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Internet Banking in Pakistan: Finding Complexities

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Abstract

Technology is evolving every new day and has its impact on every thing. In this paper we will analyze the acceptance of technology in the Banking Industry of Pakistan. This research investigates complexities (factors) that have resisted or obstructed the adoption of Internet Banking in Pakistan. Traditional innovation diffusion model (IDT) is used to develop the research model indicating the proposed complexities and acceptance of Internet Banking among Pakistani users. The model is tested with a survey sample (n=45). Out of the nine complexities identified, six are found significant. The findings of the research signify that 67 % of the proposed complexities, Familiarity with the technology, Concerns for Download Speed, Unfriendly Website Design, Fear of Government tracking transactions, Security and People Gaining Access/Misusing, hinder the users in accepting and adopting internet banking technology in Pakistan.

Keywords: **Internet Banking Pakistan; Innovation Diffusion Theory; Complexities**

INTRODUCTION

Internet has changed the way people used to do business. It has transformed the whole business landscape for both individuals and businesses (AbuShanab 2010 et al.). Internet users in Pakistan have increased significantly from 2000 to 2009 by 133,900 to 18,500,000 respectively (Internet World Stats, 2010). Though e-commerce is still in immaturity stage in Pakistan, increase in the internet users opened many opportunities for business-to-business, business-to-consumer and peer-to-peer e-commerce in Pakistan providing products and services to a great segment of population.

Since the diffusion of internet, financial institutions that are taking the benefit of this medium have adopted the concept of internet banking. Initially internet banking was used for advertisement and promotional activities for the banks' products and services (Tan and Teo, 2000). As this medium started grooming, internet banking has created value for the banks in terms of reducing cost, enhances customer service, and has increased long-term profit by allowing customers to carry out transactions online and perform other activities at any time they want from their homes, offices or from any other remote location that is feasible for them.

Technology is evolving every day and in almost in every aspect but not everything that is coming in the way is being accepted. Before anyone adopt a technology, all the information about the technology will be collected and combined to develop a belief about using the technology and that belief will in turn make the individual to accept or reject the technology (Nor and Pearson, 2007).

Unfortunately, customer adoption of Internet banking still has not been in acceptable level among Pakistani banks. There are many complexities in adopting the Internet Banking in Pakistan. Problems such as easy access to computers, familiarity with technology, reliability of technology, unfriendly website, server down / unreliable

services, fear of government tracking transactions, security risk, people gaining access / misusing and training / awareness needs have been identified in this paper. Implementing Internet Banking in Pakistan is difficult with the presence of these complexities. These should be either removed or minimized from the path of the new Banking technology so as to work with economies of scale which will in return reap more benefit to the Banks and give more facility to its users.

Also the banking sector is focusing on that part of the population who are unbanked and do not have bank accounts which will in turn give the banks more revenue without the expense of brick and mortar branch banking.

LITERATURE REVIEW

In deriving a framework for this study, Diffusion of Innovation (IDT) model (Rogers, 1963, 1983, 1995) is being considered. In this model, Rogers describe that diffusion is the "process by which an innovation is communicated through certain channels over a period of time among the members of a social system". He also defines innovation and communication as "an idea, practice, or object that is perceived to be new by an individual or other unit of adoption" and "Communication is a process in which participants create and share information with one another to reach a mutual understanding", respectively.

According to Rogers (1995), there are five key beliefs namely, relative advantage, compatibility, complexity, trialability and observability. All of these control individuals to adopt an innovation. IDT model has been used by previous researchers in a number of ways such as it was used for instrument development by Moore and Benbasat (1991); was applied by Tan and Teo (2000), Taylor and Todd (1995) as a part of research models and was put side by side with the traditional Technology Acceptance Model (TAM) by many researchers such as Lau (2002), Plouffe et al. (2001).

This research encircle around the complexity factor only. As defined by Rogers (1995), "complexity is the degree to which an innovation is perceived as relatively difficult to understand and use." Nor and Pearson (2007) believe that complexity is to use an innovation by exercising mental or physical efforts. Previous research (Cooper and Zmud 1990; Dickerson and Gentry 1983) has revealed that innovation having significant complexity requires additional efforts and greater implementation in terms of technical and operational skills to amplify its chance of acceptance. Banking on the internet requires keying and clicking, a user friendly interface that would give individuals a perception that internet banking services are less complex to use, thus making them use such services. (Tan and Teo, 2000).

