A Study on Post Hoc Analysis on Education Level in Mobile Banking

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Abstract

The present study is laid out to know the impact of independent variable education on the dependent variables of customer satisfaction in mobile banking and factors responsible for such risks in the selected banks and to suggest measures for improving risk solutions. ANOVA are used to test the hypotheses and validate the results. The analysis is in conformity with the objectives of the study and the hypotheses formulated. The collected data are analyzed through SPSS 22 version. Findings include there is a significant difference in average agreement on customer satisfaction in mobile banking in mobile banking among the different edification. It is also observed that graduate respondents have greater agreement on infrastructure risk than post graduate. Graduates can be used to teach mobile banking to the society. Further mobile banking is suggested to be a part of graduate level course curriculum.

Key words: Mobile, banking, education, level, risk

INTRODUCTION

Mobile commerce technology is advancing as far as security issue is growing. With no security in doing mobile transactions, the financial world could be in a huge chaos. Thieves would have easy access to our personal information or our banking account information. Business transactions and banks will not be secure anymore; even national security could be in jeopardy. There is a significant relationship between "perceived ease of use and perceived usefulness", and "perceived ease of use and perceived credibility" **(Hanudin, *et al.* 2008).** People who do not have mobiles and most of the aged people find mobile banking more complex than traditional banking. Knowledge of its operation is required, but there are people who feel very difficult to type a message and it is of no use for them. If others come to know the password, it could not be trustworthy, as actual signatures like in traditional banking are not required. Mobile Pin (Mpin) is required to change after every transaction to make it trustworthy. This is a big problem as all the transactions are baseless if there is no network or slow network. If message is not delivered on time to the provided number, transaction will not be successful. If mobile is not working due to low battery, improper balance or network problem, then scope of mobile banking is very limited. People who are not acquainted with mobile banking they require a lot of mental effort to understand preferred language, date, time format, amount format, default transactions, standard beneficiary. On the other hand, people who are of posh nature can manage their funds, as it becomes an easy way to do shop their hearts out, invest generously or buy other luxury items. When it starts, some updates are required and some applications are needed to be downloaded. It delays the transactions, which are required immediately. In many banks, there are limited language options but still English remains the common language in all mobile banking services. Normally, Hindi language option is not available. It creates problem for the customers. If account is not password protected, then it may be visible to others using one's mobile. Attack on privacy may be due to users' carelessness or leakage of information. If messages are not deleted, these are automatically saved in inbox. It is also perceived that mobile banking is costlier than conventional banking. **(Lapavitsas and Santos, 2008)** originated the fact that impact of technological innovation is

contradictory as money dealing transactions became cheaper but investment cost increased.

LITERATURE REVIEW

Ghezzi, Renga, Balocco and Pescetto (2010) conducted a study on the Italian mobile payment services market, and to identify and assess the main diffusion drivers of mobile payment applications. The research design integrates an exhaustive census of all Italian mPayment applications and an in-depth analysis of the most significant cases performed through the case studies methodology: ten user companies or "merchants" and six service providers were analyzed through semi-structured interviews given to top managers. Through the census, 21 M-Payment applications and related services were identified. In addition to this, the case studies brought greater understanding of the key diffusion drivers: strong inhibitory factors and adoption barriers are still restricted user adoption despite the many benefits related to these services.

Ajibola (2010) analyzed the banks of South Africa to attract and retain the customers and found that the customers were generally satisfied to some extent with their banks with regard to services, products and banking relationship. It was suggested that the banks needed to do research on why customer satisfaction was low.

Bhat and Khan (2013) detected that there was significant variation between private sector banks (JKB and HDFC bank) and public sector banks (PNB and SBI) regarding each of the overall perceived and expected. It was also observed that their respective customers provided significant score and hence accepting the research hypothesis. They suggested that the banks should develop more proactive market strategies to reach and retain customers. The management must adapt customers' orientation programmes and reinforce their relationship with them.

Kumar, Banga and Sharma (2014) found that nationalized banks were concentrating more on increasing their credit risk and capital requirements as compared to the private and foreign banks as their increase was more of the other two categories of banks. The private banks were concentrating on their Tier-1 capital requirement as compared to other two categories of private and foreign banks taking care of the internal procedures of banks and by creating more awareness about supervising review. It was suggested that proper action should be taken to make the compliance more transparent and effective.

