobile banking and internet banking are same s bounded such as the internet user have to get in front of his computer to work for longer time but still Internet banking has used in superior level. In banking sector Mobile phone offer many services such as request for account balance, business from account, transfer of funds, trading or buying and selling, price information. This research and its results guide us to conclude that mobile and internet banking is different only the perceive usefulness of mobile banking and internet banking are same.

REFERENCES

Chau, Patrick Y. K.; Lai, Vincent S. K (2003)," An Empirical Investigation of The Determinants of User Acceptance of Internet Banking", journal organizational computing and electronic commerce 13(2), 123-145 (2003)

Chang, Y. (2002). Dynamics of banking technology adoption: An application to internet banking. Working paper, University of Warwick

Davis F. D. (2007),"user acceptance of information technology: research progress, current controversies, and emerging paradigms, keynote speech at the 7th international conference of electronic commerce

Davis F. D. (1986)," A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results", in MIT Sloan School of Management. Cambridge MA: MIT Sloan School of Management, 1986

Dennis F. Galletta; Yogesh Malhotra, (1999) "Extending The Technology Acceptance Model to Account for Social Influence: Theoretical Bases and Empirical Validation", proceedings of 32nd Hawaii international conferenc4e on system sciences, 1999

Gordon, J. P and P. Gupta (2006), "Understanding India's Services Revolution", IMF Working Paper No. WP/04/129

Gurau, C. (2002). E-banking in transition economies: The case of Romania. Journal of Financial Services Marketing, 6 (4), 362-379.

Hanudin A., Ricardo B., Mohd Z. M.(2007),"an analysis of mobile banking acceptance by Malaysian customers" Sunway academic journal 4, 2007

Ismail, H. B., & Panni, M. F. A. K. (2009). Factors affecting customer retention toward internet banking in Malaysia. Journal of Information and Knowledge Management, 8 (1), 35-43.

Laukkanen, T. (2007) Internet vs. mobile banking: comparing customer value perceptions Business Process Management Journal Vol. 13 No. 6, 2007 pp. 788-797

Lee, E., & Lee, J. (2001). Consumer adoption of internet banking: Need-based and/or skill based? Marketing Management Journal, Spring.

Laukkanen T., Pasanen M., 2005; Characterizing the User of Mobile Banking: A Distinct Group of Online customers? BPMJ 13, 6 p, 788-79

Li, Yong-Hui and Huang, Jing-Wen (2009), "Applying Perceived Risk and Technolofy Acceptance Model In Online Shopping Channel", World Academy Of Science, Engineering and Technology 53, 2009

Locket, A., Littler, D., (1997),"The Adoption of Direct Banking Services", Journal of Marketing Management, Vol 13, pp 791-811

Karjaluoto, H., Mattila, M., & Pento, T. (2002). Electronic banking in Finland: Consumer

Beliefs and reactions to a new delivery channel. Journal of Financial Services Marketing, 6 (4), 346-361.

Mariscal J., 2009; Mobile for development: M-Banking; Prepared for delivery at the 2009 Congress of the Latin American Studies Association, Rio de Janeiro, Brazil June 11-14

Mohd Abbas S. Z., R. A. Rehman, Manhenthiran, S. (2009), "Ultimate Ownership and Performance of Islamic Financial Institutions in Malaysia", Asian Finance Association Conference, July 2009

Nijaz Bajgoric (2006) "Information technologies for business continuity: an implementation framework information Management & Computer Security", Vol.

14 No. 5, 2006 pp. 450-466

Norizan Mohd Kassim, Abdel Kader Muhammad Ahmad Abdulla, 2006; The influence of attraction of internet banking: an extension to the trust relationship commitment model; international Journal of Bank Marketing 24, 6 p. 424-442

Samaneh Barati and Shahriar Mohammadi, 2009; An Efficient Model to Improve Customers Acceptance Of Mobile Banking; Proceedings of the world congress on engineering and computer science 2009 vol; II

Sathye, M. (1999). Adoption of internet banking by Australian consumers: an empirical investigation. International journal of bank marketing, 17(7), 324-334.

Tao, Yu-Hui, (2007), "The Generalization and Specialization of Technology Acceptance Model", Twenty English International Conference on Information Systems, Montreal 2007

Taylor, S., Todd, P., "understanding information technology usage: a test of copeting models, information system research, Vol 6 (2001) 144-176

Yang J., Whitefield M., Boehme K. (2007); New issues and challenges in rural areas: an empirical study; International Journal Electronic Finance, Vol. 1, No. 3, 2007, p 336-354

Zhaohua Deng, Yaubin Lu, Zhiya Chen (2009),"Exploring Chinese User Adoption of Mobile Banking", the 6th Wuhan International Conference on E-Business – e-business track, p 176-181