RESEARCH MODEL

The proposed research model as shown in figure 1 is composed of 9 complexities that have been identified through focus groups and literature review (Dixit and Datta, 2010; Yousufzai et al., 2003)

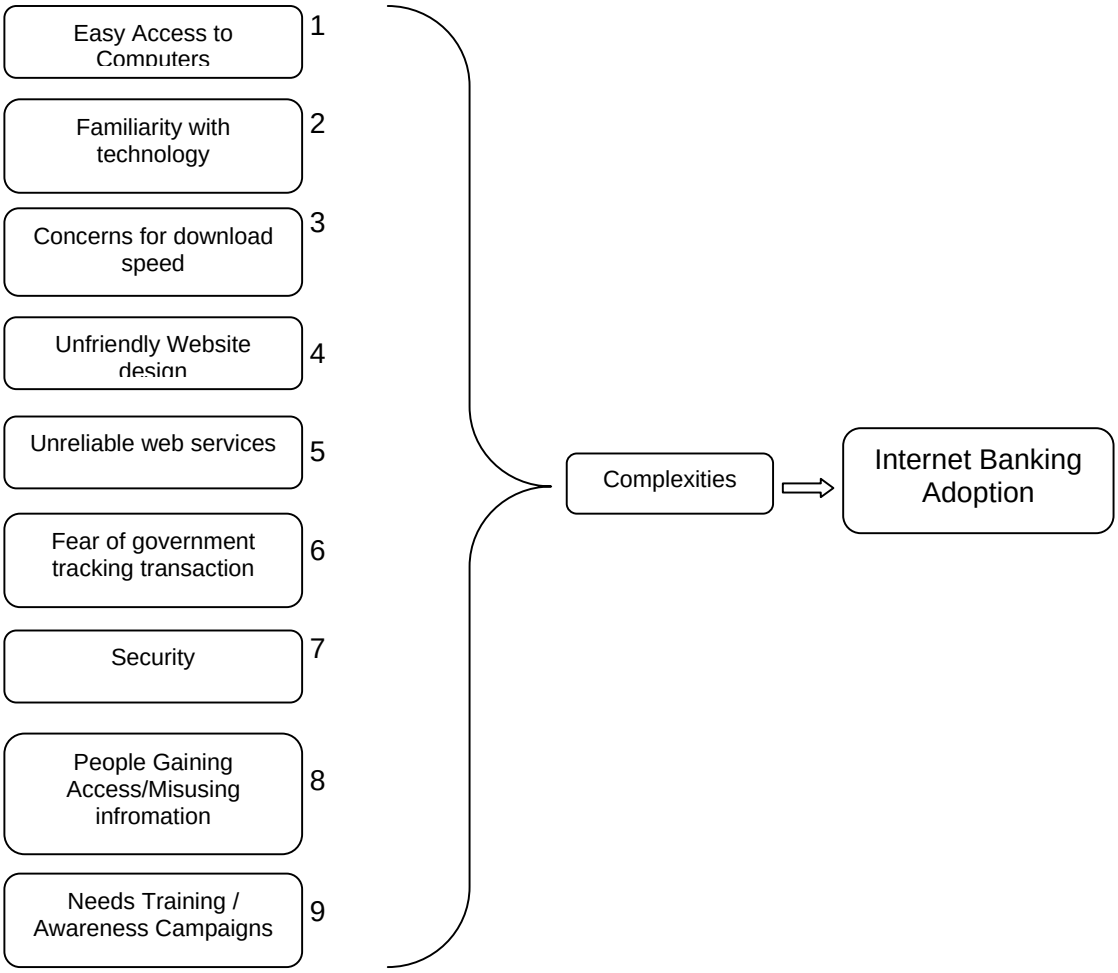

Figure 1: Conceptual Model

DATA COLLECTION

The data is collected by distributing questionnaires at two banks, the Hong Kong Shanghai Bank Corporation (HSBC) Pakistan and the Allied Bank Limited (ABL) of Pakistan customers and to the business professionals.