The above review of literature shows that no concerted efforts have been made to study the relationship of education variables with the use of mobile banking among customers in the selected banks, to know about customer satisfaction by analyzing the problems faced by the customers, to examine the risks to the customers due to mobile banking and factors responsible for these risks in Indian context. Therefore, the present study is an attempt to fill these gaps.

RESEARCH METHODOLOGY

The present study is put out to know the Impact of Edification on the Instinct in Mobile Banking and factors responsible for such risks in the selected banks and to suggest measures for improving risk solutions. In this broader framework, the following are the specific **objectives** of the study:

(i) To understand the problems to the customers due using of mobile banking at different education levels

(ii) To know impact of customer satisfaction in mobile banking at different education levels.

(iii) To analyze infrastructure risk in mobile banking at different education level.

(iv) To do post hoc analysis in case there is significant difference of Edification on the Instinct in Mobile Banking

Research Hypotheses

To validate the results of the study, the following hypotheses have been formulated:

H_{01}: There is no significant difference of in problems in mobile banking, customer satisfaction and infrastructure risk at different education level

H_{a1}: There is a significant difference of in problems in mobile banking, customer satisfaction and infrastructure risk at different education level

DATA COLLECTION

The present study is based on both primary and secondary data. Primary data have been collected from the customers selected by judgment sampling with the help of pre-structured questionnaire on five point Likert scale i.e. Strongly Disagree (SD), Disagree (D), Indifferent (I), Agree (A) and Strongly Agree (SA). After examination, 114 questionnaires from public sector banks, 57 from private sector banks and 33 from foreign banks were found complete and used for further analysis. Secondary data have been extracted from annual reports of

selected banks, national and international agencies, various RBI Publications (RBI Bulletin and RBI Annual Reports), and IBA Publications, etc. The other sources include the research studies and articles published in various journals, magazines, newspapers and websites. The study period is 2015-16.

DATA ANALYSIS

The collected data were analyzed through descriptive statistical techniques like frequency distribution, percentage, mean, mode, standard deviation, regression analysis, etc. For coding and analyzing the data, weights were assigned in order of importance i.e. 1 to Strongly Disagree (SD), 2 to Disagree (A), 3 to Neutral, 4 to Agree (A), and 5 to Strongly Agree (SA). ANOVA, test, Chi-square test and Z-test were used to test the hypotheses and validate the results. The analysis is in conformity with the objectives of the study and the hypotheses formulated. The collected data were analyzed through PASW 22.0 version.

IMPLICATIONS

The present study would be beneficial to the policy makers, bankers, customers and researchers to know designing suitable strategies for overcoming mobile banking risks.

MAJOR RESULTS AND DISCUSSIONS

An attempt made to analyze the relationship between edification and instinct of the customers about mobile banking. As there are more than two independent descriptive of people with different edification, on which we are comparing the average level of agreement on various issues so apply Under Graduate N=80 having highest problems in mobile banking mean = 2.86, Standard deviation = 0.68 than Graduate mean =N=55, Mean=2.74 , Standard deviation = 0.77, Post Graduate N=36 mean =2.81 Standard deviation =0.76 and PhD ,N=33, mean =2.82 Standard deviation =0.83 One-Way ANOVA. As sample size is large enough so normality and homogeneity of variables assumptions is not a serious violation here. It is clear from table 1 and 2 that at 10% level of significance there is not a significant difference in the average agreement on problems in mobile banking in mobile banking amongst the different edifications, f (3, 200)=0.27, p=0.85.

Table 1: Descriptive statistics for problems in mobile banking at different edifications

Education level	N	Mea n	S.D.	Std. Error	90% Confidence Interval for Mean		Mini mum	Maxim um
					Lower Bound	Upper Bound		
Under Graduate	80	2.86	0.68	0.08	2.73	2.98	1.18	4.32
Graduate	55	2.74	0.77	0.10	2.56	2.91	1.14	4.09
Post Graduate	36	2.81	0.76	0.13	2.60	3.03	1.68	4.32
PhD	33	2.82	0.83	0.14	2.58	3.07	1.18	5.00

