

Exploratory Research on Customers' Resistance to Adopt Mobile Banking: A Case of Pakistan

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Abstract

This study aimed at to investigate the factors, which cause resistance to adopt mobile banking in Pakistan. This study used non-probabilistic sampling technique; particularly convenience and judgmental techniques were applied. The total sample size for this study was 300 (N=300) respondents, who enrolled in undergraduate, graduate and doctoral degree programs in top Business Schools of Pakistan. Finally, the data was analyzed by using inferential statistics, particularly one sample t-test and crosstabs techniques were adopted. The results of this study revealed that respondents are reluctant to adopt mobile banking service in Pakistan, due to the facts that respondents feel new technology is too much complicated, they believe mobile banking does not offer any comparative advantage, changing PIN codes in mobile banking is not convenient, mobile banking service does not increase capability to control financial matters, respondents think that mobile banking service is difficult to use and there will be no any privacy.

Keywords

Mobile Banking, Innovation, Customer's Resistance, Usage Barrier, Value Barrier, Traditional Barrier, Image Barrier, Risk Barrier

1. Introduction

Mobile banking is step ahead towards e-commerce. It is a medium of using mobile phone to carry the financial transactions that were previously accomplished by visiting the bank's premises (Leppaniemi, 2006). Research showed that mobile marketing and communication are the most promising tools to capture market shares in minimum cost, time and to achieve sustainable competitive advantage (Pousttchi, 2006).

Previously, the internet access was possible on desktop computers through cable communication, now innovation of mobile phones and black berry have leveraged the mobile banking (Leppaniemi, 2006). A paradigm shift has changed the consumer's pattern of interaction and communication (Suoranta, 2004). Mobile banking has changed the ways to carry out the transaction that were once associated with conventional banking channel (Sulaiman, 2007).

Despite of several advantages, mobile banking is still at

infancy stage (Donner, 2008). Several factors are associated with barriers to adopt mobile banking; for instance, perceived risk which is uncertainty about the outcome of innovation (Meuter, 2005). However, due to the loss and theft of mobiles in many countries, the diffusion process of mobile banking is not widely spread. The objective of this study is to identify the main barriers of mobile banking adoption in Pakistan.

2. Literature Review

Since the last decade of technological innovations from personal computer to online mobile banking has enormously changed the pattern of living. These innovations not only proved to be supportive for people as it has brought about comfort and convenience but also offered opportunities for companies to achieve differentiation and competitive advantage. Innovation is viewed as critical for firm's success;

however, innovation also brought some risk associated with it, which has created threat for firm's success, is resistance to innovation on part of consumers (Daneel & Kleinschmidt, 2001)

Consumer resistance to innovation can also be considered as important feedback on improving the products or services. (Gourville, 2006). Consumers' resistance to innovation occur in different forms, one of the major forms is passive innovation resistance, that is sometimes people resist innovation without considering the benefits of innovation and people tend to stick with existing offerings (Gourville 2005). Consumers strive for consistency and status quo that caused to consider the advantage of existing product more than new product (Chernev 2004). Another reason for resistance is heavily open fire of the information regarding the innovation, which makes consumer to become overloaded to organize the information and compare the benefits of innovation; therefore they cause resistance to adopt innovation (Herbig & Kramer 1994).

Kleijnen *et al.* (2009) has identified three major forms of active resistance such as postponement, rejection and opposition. Postponement occurs when consumers escape from the dilemma between adoption and rejection by postponing the decision. Postponement is a state in which consumers are undecided as to whether or not they should try using the innovation. Similarly, rejection refers to the decision not to adopt the innovation. Usually this form of resistance occurs when the people have negative evaluation for the product or service (Kleijnen *et al.* 2009). Third form of resistance is opposition, deliberate attempt to hinder the success of innovation due to bias, boycott for politically influenced product (Herrmann 1993). Innovation decision theory suggested that while adopting a new product, customers engage in the decision process making whereby they evaluate benefits of new product to form favorable or adverse attitude toward product (Goldenberg *et al.* 2001). Radical innovation requires high level of efforts due to consumer's congruity with existing product; therefore it receives more resistance even though it offers more benefits (Goldenberg *et al.* 2001).

Service companies, particularly banking industry is providing innovative products and participation of customers (Bendapudi & Leone 2003). Despite several advantages offered by mobile banking, consumers are reluctant to use the mobile banking due to perceived risk regarding privacy and security issues (Leppäniemi *et al.*, 2006). In mobile banking, product privacy issues are sensitive due to cherished nature of mobile service (Leppäniemi *et al.*, 2006). Moreover, doubts of interruption into one's private space, mobile spam raises privacy concern related to the deployment of the personal data used to personalize mobile marketing communication (Leppäniemi *et al.* 2006). Keeping in view the above literature, this study's main objective is to identify the factors that cause resistance to adopt mobile banking in Pakistan.