The questionnaire has total 13 questions as given in Appendix A in which the respondent has to answer for 11 questions either yes or no except the 2 questions that are of internet banking usage and age group which used 5 point scale because these both questions involves to answer the internet banking usage in terms of percentage that is divided in 5 slots and the age group is divided into five categories.

DATA ANALYSIS

Finally data is going to be analyzed by using the Chi-square tests. Chi-square test is used to determine whether the attributes such as internet banking usage and complexities are independent or dependent of each other.

HYPOTHESIS DEVELOPMENT

Null-Hypothesis 1
$H_{0:}$ Usage of Internet Banking is not independent of having easy access to computers whenever and anywhere the service is required.
$H_{a:}$ Usage of Internet Banking is independent of having easy access to computers whenever and anywhere the service is required.

Null-Hypothesis 2
$H_{0:}$ Age group is not independent in understanding and using the Internet Banking facilities.
$H_{a:}$ Age group is independent in understanding and using the Internet Banking facilities

Null-Hypothesis 3
H_0: Usage of Internet Banking is not independent of speed of download and / or reliability of technology.
H_a: Usage of Internet Banking is independent of speed of download and / or reliability of technology.

Null-Hypothesis 4
H_0: User's preference for Internet Banking is not independent of the bank's website that is unfriendly to users.
H_a: User's preference for Internet Banking is independent of the bank's website that is unfriendly to users

Null-Hypothesis 5
H_0: Users preference of using Internet Banking is not independent of the Bank's server failure most of the times when the service is urgently required.
H_a: Users preference of using Internet Banking is independent of the Bank's server failure most of the times when the service is urgently required

Null-Hypothesis 6
H_0: Usage of Internet Banking is not independent of users perceiving security risk in Internet Banking.
H_a: Usage of Internet Banking is independent of users perceiving security risk in Internet Banking.

Null-Hypothesis 7
H_0: Usage of Internet Banking is not independent of the user's fear of traceability of transactions by the government and the loss of personnel information.
H_a: Usage of Internet Banking is independent of the user's fear of traceability of transactions by the government and the loss of personnel information.

Null-Hypothesis 8
H_0: Usage of Internet Banking is not independent of misusing of the users' account.
H_a: Usage of Internet Banking is independent of misusing of the users' account.

Null-Hypothesis 9
H_0: Age group is not independent of the users' willingness to be trained and encouragement to use Internet Banking by their respective banks.
H_a: Age group is independent of the users' willingness to be trained and encouragement to use Internet Banking by their respective banks.

RESULTS

The 6 complexities numbered 2, 3, 4, 6, 7 and 8 as shown in figure 2 proved to be significant out of 9 identified in the proposed model.

