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Determining the Effect of Innovations for Mobile Banking Adoption in Pakistan

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Abstract
Mobile banking is the source of checking the daily banking affairs at anywhere, where the internet service is available. The main objective of this research was to check the impact of innovations on adoption of mobile banking in Pakistan. The research was based on primary data, which was collected from 500 students of all the public and private universities of Pothohar region (Islamabad/Rawalpindu) by means of a questionnaire. Random Sampling Technique was used and through SPSS the correlation analysis and regression analysis were calculated. The correlation analysis results showed that there is positive significant relationship between Innovations, with adoption of mobile banking in Pakistan. The regression analysis showed that the value of R square = 0.621, which means that the independent variable Innovation has 62% effect on dependent variable Mobile Banking Adoption. This research will helpful for banking sector and other related commercial organizations.
Keywords: Innovations, Telecom Sector, Mobile banking, Pakistani Environment.

Introduction

As it is very common understanding that mobile usage has grown up at a breathtaking pace over the past decade. With cheaper mobile devices and airtime rates, it has become very easy to adopt mobile banking. The corresponding strategies have been adopted by the banks as a consequence due to evolutionary changes. Swiftness to customers, changing social and demographic trends, regulatory requirements, customer preferences, competition, and technological changes has regularly undergone the banking sector (Giannakoudi, 1999; Byers &Lederer, 2001).Time liberty and expediency, along with cost savings, these are the different types of facilities provided by mobile banking. By mobile services, mobile banking delivers the enlarge market diffusion (Lee and Kim, 2007). Mobile phones created an opportunity for the evolution of banking services to reach the previously under banked/ unbanked population (CGAP, 2006).

A paradigm shift has been seen in the banking operations and services, since the past decay, it is due to advancement in technology. The competiveness, customer demand and global commerce is rapidly changing, this rapid change is due to advancement in emerging technologies. As a result of innovations in technology and rapid change in the banking services have been rapidly developed and changed the commercial landscape. Now a day, in order to attain customer satisfaction the banks have vie each other (Shi and Lee, 2008). The banks have adopted corresponding strategies as a consequence due to evolutionary changes. Generally, Europe has been and still is leader in online banking technology and usage (Schneider, 2001).

The banks should develop a complete preparation to save and defend their franchises from threats of not only the competitors, but also from the threat of the processors of credit cards, mobile careers, and non-banking institutions that want the customers make financial transactions, where they have their mobile devices. The bankers are talking regarding the use of cell phones for the sake of banking and solar power is being made very cheap and affordable by different companies. But it has been taken as convergence of different factors to consider the mobile banking a bitter reality (deloitte, 2010).

Smart phone has become preferred device from several consumers from over the past several years. Smart phones permit consumers the facility of to receive, send, e-mail, text messages, browse web and do many other routine activities by downloading low cost or free software applications. A number of published reports showed that the sale of smart phone in USA stores is more than 60% from 26M in 2008. It has been raised to 42M in 2010. About 25 million more consumers are expected to buy smart phones in 2012 (delotti, 2010).

Research gap

For achieving the successful objective of business, by producing quality products and services and among other several factors the Information System is the most important one. In recent years lots of studies have been done made to know about the factors that integrate the information system into business. The results of these researches given list of factors that influence the human behaviors to use the new technologies (J.E. Bailey and S.W. Pearson, 1983). As from few years ago mobile, IT and Telecom technology sectors in Pakistan made a note able great progress, especially in the field of wireless internet by recent launching of 3-G network. So, the number users of mobile are rising on daily basis. The banking institutions working in Pakistan is very vastly providing the facility of on-line banking, especially mobile baking? As it is the nascent stage of the mobile

banking in Pakistan and there is big gap to fill. As the human behavior is too much unpredictable and complex, therefore it is too difficult to predict about human behavior for adoption of emerging technology and adoption of mobile banking. Thereof it is necessary to check the impact innovation on adoption of mobile banking in economically and technologically developing country like Pakistan.

Research importance

The results will beneficial for the banking sectors and other related commercial organizations attached to the banking sector, especially in the technologically and economically developing countries of the world. The customer is always the key of success of business; therefore customer attraction is the main aim of banking sector. The recommendations and findings of this research willhelp to revise and restructure their business strategies to catch the maximum potential customers. The results may be used by future researchers and related industries to understand the customer behavior towards adoption of mobile banking.