3. Research Methodology

3.1. Sample Selection

The population for this study consisted of customers of banking sector of Pakistan including, students who are enrolled in undergraduate, graduate and doctoral degree programs in top business Schools of Pakistan such as Sukkur IBA, SALU Khairpur, University of Sindh, SZABIST, IBA Karachi, and CBM. For this research purpose, the non-probabilistic sampling approach was adopted particularly, quota and judgmental sampling techniques were implemented. Moreover, based on the substantiation from the literature Meyers *et al.* (2006); Hair *et al.* (1998), a ratio of 1:15 sample size of 300 was believed to be very good for the current study.

3.2. Research Instrument

This study used Ram & Sheth (1989) scales to investigate the mobile banking adoption barriers in Pakistan. The questionnaire consisted of two parts; the first part comprised of five variables that measured usage barrier, value barrier, traditional barrier, image barrier and risk barrier. Respondents' resistance to innovation was measured on 5-point likert scale ranging from 1, strongly disagree to 5 strongly agree. The second part of the questionnaire comprised of eight questions related to the demographic factors of the respondents.

3.3. Data Collection

The primary data was collected through questionnaire from four big cities of Pakistan including Islamabad, Karachi, Hyderabad and Sukkur. Moreover, a total of 300 questionnaires were distributed; eight respondents were not capable to respond, 10 questionnaires were not returned from the respondents and 11 questionnaires were canceled due to incompleteness and other reasons. The overall response rate was 90.3%. Finally the data was analyzed by using inferential statistics particularly One simple T-Test and crosstabs were used.

4. Results and Discussion

4.1. Instrument Reliability

The reliability of the scale was tested by using Cronbach's alpha, As shown in Table 1 relatively high reliability coefficient values were obtained .939, .821, .721, .651, .679 for usage, value, risk, traditional and image barrier respectively (much larger than the standard of 0.6 suggested by Churchill, 1979; Nunnally, 1978).

Moreover, the overall KMO which measure of sampling adequacy is 0.812 greater than 0.80, considered as a meritorious in explaining the sample used is adequate. Similarly, Bartlett's test of Sphericity is highly significant.

4.2. One Sample T-Test

4.2.1. One Sample T-Test for the Usage Barrier in Mobile Banking

H0: the level of agreement about mobile banking service is easy to use, is equal to 3 (means respondents don't think mobile banking is easy to use).

H1a: the level of agreement about mobile banking service is easy to use, is more than 3 (means respondents feel mobile banking service is easy to use).

H1b: the level of agreement about mobile banking service is Convenient to use, is more than 3 (means respondents feel mobile banking service is Convenient to use).

H1c: the level of agreement about mobile banking service is Fast to use, is more than 3 (means respondents feel mobile banking service is Fast to use).

H1d: the level of agreement about progress in mobile banking service is clear, is more than 3 (means respondents feel Progress in mobile banking service is clear).

H1e: the level of agreement about changing PIN codes in mobile banking service is convenient, is more than 3 (means respondents feel changing PIN codes in mobile banking service is convenient).

Table 2 demonstrated the results for usage barriers of mobile banking in Pakistan; the hypothesis, "mobile banking service is easy to use" $t(271) = 24.17, p = .000$; CI = .93 to 1.09), "the use of mobile banking service is convenient" $t(271) = 17.25, p = .000$; CI = .76 to .95), "mobile banking service is fast to use" $t(271) = 20.82, p = .000$; CI = .99 to 1.20), "the progress in mobile banking service is clear" $t(271) = 5.65, p = .000$; CI = .25 to .53), have been supported, whilst the hypothesis related to the "use of changing PIN codes in mobile banking service is convenient" $t(271) = .135, p = .893$; CI = .15 to .17) has been rejected, this maybe respondents believe that changing PIN codes in mobile banking is not easy. So it is likely to infer that respondents believe that mobile banking is easy and fast to use and it has very clear progress.

4.2.2. One Sample T-Test for the Value Barrier in Mobile Banking

H0: the level of agreement about mobile banking service is Economical, is equal to 3 (means respondents don't think mobile banking is Economical).

H2a: the level of agreement about mobile banking service is Economical, is more than 3 (means respondents feel mobile banking service is Economical).

H2b: the level of agreement about mobile banking service does not offer any advantage compared to handling my financial matters in other way, is more than 3 (means respondents feel mobile banking service offer advantages).

H2c: the level of agreement about mobile banking service increase my ability to control my financial matters by myself, is more than 3 (means respondents feel mobile banking service increases ability to control financial matters).