Source: Survey

Table 2: ANOVA for problems in mobile banking at different edifications

Nominal	Sum of Squares	d.f.	Mean Square	f	p-value
Between Groups	0.45	3	0.15	0.27	0.85
Within Groups	111.52	200	0.56		
Total	111.97	203			

Source: Survey

As there are more than two independent descriptive of people with different edification, on which we are comparing the average level of agreement on various issues so apply Graduate N=55 having highest customer satisfaction in mobile banking mean = 3.50, Standard deviation = 0.78 than under Graduate mean =N=80, mean= 3.43, Standard deviation = 0.93, Post Graduate N=36 , mean =3.49 Standard deviation =0.91, and PhD N=33 mean =3.03 Standard deviation =1.11. As sample size is large enough so normality and homogeneity of variables assumptions is not a serious violation here. It is clear from table 3 and 4 that at 10% level of significance there is a significant difference in average agreement on customer satisfaction in mobile banking amongst the different edifications, $F_{(3, 200)}= 2.11$, p=0.10.

Table 3: Descriptive statistics for customer satisfaction in mobile banking at different edifications.

Education level	N	Mea n	S.D.	Std. Error	90% Confidence Interval for Mean		Mini mum	Maxim um
					Lower Bound	Upper Bound		
Under Graduate	80	3.43	0.93	0.10	3.26	3.61	1.30	5.00
Graduate	55	3.50	0.78	0.11	3.23	3.68	1.00	4.60
Post Graduate	36	3.49	0.91	0.15	3.23	3.74	1.50	5.00
PhD	33	3.03	1.11	0.19	2.71	3.36	1.00	4.90

Source: Survey

Table 4: ANOVA for customer satisfaction in mobile banking at different edifications

Nominal	Sum of Squares	df	Mean Square	f	p
Between Groups	5.38	3	1.80	2.11	0.10
Within Groups	170.54	200	0.85		
Total	175.92	203			

Source: Survey

From the post-hoc tests, It is clear from table 5 that undergraduates has greater agreement on customer satisfaction the PhD respondents, p=0.04, graduate respondents has greater agreement on customer satisfaction the PhD respondents, p=0.02, post-graduate respondents has greater agreement on customer satisfaction the PhD respondents, p=0.04.

Table 5: Multiple comparison on average agreement on customer Satisfaction in mobile banking at different edifications

(I) Education	(J) Education	Mean Difference (IJ)	Std. Error	p-value	90% Confidence Interval	
					Lower Bound	Upper Bound
Under Graduate	Graduate	-0.07	0.16	0.67	-0.34	0.20
	Post Graduate	-0.05	0.19	0.78	-0.36	0.25
	PhD	.40*	0.19	0.04	0.08	0.72
Graduate	Under Graduate	0.07	0.16	0.67	-0.20	0.34
	Post Graduate	0.02	0.20	0.93	-0.31	0.34
	PhD	.47*	0.20	0.02	0.13	0.81
Post Graduate	Under Graduate	0.05	0.19	0.78	-0.25	0.36
	Graduate	-0.02	0.20	0.93	-0.34	0.31
	PhD	.45*	0.22	0.04	0.09	0.82

PhD	Under Graduate	-.40*	0.19	0.04	-0.72	-0.08
	Graduate	-.47*	0.20	0.02	-0.81	-0.13
	Post Graduate	-.45*	0.22	0.04	-0.82	-0.09

*. The mean difference is significant at the 0.10 level.
Source: Survey

It is clear from table 6 and 7 that that at 10% level of significance there is a significant difference in the average infrastructure risk in mobile banking in mobile banking amongst the different edifications, $F_{(3, 200)}= 2.18$, p=0.09

Table 6: Descriptive statistics on average infrastructure risk in mobile banking at different edifications.

Education level	N	Mean	Std. Deviation	Std. Error	90% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Under Graduate	80	3.02	0.92	0.10	2.85	3.12	1.00	4.57
Graduate	55	3.26	0.79	0.11	3.09	3.44	1.14	4.57
Post Graduate	36	3.13	0.92	0.15	2.88	3.49	1.00	5.00
PhD	33	2.77	1.09	0.19	2.77	3.09	1.00	4.86

Source: Survey

Table 7: ANOVA on average infrastructure risk in mobile banking at different edifications.