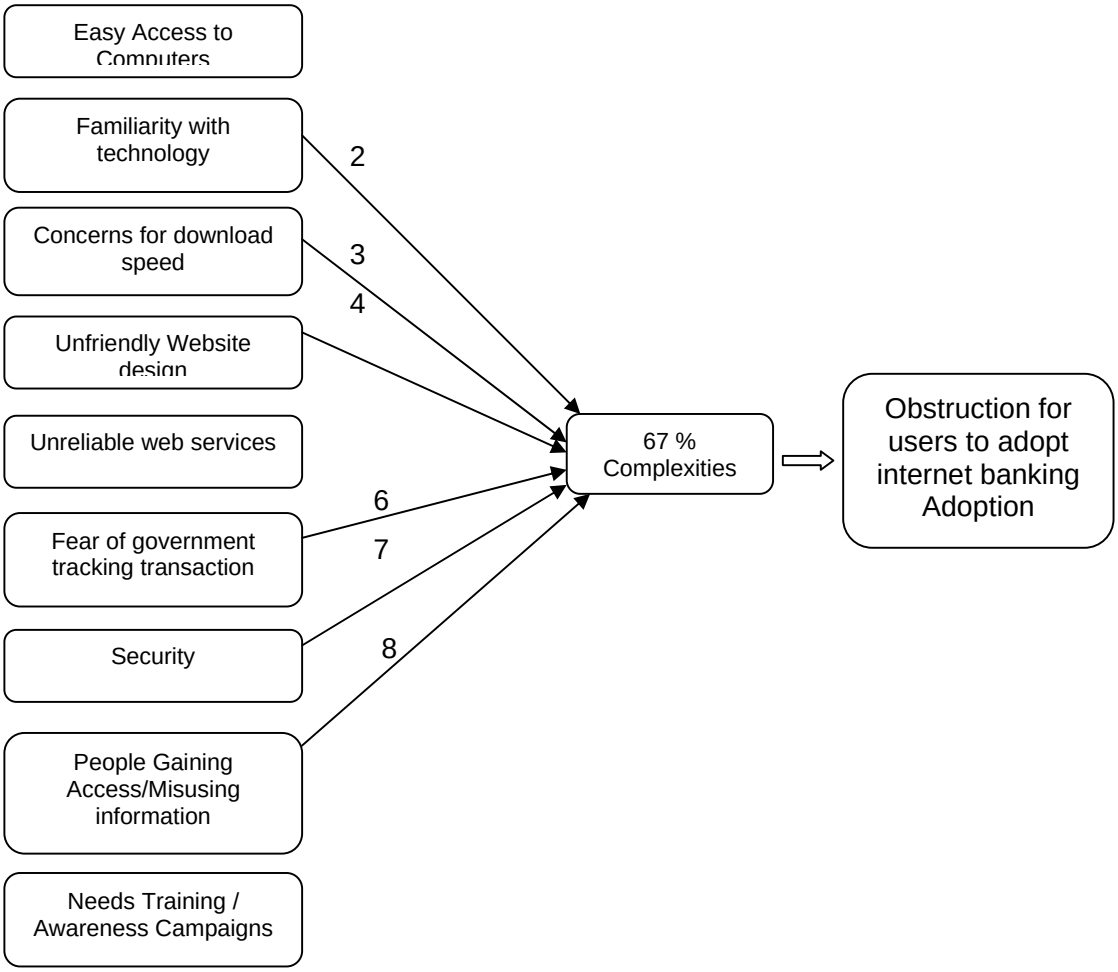

Figure 2: Proposed Model showing significant complexities

Total 45 questionnaires are collected from which ten of ABL were discarded due to biased data as they were filled by ABL officers instead of ABL customers. Sample of n=35 is taken and the data is analyzed by using statistical applets to test the hypotheses.. In this research, each hypothesis was analyzed by using Chi Square at a 0.01 significance level to determine the actual relationship among the variables selected. This level of significance was chosen because the sample size is very short.

Null-Hypothesis	Chi-Square	P-value	Results
$H1_{0:}$ Usage of Internet Banking is not independent of having easy access to computers whenever and anywhere the service is required.	2.17	0.704	Reject
$H2_{0:}$ Age group is not independent in understanding and using the Internet Banking facilities	8.59	0.072	Do not Reject
$H3_0$: Usage of Internet Banking is not independent of speed of download and / or reliability of technology.	15.0	0.005	Do not Reject
$H4_0$: User's preference for Internet Banking is not independent of the bank's website that is unfriendly to users.	6.82	0.009	Do Not Reject
$H5_0$: Users preference of using Internet Banking is not independent of the Bank's server failure most of the times when the service is urgently required.	0.888	0.346	Reject
$H6_0$: Usage of Internet Banking is not independent of users perceiving security risk in Internet Banking.	8.79	0.066	Do not Reject
$H7_0$: Usage of Internet Banking is not independent of the user's fear of traceability of transactions by the government and the loss of personnel information.	10.8	0.029	Do not Reject
$H8_0$: Usage of Internet Banking is not independent of misusing of the users' account.	14.4	0.006	Do not Reject
$H9_0$: Age group is not independent of the users' willingness to be trained and encouragement to use Internet Banking by their respective banks.	1.14	0.888	Reject

Table1: Summary of the results of the nine null hypotheses assumed.

The results shown in Table 1 indicate that out of nine null hypotheses, six were rejected. The nine complexities were identified in this research out of which six were determined to be the complexities whereas three of them provide with less evidence to be the complexities for using Internet Banking. The significant complexities are Familiarity with the technology, Concerns for Download Speed, Unfriendly Website Design, Fear of Government tracking transactions, Security and Unauthorized access by people as shown in figure 2.