Table 3 displayed the results for value barriers of mobile banking; the hypothesis "the use of mobile banking service is economical" $t(271) = 10.62, p = .000$; CI = .48 to .70), has

been supported, whilst the hypothesis "mobile banking does not offer any advantage compared to handling my financial matters in other ways" $t(271) = .481, p = .631$; CI = .09 to .15), "the use of mobile banking service increases my ability to control my financial matters by myself" $t(271) = .651, p = .516$; CI = .10 to .21) have been rejected. It is likely to infer that respondents don't believe, mobile banking offers any comparative advantage in handling financial matters in other ways, and they also don't believe that the mobile banking enhances the ability to control financial matters.

4.2.3. One Sample T-Test for the Risk Barrier in Mobile Banking

H0: the level of agreement about payments of bills through mobile banking is easy to made/transfer, is equal to 3 (means respondents don't think payments of bills through mobile banking is easy to made/transfer).

H3a: the level of agreement about payments of bills through mobile banking is easy to made/transfer, is more than 3 (means respondents feel payments of bills through mobile banking is easy to made/transfer).

H3b: the level of agreement about mobile banking service is detrimental for battery, is more than 3 (means respondents feel mobile banking service detrimental for battery).

H3c: the level of agreement about information of bills tap out, is more than 3 (means respondents feel information of bills tap out).

H3d: the level of agreement about mobile banking service Privacy will not be hacked, is more than 3 (means respondents feel mobile banking Privacy will not be hacked).

Table 4 exhibited the results of One Sample t-test for risk barriers of mobile banking in Pakistan; the hypothesis "I fear that while I am paying a bill by mobile phone, I might make mistakes since the correctness of the inputted information is difficult to check from the screen." $t(271) = 9.42, p = .000$; CI = .44 to .68), "I fear that while using mobile banking service, the battery of the mobile phone will run out or the connection will otherwise be lost" $t(271) = 3.11, p = .002$; CI = .08 to .35), "I trust that while using mobile banking services, third parties are not able to use my account or see my account information" $t(271) = 10.39, p = .000$; CI = .53 to .78) have been supported. Whereas, "I fear that while I am using a mobile banking service, I might tap out the information of the bill wrongly" $t(271) = 1.04, p = .299$; CI = .06 to .18), "I fear that the list of PIN codes will be lost and end up in the wrong hands" $t(271) = .423, p = .672$; CI = .13 to .21), have been rejected. It is likely to conclude that the respondents have perception that their privacy will be hacked, if they use mobile banking service.

4.2.4. One Sample T-Test for the Traditional Barrier in Mobile Banking

H0: the level of agreement that customers do not prefer to visit bank and chat with teller, is equal to 3 (means respondents don't think that they do not prefer to visit bank and chat with teller).

H4a: the level of agreement that customers prefer to visit

bank and chat with teller, is more than 3 (means respondents feel that they prefer to visit bank and chat with teller).

H4b: The levels of agreement about that self service alternative are more pleasant than customer's service, is more than 3 (means respondents feel that customer's service is more pleasant).

Table 5 revealed the results for traditional barriers of mobile banking; the hypothesis "I do not prefer to visit the bank and chat with teller" $t(271) = 7.11, p = .000$; CI = .37 to .65, has been supported, whilst the hypothesis "I find self-service alternatives more pleasant than personal customer service" $t(271) = 1.30, p = .193$; CI = .06 to .29, has been rejected, which may indicate that respondents don't believe self service alternatives are more pleasant than customer services and they prefer to visit bank instead of giving preferences to use mobile banking at home.

4.2.5. One Sample T-Test for the Image Barrier in Mobile Banking

H0: the level of agreement that customers have positive image of mobile banking service, is equal to 3 (means respondents don't think that customers have positive image

of mobile banking service).

H5a: the level of agreement that customers have positive image of mobile bank service, is more than 3 (means respondents feel that customers have positive image of mobile bank service).

H5b: the level of agreement about new technology is too complicated to be useful, is more than 3 (means respondents feel new technology is too complicated).

H5c: the level of agreement about mobile banking service is difficult to use, is more than 3 (means respondents feel mobile banking service is difficult to use).

