Impact of Mobile Banking on Overall Customer Satisfaction: An Empirical Study

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ABSTRACT

The purpose of this paper is to analyze the impact of dimensions of Mobile Banking on Overall Customer Satisfaction separately in Public and Private Banks Across Security & Privacy, Accuracy, Accessibility and Easy to Use. A convenience sampling technique was used to recruit 320 customers through a well-designed questionnaire from three Public Banks i.e. SBI, Punjab National Bank and Bank of Baroda and three Private Banks i.e. ICICI, HDFC and Axis Bank of NCR, India. The questionnaire is representing the desired range of demographic characteristics e.g. Gender, Age, and Occupation. Data has been analyzed by Regression Test. This research showed that dimensions of Mobile Banking i.e. Security & Privacy in public banks, Accessibility and Ease of Use variables have significant impact on Overall Customer Satisfaction. Even though Accuracy and Security & Privacy in private banks variables do not have a significant impact on Overall Customer Satisfaction.

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II. INTRODUCTION

With the implementation of information technology, the banking industry has brought a revolutionary change in the workability of banks. Now banks provide IT based products and services to their customers. Bank customers are becoming highly demanding and curious about the new technology-based banking products and services. Technology has changed the total system of banking operation and enabled banks to satisfy the needs of the customers adequately. IT is not confined only to transaction processing and management information system, but it has created a competitive environment for banks to retain their customers. These information technological changes in Indian banking are called as mobile banking. It is one of the emerging trends in the Indian banking and is playing a unique role in strengthening the banking sector and improving service quality.

Mobile banking means that any enquiry or transaction can be processed online without going to branch concerned. It reduces physical and geographical boundaries and allows customers to make banking transactions anywhere and anytime. New technology has rapidly transformed the traditional ways of doing banking operations. Traditional banking is branch based banking in which banks need to establish a physical presence in geographical area to carry out banking operations. It requires a maximum of interaction with physical services, processes, payments and medium of exchange mainly includes cash, check, bank cards and other such operations. But on the other side, new technological banking creates extraordinary opportunities for the banks in the ways they organize financial product development, delivery and marketing via the internet. It provides number of facilities to the customers such as they can get any information related to their account and online transaction. It also allows customers to make payment, perform electronic recharge, pay bills, access account information and transfer funds from one account of the bank to another.

Siu and Mou (2008) examined the perception of customers regarding the service quality dimensions and impact of e-SERVQUAL dimensions on customer satisfaction in internet banking. Factors like credibility, efficiency, problem handling, and security were used to find the perception of customers towards the service quality dimensions in internet banking. The data from 195 customers of banks were selected using an e-SERVQUAL questionnaire and tools like factor analysis; t-test, one-way ANOVA and multiple regression tests were used to find the perception of customers. Finding suggests that all three dimensions such as credibility, efficiency, problem handling were found to be important in determining overall service quality perceptions of customers except security. From the regression test, finding reveals that credibility, problem handling, and security have significant impact on customer satisfaction.

Kumbhar (2011) examined important factors that have impact on customers' satisfaction. In this study, fifteen key dimension of service quality such as overall satisfaction, system availability, e-fulfilment, accuracy, efficiency, security/ assurance, responsiveness, easy to use, convenience, cost effectiveness, problem handling, compensation, contact, perceived value and brand perception were use. The data was collected through a questionnaire from 150 customers of public and private banks who are using alternative banking channel. Statistical tools like descriptive statistics, multiple correlation, Kruskal Wallis, Mann Whitney test and principal component analysis were used to analyse the data. Further finding implies there was a significant relationship between all dimensions and overall customer satisfaction.

Ramseook-Munhurrun and Naidoo (2011) examined the potential dimensions of internet banking and its impact on customer satisfaction. Five key dimensions of service quality such as reliability-responsiveness, security, ease of use, accessibility and satisfaction were taken for the study. The data was collected through SERVQUAL model questionnaire from 242 internet banking

customers. Tools like factor analysis, paired t-test and regression test were used to analyse the data. Finding implies that reliability-responsiveness and accessibility were found to be important in determining overall customer satisfaction, with accessibility having the most significant impact.