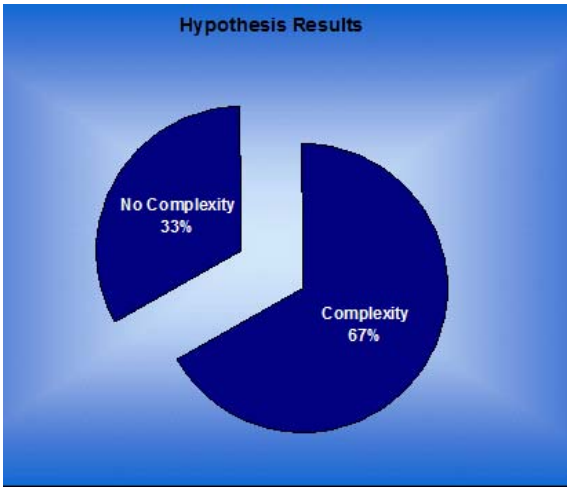

Figure 3: Percentage of complexities significantly found from the assumed complexities

As a whole, we see from the pie chart shown in figure 3 that sixty seven percent of the complexities, i.e. 6 out of 9 are more than enough to obstruct the people to adopt Internet Banking.

DISCUSSION

From null-hypothesis 1, 5 and 9 it is obvious that these identified complexities are of no concern to the users. They will continue their Internet Banking practices with these complexities. However, from null-hypothesis 1 it is evident that easy access to computers to use Internet Banking is not an issue in Pakistan. Computers are very common here and now people can always use their palmtops and mobile phones for their online transactions. Again from null-hypothesis 5 it is clear that system failure does not hampers the user to make use of Internet Banking and there are users who wants to avail this facility even if they have to confront with system failures. It might be the reason that customers have not experienced frequent system failures. As of null-hypothesis 9 it shows that the user of any age wants to explore things and technology by themselves rather they are to be trained and educated by their Banks. This shows the interest in technology of the user. Their must be an element of ego and self respect that the user does not want to be trained like a chid by their banks.

From null hypothesis 2 it is clear that users of different age group have difficulties in understanding the technology of Internet Banking. This is due to technology changing rapidly day by day and one has to get updated frequently. Younger people with age bracket 20-30 tend to indent themselves according to the ongoing technology as compared to other age groups people. Null- hypothesis 3 shows that if the user uses a slow connection instead of finding out the problem in-house, blame would be on the bank's services hitting on the Bank's reputation. An important issue that is perceived from null hypothesis 4 is of the website's design. That is, whether it is friendly for the users or not. It also depends that how much technical the user is. Banks would not have any inconvenience in changing and modifying their websites again and again if they have tested it initially with small number of users, thus holding up their customers tightly afterwards. From null-hypothesis 6 it is evident that users are very optimistic about the security issues, such as people in Pakistan do not even trust their government and they

think that by using electronic transfers or electronic money they would be easily traced and would be taxed unnecessarily. Again from null hypothesis 7 and 8 it is apparent that misusing of the bank account is a very important issue for the Internet Banking. As we have seen the misuse of credit and debit cards every now and then, which is what worries the Internet Banking users.

CONCLUSION

From null hypothesis 1 it is concluded that banking customers do not have to worry in accessing the banks' website as they have no problem in getting access to computers whenever the need arises. From null hypothesis 5 and 9 it is concluded that customers do not confront with the unreliable web services and do not need any training or awareness campaigns to start with or continue using internet banking activities. This part of the result supports that the infrastructure of the banking and the telecom sector has mutually developed to the extent that people do not find frequent malfunctions in the online services provided by their banks and they do not require any guidance and knowledge based programs.

The remaining significant complexities in null hypothesis 2, 3, 4, 6, 7 and 8 respectively shows that there are still many hindrances and obstructions for the customer to adopt internet banking. Though customers do not require training sessions to operate but still they are not fully familiar with the technology used by their banks and that confirms to be a complexity in view of users because they are dealing with financial transactions and needs to know how it works. Users needs to be very sure of the safety and privacy of their transactions and desires that no one gains access to their personal information. Also, unfriendly website resists the user in using internet banking technology. More over, users do not want to maintain audit trails while moving with their financial transactions as they have a conception that log files of their financial transactions can be accessed by the government personnel and would be misused for taxation and other related activities.