Research questions

The research questions of the impact of innovations on adoption of mobile banking in Pakistan are:

1. What is the role of innovations for adoption of mobile banking?
2. How the different innovation characteristics influence the customers to adopt the mobile banking?
3. When emerging and advanced technology is presented to the consumers then how customer behaves regarding the adoption?

Objectives

This research aims to find out the reasons that have great impact on adoption of mobile banking in Pakistan with the specific objectives of:

1. To know the impact of innovations on adoption of mobile banking in Pakistan
2. To develop the research model

Literature review

Mobile Banking in Pakistan

Mobile banking is even in its nascent stages, still penetration is required, and as most of Pakistani households have the facility of mobile. As organizations, more people and devices are connected, the growth rate of mobile banking will be a very important factor in coming next few years. A latest statistics reported by Pakistan Telecommunication Authority the total number of cell phone users has reached about 120.5 million by September 2012 (Attaa, 2012). The formal banking has been adopted only by 12% (Mahmood, 2011). Mobile banking is on rise in Pakistan, as it has been published by (CGAP, 2011) that the mobile banking services providers have made huge investments for the infrastructure of mobile banking for stipulation of mobile banking service for the very low-income population. Tameer Microfinace bank Ltd. with Easy Paisa and United Bank Limited (UBL) with Omni, are the largest mobile banking service providers in Pakistan since October, 2008 furthermore, MCB Bank Ltd., HBL, Askari Commercial Bank, Meezan Ltd., Bank, Waseela Microfinance Bank, and Dubai Islamic Bank are running their branchless banking pilots. As published report by (Mobile Banking Accounts, 2013) that out of 1.4 million, only 66% mobile accounts are active presently in Pakistan. In other words 25million people are using mobile banking and chunk of 170 million is a big market.

Innovations

Innovation is described as “an idea, artifact or material, perceived as new by the related unit of adoption” (Agarwal and Prasad, 1997). As compared to traditional banking system, that tedious in authentication and verification methods, that required visiting the bank personally. This traditional method not only consumes the time of the customer but also the service provider ultimately leads to cost complexity and reduce the profitability. Another aspect of the technological innovation has reduced the staff requirements at any branch, thus reducing salaries given to them. Firms’ investments have reduced as the office requirements and other utilities have been reduced by the utilization of emerging technologies. Actually in offices the auto operated computers have taken the place of employees and saved the salaries expenses (N. Lewis, A. Palmer, and A. Moll, 2010). For customer authentication mobile banking as provides the facility of entity authentication which means the communication of customer is with real banking and which provides the sense of safety (Rogers and Shoemaker, 1999). Higher level of customer satisfaction is achieved through higher level of technological innovation.

The Usage barrier becomes very clear when the innovation does not match with consumers' existing workflow, habits. It is commonly related to the usability; which includes complexity and ease-of-use of an innovation related to the technology acceptance model (TAM) (Teo and Pok, 2003).According to (Black and Locket, 2001) that risk is the main factor that tells why consumers do not use mobile banking. Physical risk is harm to person that may be inherent in the innovation (Teo and Pok, 2003).

Innovation characteristics

Different types of innovations are perceived as small while the some are known as great. The different types of large number of characteristics of innovation influence the customer's impression about the product. Diffusion is actually the process of communication of an innovation through different certain channels over the time among the social system (Rogers, 1995). The features and characteristics of innovation affect the speed of purchases (Holak and Lehmann, 1990). As the diffusion theory explains that the relative advantages, complexity, compatibility, observe ability and trial ability are the main factors that influence the adoption of innovations (Holak and Lehmann, 1990).The big barrier which is price, totally based on the economic worth of the innovation, and indicates the low-to-price as it is compared to its substitute products (Fain and Roberts, 1997).

Relative advantage

Relative advantage is defined as, the innovation perceived as better than the idea it displays. The benefits such as convenience, immediacy, and affordability motivate the customer to adopt mobile banking (Lin, 2011).The relative advantages which resemble the idea of perceived usefulness derived from the technology acceptance model (TAM) (Wu and Wang, 2005). The relative advantages may be known as poor since mobile banking does not offer any function that was not previously available (Laukkanen and Lauronen, 2005). Although mobile banking may be perceived to be very expensive, it was searched that some of the mobile banking services enhance customers' feeling of control on their financial affairs (Gerrard and Cunningham, 2006).

Compatibility

Compatibility is defined as, the innovation perceived as being consistent with the past experiences, existing values and fulfill basic needs of potential adopter. The compatibility is a feature of innovation which acts as the conformance with user's lifestyle that propels a rapid rate of adoption (Rogers, 2003). It is expected that the more the use of the internet, will increase more perceptions, that the mobile banking is compatible with the lifestyle.