Banerjee and Sah (2012) examined the perception of customers towards services provided by public and private sector banks. The SERVQUAL instrument has been used by the researcher and the variables included in the research were tangibility, reliability, responsiveness, assurance and empathy. The sample size of the study was 230 respondents. The Mann Whitney U test was used to compare the perceptions of customers towards the different attributes of the service dimensions between private and public-sector banks. Findings unveil that customers are satisfied with private banks and expect more services from private banks. To satisfy the customers, the public banks should focus on improving the service in terms of tangibility, reliability, responsiveness and empathy.

Prameela (2013) analyzed the perceptions of the customers on the technology deployment in Andhra Bank & ICICI Bank. The variables included in this research were tangibility, reliability, responsiveness, assurance, empathy, efficiency, accuracy, security, easy and convenient banking. The data was collected through a well-designed questionnaire from 500 customers. Tools like chi-square, ANOVA and t-test have been used to analyse the data. Finding reveals that the perception and experience of the customers on the technology deployment in Andhra Bank and ICICI bank were in favour of up gradation of technology.

III.   METHODS

In the present study data was collected with the help of a well-structured questionnaire from selected cities of National Capital Region (NCR) i.e. Faridabad, Gurgaon, Ghaziabad, Noida and New Delhi. the author has selected top three public banks i.e. State Bank of India, Bank of

Baroda, Punjab National Bank and top three private banks i.e. ICICI, HDFC, Axis Bank of NCR. About 500 questionnaires have been distributed out of which 320 filled questionnaires have been received from the public and private banks customers of NCR, India. The sample for this study is selected based on convenience sampling method because it is an easy way to collect data for further analysis. The questionnaire is based on Likert"s five-point scale ranging from "Highly Satisfied"- (5) to "Highly Dissatisfied"- (1). Customers can select the desired option according to their satisfaction and dissatisfaction level. The questionnaire comprises of two sections: section "A" on respondent's socio demographic characteristics and section "B" is represents Mobile Banking dimensions. The section "A" depicts the demographic information of the respondents i.e. Name of the Bank, Gender, Education level, Income, Occupation and Internet usage. The section "B" of the questionnaire contains close ended questions which are concerned to elicit information about the perception of the customers that have direct emphasis on the hypothesis of the study. In this study, Regression Test is used to analyses the impact of dimensions of Mobile Banking on Overall Customers Satisfaction separately in Public and Private Banks. Data are computed and analyzed via Statistical Packages for Social Science (SPSS) computer program version 19.0.

IV. RESULTS AND DISCUSSION

Ho_1: There is no significant impact of dimensions of Mobile Banking on overall customer satisfaction of the customers of the banks.

$Ho_{1.1}$: There is no significant impact of Security & Privacy as a dimension of Mobile Banking on overall customer satisfaction of the customers of the public banks.

$Ho_{1.2}$: There is no significant impact of Security & Privacy as a dimension of Mobile Banking on overall customer satisfaction of the customers of the private banks.

Table 1: Beta (β), T value and significant value of Security & Privacy on overall customer satisfaction

S.No.	Results of Multiple Regression				
	Security & Privacy vs. Overall Customer Satisfaction				
	Security & Privacy	Beta(β)	T	Sig.	Results
$Ho_{1.1}$	Public Banks	.154	3.864	.001	Sig. Impact
$Ho_{1.2}$	Private Banks	.056	.834	.406	No sig. impact

In the above table 1, results of Multiple Regression Test are shown. This table indicates the Beta (β), T value, significant value and result estimates the impact of Security & Privacy on overall customer satisfaction.

The above table shows the result of multiple regression test used to assess the impact of dimension of mobile banking i.e. Security & Privacy as an independent variable on overall customer satisfaction as a dependent variable. In the public banks, Beta(β) value is .154, which is more than the private banks' Beta(β) value i.e. .056, which shows that the impact of Security & Privacy on overall customers' satisfaction is more in the public banks as compare to the private banks. The t-value is 3.864 and sig. value of the public banks is .001, which is less than 0.05, which indicates that there is a significant impact of Security & Privacy on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Security & Privacy as a dimension of mobile banking on overall customer satisfaction of the customers of banks* stands rejected and alternative hypothesis is accepted.