Nominal	Sum of Squares	df	Mean Square	F	p
Between Groups	5.50	3	1.83	2.18	0.10
Within Groups	168.10	200	0.84		
Total	173.60	203			

Source: Survey

From the post-hoc tests, It is clear from table 8 that graduates has greater agreement on infrastructure risk than Ph.D. respondents, p=0.01, post-graduates has greater agreement on infrastructure risk than Ph.D. respondents, p=0.10

Table 8: Multiple comparison on average agreement on infrastructure risk in mobile banking at different edifications

(I) Education	(J) Education	Mean Difference (I-J)	Std. Error	pvalue	90% Confidence Interval	
					Lower Bound	Upper Bound
Under Graduate	Graduate	-0.25	0.16	0.13	-0.51	0.02
	Post Graduate	-0.12	0.18	0.53	-0.42	0.19
	PhD	0.25	0.19	0.19	-0.06	0.57
Graduate	Under Graduate	0.25	0.16	0.13	-0.02	0.51
	Post Graduate	0.13	0.20	0.51	-0.19	0.45
	PhD	.50*	0.20	0.01	0.17	0.83
Post Graduate	Under Graduate	0.12	0.18	0.53	-0.19	0.42
	Graduate	-0.13	0.20	0.51	-0.45	0.19
	PhD	.37*	0.22	0.10	0.00	0.73
PhD	Under Graduate	-0.25	0.19	0.19	-0.57	0.06
	Graduate	-.50*	0.20	0.01	-0.83	-0.17
	Post Graduate	-.37*	0.22	0.10	-0.73	0.00

*. The mean difference is significant at the 0.10 level.

Source: Survey

FINDINGS

From the post-hoc tests, It is found that graduates has greater agreement on infrastructure risk than Ph.D. respondents, post-graduates has greater agreement on infrastructure risk than Ph.D. respondents. It is also observed that at 10% level of significance there is a significant difference in the average infrastructure risk in mobile banking in mobile banking amongst the different edifications. Also the post-hoc test suggests that undergraduates has greater agreement on customer satisfaction the PhD respondents, graduate respondents has greater agreement on customer satisfaction the PhD respondents, post-graduate respondents has greater agreement on customer satisfaction the PhD respondents. As there are more than two independent descriptive of people with different edification, on which we are comparing the average level of agreement on various issues so apply Graduate having highest customer satisfaction in mobile banking than under Graduate, Post Graduate and PhD. There is a significant difference in average agreement on customer satisfaction in mobile banking amongst the different edifications. An attempt made to analyze the relationship between edification and instinct of the customers about mobile banking. As there are more than two independent descriptive of people with different edification, on which we are comparing the average level of agreement on various issues so apply under graduate having highest problems in mobile banking than Graduates, Post Graduate and PhD. It is also observed that there is not a significant difference in the average agreement on problems in mobile banking in mobile banking amongst the different edifications.

SUGGESTIONS

Bank should get feedback from customers at regular intervals to provide satisfaction to them in mobile banking. Banks should encourage the customers to adapt latest changes in technology for use of mobile banking. Banks should scrutinize the factors regularly to handle the problems of customers in mobile banking. Banks should make efforts to minimize operational/technological risk by using latest software to provide error free mobile banking. Customer awareness campaign should be organized by the banks to provide practical knowledge of mobile banking to them. Graduates can be used to teach mobile banking to the society. Further mobile banking is suggested to be a part of graduate level course curriculum

CONCLUSION

Mobile which was only a pump and show instrument a decade before and now has become a need. It has become an indispensable need like Food, Cloth and Shelter. These days Banking is also need of the day. Banking through mobile is now needed of the hour. So mobile is not only used for talking texting sharing audios video images but also has become a source of information. It will not wrong to say bank at your mobile. Every bank is proving this facility and more or less people users are increasing day by day. Education affects or not with the use of mobile banking is the crux of the issue. It is very easy to use but do education levels have effect on the satisfaction. What the educated person has perception about using mobile banking what are the problems faced by mobile user in banking, what are the different perceptions about risk and what is opinion about covering these risks. Also is there any significant difference regarding using mobile banking at different level and if yes can post hoc analysis will show any significant result. Present study is an attempt to know the significant difference at edification in mobile banking. It is found that graduates has greater agreement on infrastructure risk than Ph.D. respondents, post-graduates has greater agreement on infrastructure risk than Ph.D. respondents.

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