Complexity

The innovations which are very simple to understand are more rapidly adopted than the complex innovations, required new skills and understandings. As (Cooper and Zmud 1990; Dickerson and Gentry, 1983) indicated that an innovation with specific complexity needs more and more technical skills, efforts and operational knowledge to increase adoption chances. As mobile banking is very easy and user friendly with its point and click interface, it is assumed that potential customers may think that mobile banking services are very less complex to use, and hence may likely to use such services.

Trial ability

The degree to which an innovation is trailed or experimented on limited basis is called as trail ability. Very less uncertainty is shown to user by the innovation during trail ability, which actually enhances the adoption. The potential adopters are permitted to experiment with innovation, they will feel very less uncertainty with it and then there are more chances to adopt it (Agarwal and Prasad 1998; Rogers, 2003). Further it was studied by (Tan &Teo, 2000) who found that if the consumers are given the innovation on trial, the uncertainty will be reduced, and which will lead to adoption. In case of banks providing demonstration and assistance on mobile banking usage, the trial period will help to reduce the fears about mobile banking and will motivate potential uses to adopt mobile banking. Thus in trial ability the mistakes are rectified, as a result adoption rate is increased.

Observe ability

When the result of an innovation is clearly visible to others that is called observe ability. The adoption rate of innovations is less that is less observable. According to (Rogers, 2003) when an innovation is clearly visible to all social system and its benefits can be easily observed and communicated the adoption rate of innovation becomes high. As it was searched by (Moore and Benbasat, 1991) that the observe ability is defined in two ways visibility and demonstrability. In mobile banking, observe ability is the ability to avail banking services at any location and at any time without any queue and delay. Thus seeing the transactions immediately conveys the accessibility benefits to others and increases customer knowledge.

IT adoption

The Internet is the best and primary source for individuals to search online any type of information in a very quick manner (The UCLA Internet Report, 2003). While the older individuals are empowered to satisfy the emotional goals in relationships (Carstensen, 1995), they have low perception because the benefits with using the Internet are only information-based not emotional. The Internet allows staying connected with a very large, network worldwide. As an individual grows older, the social network decreases and the desire to meet

information though a new social contact also decreases (Charles and Carstensen, 1999).

Device features

When the customers had experienced in use of service of the mobile phone, they only did not focus on the importance of the size of screen, but they focused on the issues in the consumption of service. So device features possibly may not be a problem for bank services customers when it is considered about using the mobile banking (Laukkanen, 2007). The effective use of mobile banking is possible with the support of diverse devices available. The operating system of mobile and hardware should provide the banking applications. There are some failures in current system during supporting different types of applications and interacting on different types of communication networks (Luarn, 2005).

There should an ability of innovation which creates the appeal of liking by different users. If the users want detail information about the transactions there must be the facility in design to clearly satisfy such needs (Pedersen, P.E., Methli, L.B. and Thorjbornsen, 2002). In order to add or increase the value of customers' mobile devices should have the strong ability to provide in time alerts and there must judicious use of such applications. Same the users must have the ability to use complex features in e-banking (Dholakia and Dholakia, 2002). After the deep study of different literatures it is hypothesized:

Hypothesis 1: Innovation has positive effect for adoption of mobile banking.

Theoretical framework

Theoretical frame work shows the relationship between dependent and independent variable. In this theoretical frame work innovation is independent variable and mobile banking adoption is the dependent variable. Innovation characteristics, IT adoption and Device features are some descriptions of Innovation.