Table 1. Instrument Reliability

Variables	Number of items	Reliability Coefficient
Usage barrier	5	.939
Value Barrier	3	.821
Risk Barrier	5	.721
Traditional Barrier	2	.651
Image Barrier	3	.679

Note: K-M-O Measure of sampling adequacy = .812; Bartlett's Test of Sphericity = 153.532: $p < 0.000$

Table 2. One Sample t-Test for Usage Barrier in Mobile Banking

Items	T	df	P-value	Mean Difference	Lower	Upper	Alternate hypothesis
In my opinion, mobile banking service is easy to use.	24.17	271	.000	1.01	.93	1.09	Accepted
In my opinion, the use of mobile banking service is convenient.	17.25	271	.000	.853	.76	.95	Accepted
In my opinion, mobile banking service is fast to use.	20.82	271	.000	1.09	.99	1.20	Accepted
In my opinion, progress in mobile banking service is clear.	5.65	271	.000	.390	.25	.53	Accepted
The use of changing PIN codes in mobile banking service is convenient.	.135	271	.893	.011	.15	.17	Rejected

Table 3. One Sample t-Test for Value Barrier in Mobile Banking

Items	T	df	P-value	Mean Difference	Lower	Upper	Alternate hypothesis
The use of mobile banking service is economical.	10.62	271	.000	.588	.48	.70	Accepted
In my opinion, mobile banking does not offer any advantage compared to handling my financial matters in other ways.	.481	271	.631	.029	.09	.15	Rejected
In my opinion, the use of mobile banking service increases my ability to control my financial matters by myself.	.651	271	.516	.051	.10	.21	Rejected

Table 4. One sample T-Test for Risk Barrier in Mobile Banking

Items	T	df	P-value	Mean Difference	Lower	Upper	Alternate hypothesis
I fear that while I am paying a bill by mobile phone, I might make mistakes since the correctness of the inputted information is difficult to check from the screen.	9.42	271	.000	.559	.44	.68	Accepted
I fear that while I am using mobile banking service, the battery of the mobile phone will run out or the connection will otherwise be lost.	3.11	271	.002	.217	.08	.35	Accepted
I fear that while I am using a mobile banking service, I might tap out the information of the bill wrongly.	1.04	271	.299	.062	-.06	.18	Rejected
I fear that the list of PIN codes will be lost and end up in the wrong hands.	.423	271	.672	.037	.13	.21	Rejected
I trust that while I am using mobile banking service, third parties are not able to use my account or see my account information.	10.39	271	.000	.658	.53	.78	Accepted

Table 5. One Sample t-Test for Traditional Barrier in Mobile Banking

Items	T	df	P-value	Mean Difference	Lower	Upper	Alternate hypothesis
I do not prefer to visit the bank and chat with teller.	7.11	271	.000	.511	.37	.65	Accepted
I find self-service alternatives more pleasant than personal customer service	1.30	271	.193	-.114	.06	.29	Rejected

Table 6. One sample T-Test for Image Barrier in Mobile Banking

Items	T	df	P-value	Mean Difference	Lower	Upper	Alternate hypothesis
I have very positive image of mobile banking services.	17.23	271	.000	.971	.86	1.08	Accepted
In my opinion, new technology is often too complicated to be useful.	5.60	271	.000	.412	.27	.56	Accepted
I have such an image that mobile banking services are difficult to use.	6.49	271	.000	.404	.28	.53	Accepted

Table 6 showed the results for image barriers of mobile banking in Pakistan; the hypothesis “I have very positive image of mobile banking service” $t(271) = 17.23, p = .000$; $CI = .86$ to 1.08), has been supported, whilst the hypothesis “In my opinion, new technology is often too complicated to be useful” $t(271) = 5.60, p = .000$; $CI = .27$ to $.56$), “I have such an image that mobile banking services are difficult to use” $t(271) = 6.49, p = .000$; $CI = .28$ to $.53$), have been accepted, that may indicate, the respondents believe they have positive image toward the mobile banking service, mean while they feel that new technology is too much complicated and also the respondents have image that mobile banking is very difficult to use.

5. Conclusion and Implication

The overall results of this study revealed that respondents are reluctant to adopt mobile banking service in Pakistan, due to the fact that the respondents believed mobile banking does not offer any comparative advantage, changing PIN codes in mobile banking is not convenient, mobile banking service does not increase ability to control financial matters, people have image that mobile banking service is difficult to use and there will be no privacy if they use mobile banking and they believed new technology is too complicated to use.

Top managers may use this body of knowledge to be aware of this hidden yet very important inside of consumers' psychology and overcome customers' resistance to adopt mobile banking service by carefully examining these areas in which they are lacking. Moreover, they should redesign their product (mobile banking service) to ensure and overcome resistance in adopting mobile banking service in Pakistan.

Limitation and Future Study

The results of the study must be interpreted in the lights of limitations. First, the targeted sample of this study was students which are almost 64% of total respondents, so this sample does not be the representative of the whole population of Pakistan and we cannot generalize the results of this study beyond this sample. Therefore, future study should take all the demographics of Pakistan. Second, mobile

banking is new concept in Pakistan, so future research should undertake to identify the variables of mobile banking resistance in developing countries' context.

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