RECOMMENDATIONS

Based on the research findings, it is recommended that bankers should first maximize the usage of Internet banking amongst current customers because the cost associated with providing services over the Internet is much lower than traditional practice. These complexities should be removed so as to make the people accept the new technology and to make the best use of the facilities provided by the internet banking.

From figure 2 it is apparent that null-hypothesis 2, 3, 4, 6, 7 and 8 are actually the complexities in the way of adopting the technology of Internet Banking. Following are some of the recommendations based on the identified complexities starting with the most significant one.

- Banking transactions website should not be that much heavy to download or retrieve data as the Banks never know that what type of connections are being used by their customers.
- Banks should tell their customers to use fast internet connections to get good satisfactory results of their Internet Banking.
- Banks have to educate their customers how to avoid giving any personal information online unless asked by the banker himself to avoid misusing of account.

- Before uploading the websites, Bank's should do the pilot tests of their website so as to get the feedback of it assuming that every customer is not technical in operating these transaction websites.
- Banks need to take their customers in confident assuring that their transaction log would not be accessed by the government body.
- Users should be made familiar with the facilities by their Banks so that they can easily utilize these useful resources.
- It is the duty of the Bank personals to give confidence to their customers and inform them about the layers of security they have implemented for the Internet Banking.
- Banks can train their customers in a way by which they do not get the feeling of being directed. Instead they should be given simulators when they ask for the Internet Banking activity, asking them to enjoy the simulated Internet Banking experience and their feedback.

FUTURE RESEARCH

This research lacks the large sample size. As internet banking is not that much prevalent in Pakistan, it was very difficult to get more candidates for the survey. It is hopeful that in the coming years more users would experience the internet banking in Pakistan that would give researchers larger sample size and in turn would give more reliable analysis. In future new problems and complexities would be expected to emerge as technology is evolving every now and then, giving users more luxuries and facilities on one hand and promising new problems and difficulties on the other.

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Appendix A

This questionnaire is designed to gauge customers' perceptions abut online banking and its acceptance amongst the general public. Please tick the answers that represent you and your sentiments/ experience. Incase you are filling this form on your PC, please highlight the answer.

Customer's Profile:

Gender:
- □ Female
- □ Male

Age:
- □ 20-30 yrs
- □ 31-40 yrs
- □ 41-50 yrs
- □ 51-60 yrs
- □ Over 61 yrs

Profession: Corporate Communications Professional

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1. Does your bank provide Internet banking?
   - □ Yes
   - □ No
   - □ If you Don't Know, please provide the name of your bank - _____

2. Do you prefer?
   - □ Visiting your branch yourself
   - □ Online Banking

3. In general, how often do you use online banking services?
   - □ Never
   - □ Rarely
   - □ Sometimes
   - □ Often
   - □ Very frequently

4. Whenever you need to use internet banking facility anywhere, do you have easy access to computers at that place?
   - □ Yes
   - □ No

5. Do you think you are familiar with the online banking technology?
   - □ Yes
   - □ No

6. Do you have difficulty in understanding and using the online banking facilities?
   □ Yes
   □ No

7. Do you have concerns about speed of download and/or reliability of technology?
   □ Yes
   □ No

8. Does your bank have an unfriendly web site design, that is not easy to navigate?
   □ Yes
   □ No

9. Most of the times when you want to access the online service urgently, the server is down. (Unreliable service)
   □ Yes
   □ No

10. Do you see a security risk in using online banking services?
    □ Yes
    □ No

11. Do you fear loss of personnel information when using online banking OR you fear the Government/ tax authorities having access to all your online transactions?
    □ Yes
    □ No

12. Do you worry about people gaining access to your account and misusing it?
    □ Yes
    □ No

13. Do you trust the technologies that your bank has implemented in order to keep online banking secure?
    □ Yes
    □ No

14. Do you feel more awareness and training from your bank shall facilitate you and encourage you to use online banking facility?
    □ Yes
    □ No