Theoretical frame work

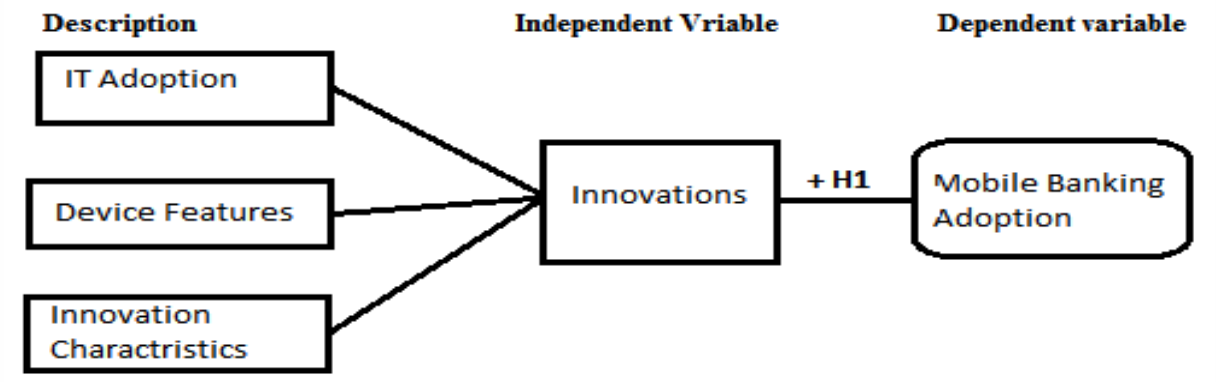

Figure 1: Theoretical frame work

Research Methodology

Population

The Population of this research was the students of public and private sector universities of Pothohar region (all the tehsils and district of Islamabad/Rawalpindi) because Islamabad and Rawalpindi are two twin cities having international level of universities providing study facilities. For study purpose lot of students comes from all over the Pakistan. All these students have great concern with banking sector. It is a bit easy for researcher to easily and very accurately collect data from the students of public/private sector universities of Islamabad and Rawalpindi.

Sample

Sample size of our research was 500 students. Mostly our respondents were Bachelor, Master and M.Phil students. Random sampling technique was used in the study. The researcher provided equal chance to each student to take equal participation in survey. This technique made our research more important and so it increased the chance of acceptance and correctness.

Source of Data

Primary data was collected for this research. After thoroughly study of literature review questioner was developed and was filled from selected population. A likert scale was designed in front of each question. The scale ranges from 1 to 5. As 1 for strongly agree, 2 for agree, three for not agree nor disagree, 4 for disagree and 5 for strongly disagree.

Data Collection:

We motivated every student to involve in the survey and provide their responses on the spot, by email and by

friends.

Research Rate

Total five hundred questionnaires were given to the students and 472 were received from respondents which are fully completed and accurate. So the result of research rate is shown in following table.

Table 1: Research rate

Number of Questionnaire	Number of response	Rate
500	472	94%

Reliability

First of all 30 questionnaires are distributed to selected population for pilot testing. Actually pilot testing shows the reliability of the questionnaire. The value of ChronBatchAlpha was 0.79, which showed that the questionnaire is reliable andit can be used for further survey.

Demographic Analysis

Gender wise statistics

Gender wise statistics shows that there are total 472 male and female respondents. The amount of male respondents is 296 which are 62.6% of total respondents with valid and cumulative percent of 62.6%. While the female respondents are 176 which 37.4% are of total 472 respondents having valid and cumulative percent of 37.4%.

Table 2: Gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	296	62.6	62.6	62.6
Female	176	37.4	37.4	37.4
Total	472	100	100	100

Age analysis

In age analysis there were three age groups ranging 18-25 years, 25-30 years and 30-35 years with the frequency of, there were 143 young respondents having age of 18-25 years, they are the 42.1% of the total. There were 129 respondents of the age group of 25-30 years which is 29.6% of total respondents and 200 respondents were from age group of 30-35 years which is 28.3% of the total.

Table 3: Age

Age Years	Frequency	Percent	Valid Percent	Valid Percent
18-25	143	42.1	42.1	42.1
25-30	129	29.6	29.6	29.6
30-35	200	28.3	28.3	28.3
Total	472	100.0	100.0	100.0

Qualification analysis

Table 4: Qualification

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor	143	30.3	30.3	30.3
Master	129	27.3	27.3	27.3
MS/M.PHIL	100	42.4	42.4	42.4
Total	472	100.0	100.0	100.0

As the above qualification table shows that 143 respondents were having Bachelor qualification which are 30.3% of total and 129 respondents were Master which is 27.3% of total. While the total number of MS/M.Phil.respondents were 100 respondents having the percentage of 58.2% of the total respondents.

Correlation analysis

Table 5: Correlation analysis

Innovation	Innovation	Mobile Banking Adoption
Pearson Correlation	0.337**	1
Sig. 2 Tailed	0.000	
N	472	472

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 1: Innovations have positive effect on adoption of mobile banking.

As our hypothesis was innovation has positive effect on adoption of mobile banking, same supporting result has been found in this research. The above given correlation matrix shows that the innovation has positive

correlation with value 0.337**, at p= 0.000 with confidence interval of 99.9% means only there is 1% chance of errors in results. This result shows the following interpretation "Innovation has Positive significant relationship with adoption of mobile banking in Pakistan".

Regression analysis of Innovation and Mobile Banking Adoption

Table 6: Regression Analysis

Model	Standardized Beta	T-Value	Significant
Constant		3.233	0.001
Innovation	0.491	2.989	0.003

R = 0.470
R-Square = 0.621
F-Value = 11.855

The independent variable innovation has great impact on our dependent variable mobile banking adaption because the standardized beta value is 0.491 which shows that mobile banking adaption is effected with innovation and the t-value is also greater than 2 which confirm that innovation affects the mobile banking adaption. The value of R square =0.62 shows that Innovation has 62% effect on mobile banking adoption.

Discussion

So it is said that innovation has positive effect on consumer behavior to adopt mobile banking. As Pakistan is developing country of the world, the wireless services and devices rates are very low as compared to the word. As 3G is going to launch in very near future, therefore the new or modified technological mobile banking products or services are much liked by the consumers which influence the consumers to adopt the mobile banking.

Regression analysis is used to check the model by knowing the impact of independent variables on dependent variable. In this research we checked the impact of Innovation on dependent variable Mobile Banking Adoption. The regression analysis showed that in this research the value of R square = 0.621, which means that the independent variables like Innovation has 62% effect on dependent variable like Mobile Banking Adoption. In ANOVA mostly F-value is considered on significant level if significant value lies among 0.01 to 0.05, then it is said the model is good, here the F-Value = 11.855 and significant value is 0.000 which shows the high level of significance. In the coefficient table we study the ability of each individual independent variable to predict the dependent variable. The standardized Beta shows the comparison of magnitude of the coefficients to know that which one has more effect. In this research the beta value of Innovation is 0.491 which shows that there is 49% impact of independent variable of innovation on dependent variable adoption of mobile banking, which also supports our research hypothesis.

Limitations

As the actual aim of this research was to know the impact Innovation on Adoption of Mobile Banking in Pakistan in the current situation. There may be the following some limitations of the research.

1. The survey was based on limited demographic. Hence only Age, Gender and Qualification may not give the appropriate research results.
2. The perception and behavior of consumers varies time to time, the data collection may be through the field study, focus group interview and interview of all stakeholders instead of only questionnaire survey.
3. The other limitation of current research may be the data was not collected geographically. The data from only two cities cannot provide accurate information.
4. This research was only focused on the assessment of intention and perception of consumers rather than the actual behavioral intention towards adoption of mobile banking.

The research results may vary if the sample is increased or some other factors are added.

Conclusion

The research results showed that innovation has positive significant correlation which means that new and most advanced technological innovations and different appropriate customer services like as ease of use and usefulness great influence on adoption of mobile banking in Pakistan. Mobile banking in Pakistan is in its growing stages, for this growth there is main role of Innovations and telecomm services providers' companies. The wireless communication services provider companies must take attention of these potential customers and must remove all the barriers and promote the factors which are helpful for the customers. The companies must value these customers which will actually decide the future market structure.

For maximum penetration of mobile banking all the stakeholders such as banks, retailers and other financial institutions must collectively drive the telecomm services provider companies in order to enhance

service network and took market edge by potential customers. Banks are required to win the confidence of customer by providing different services like as credit card operations, transactions on the spot, bill payments, stock trading and foreign exchange on mobile with convenience, security, timeliness and reliability (Zheng and Chen, 2003). For operational efficiencies banks must create synergy between telecomm services providers, social media merchants, mobile device manufacturers, software developers and other all stakeholders (Nagai and Gunasiekaran, 2007).

Mobile banking players must focus on rapid innovation in mobile technology and telecom sector and must create the sense of conformation, accuracy and monitoring tools in order to win the confidence of customers and break all the global and political hurdles in order to achieve the efficient, well regulated open architecture.

Recommendations

After result analysis, discussion and completion of this research few recommendations are given for further researchers and related organizations and especially for adoption of mobile banking of in Pakistan with research factor like Innovation. Make sure that every country has its own banking environment culture, ethics etc.

1. There are different perceptions of people according to country and nation wise regarding the adoption mobile banking. In Asia account based banking is used as compared to USA and France. In both regions the perception and social system of people are different about mobile banking. It is recommended for successful adoption of mobile; first understand the local environment of the country.
2. The telecommunication infrastructure and economic condition of the country has a great role for adoption of mobile banking. In Pakistan telecomm services are improving continuously and IT sectors is progressing rapidly. So companies and banks must create technically compatibilities and shift to 3G which is going to launch.
3. As the technology is growing same the companies must care about ease of use, usefulness. The customers may use having very low knowledge and education.
4. In order to get more accurate results the research area must be expanded both demographically and geographically.

There is the great role of regulatory authorities to play their important role to reduce risks and unethical way of business.

References

Giannakoudi,S.(1999).Internet banking :the digital voyage of banking and money incyberspace.

Byers, R. E. and Lederer, P. L. (2001). Retail banking services strategy: a model of electronic, traditional and mixed distribution choices. Journal of management Information System. 18, 2, 133-156.

Lee, K.S., Lee, H.S., and Kim, S.Y. (2007). Factors influencing the adoption behaviour of mobile banking: a South Korean perspective. Journal of Internet Banking and Commerce, 12(2). Retrievedfrom:http://www.arraydev.com/commerce/JIBC/200708/HyungSeokLee_Final_PDF%20Ready.pdf

CGAP, (2006). Mobile Phone Banking and Low-Income Customers: Evidence from South Africa, http://www.globalproblems-globalsolutionsfiles.org (Accessed on August 1, 2012)

Shi, W., and Lee, C. (2008).Dose quality of alternatives matter for Internet banking.International Journal of Electronic Finance. 2, 2, 162-179.

Shneider (2001), Is time running out for internet only bank? Bank system and technology, September, p.8.

Deloitte, (2010).Introduction- mobile Banking at tipping point.Retrieved 5 April 2012 from http:/deloitte.com/asset/DocomUnitedStata/Local%20Asset/Documents/us_consulting_MobileBanking_010711.pdf.

Attaa, A. (2012). Mobile Subscribers in Pakistan Reach 120.5 Million, http://propakistani.pk/2012/12/05/mobilesubscribers-in-pakistan-reach-120-5-million/ (Accessed on December 6, 2012).

Mahmood, M. (2011).Branchless Banking in Pakistan – Opportunistic View, http://propakistani.pk/2011/12/07/branchless-banking-in-pakistan-opportunistic-view/ (Accessed on August 4, 2012).

Agarwal, R and Parasad, J. (1997), "The role of a innovation characteristics and perceived voluntariness in the acceptance of IT", *Decision Sciences*, vol. 28 No. 3 pp. 557-82.

N. Lewis, A. Palmer, and A. Moll, "Predicting young consumers'take up of mobile banking services," International Journal of Bank Marketing, vol. 28, no. 5, pp. 410-432, 2010

Rogers and Shoemaker. (1999). Communication of Innovations,Product Management and Marketing Tools, © Bill Swinyard 1999,Crossing the Chasm: 2.0, [Online]. vailable:

http://marketing.byu.edu/download/chasm.ppt

Teo, T.S.H. and Pok, S.H. (2003) "Adoption of WAP-enabled mobile phones among internet users",

Black, N. J., Lockett, A., Winklhofer, H. and Ennew, C. 2001,The Adoption of Internet Financial Services: a Qualitative Study. International Journal of Retail and Distribution Management.Vol. 29(8), 390-398.

Holak, S.L. & Lehmann, D.R. (1990). Purchase Intentions and the Dimensions of Innovation: An Exploratory Model. Journal of Product Innovation Management, Vol:7, pp.59–73.

Fain, D. and Roberts, M.L. (1997) "Technology vs consumer behavior: the battle for the financial services customer", Journal of Direct Marketing, Vol. 11 No. 1, pp. 44-54.

Laukkanen, T. and Lauronen, J. (2005) "Consumer value creation in mobile banking services",

Lin, H., and Wang, Y. (2006).An examination of the determinants of customer loyalty in mobile commerce contexts. Information & Management, 43(3), 271-282. doi:10.1016/j.im.2005.08.001.

Wu, J.-H.and Wang, S.-C. (2005) "What drives mobile commerce? An empirical evaluation of therevised technology acceptance model", Information and Management, Vol. 42 No. 5, pp. 719-29.

Gerrard, P. Cunningham, J.B. and Devlin, J.F. (2006), "Why consumers are not using internet

Luarn, P. (2005). Towards an understanding the behavioral intention to use mobile banking. Computers in Human Behavior, 21, 873-891.

Pedersen, P. E., Methlie, L.B., and Thorbjornsen, H. (2002). Understanding mobile commerce end-user adoption: a triangular perspective and suggestion for an exploratory services evaluation from work. Proceeding of 35 Hawaii International Conferences on system science.

Dholakia, R. R., and Dholakia, N. (2002). Mobility and markets: Immerging online of M. Commence. Journal of Business Research. 57, 1391-1396.