Similarly, in the private banks, Beta(β) value is .056, which is less than the public banks' Beta(β) value i.e. .154, which shows that the impact of Security & Privacy on overall customers'

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satisfaction is less in the private banks as compared to the public banks. The t-value is .834 and sig. value of the private banks is .406, which is more than 0.05, which indicates that there is no significant impact of Security & Privacy on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Security & Privacy as a dimension of mobile banking on overall customer satisfaction of the customers of the private banks* stands accepted and alternative hypothesis is rejected.

Ho₂: There is no significant impact of dimensions of Mobile Banking on overall customer satisfaction of the customers of the banks.

Ho₂.₁: There is no significant impact of Accessibility as a dimension of Mobile Banking on overall customer satisfaction of the customers of the public banks.

Ho₂.₂: There is no significant impact of Accessibility as a dimension of Mobile Banking on overall customer satisfaction of the customers of the private banks.

Table 2: Beta (β), T value and significant value of Accessibility on overall customer satisfaction

S.No.	Results of Multiple Regression				
	Accessibility vs. Overall Customer Satisfaction				
	Accessibility	Beta(β)	T	Sig.	Results
Ho₂.₁	Public Banks	.317	3.869	.000	Sig. Impact
Ho₂.₂	Private Banks	.319	4.305	.000	Sig. Impact

In the above table 2, results of Multiple Regression Test are shown. This table indicates the Beta (β), T value, significant value and the result estimates the impact of Accessibility on overall customer satisfaction.

The above table shows the result of multiple regression test take to assess the impact of dimension of mobile banking i.e. Accessibility as an independent variable on overall customer satisfaction as a dependent variable. In the public banks, Beta(β) value is .317, which is less than private banks' Beta(β) value i.e. .319, which confirms that the impact of Accessibility on overall customers' satisfaction is less in the public banks as compared to the private banks. The t-value is 3.869 and sig. value of the public banks is .000, which is less than 0.05, thus indicating that there is a significant impact of Accessibility on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Accessibility as a dimension of mobile banking on overall customer satisfaction of the customers of the public banks* stands rejected and alternative hypothesis is accepted.

Similarly, in the private banks, Beta(β) value is .319, which is more than the public banks Beta(β) value i.e. .317, which shows that the impact of Accessibility on overall customers' satisfaction is more in the private banks as compared to the public banks. The t-value is 4.305 and sig. value of the private banks is .000, which is less than 0.05, which is an indication that there is a significant impact of Accessibility on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Accessibility as a dimension of mobile banking on overall customer satisfaction of the customers of the private banks* stands rejected and alternative hypothesis is accepted.

Ho₃: There is no significant impact of dimensions of Mobile Banking on overall customer satisfaction of the customers of the banks.

Ho₃.₁: There is no significant impact of Ease of use as a dimension of Mobile Banking on overall customer satisfaction of the customers of the public banks.

Ho$_{3.2}$: There is no significant impact of Ease of use as a dimension of Mobile Banking on overall customer satisfaction of the customers of the private banks.

Table 3: Beta (β), T value and significant value of Ease of use on overall customer satisfaction

S.No.	Results of Multiple Regression				
	Easy to use Vs. Overall Customer Satisfaction				
	Easy to use	Beta(β)	T	Sig.	Results
Ho$_{3.1}$	Public Banks	.057	3.685	.000	Sig impact
Ho$_{3.2}$	Private Banks	.255	4.014	.000	Sig impact

In the above table 3, results of Multiple Regression Test are shown. This table indicates the Beta (β), T value, significant value and the result estimates the impact of Ease of use on overall customer satisfaction.

The above table shows the result of multiple regression test put to estimate the impact of dimension of Mobile banking i.e. Ease of use as an independent variable on overall customer satisfaction as a dependent variable. In the public banks, Beta(β) value is .057, which is less than the private banks' Beta(β) value i.e. .255, which shows that the impact of Ease of use on overall customers' satisfaction is less in the public banks as compared to the private banks. The t-value is 3.685 and sig. value of the public banks is .000, which is less than 0.05, which indicates that there is a significant impact of Ease of use on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Ease of use as a dimension of mobile banking on overall customer satisfaction of the customers of the public banks* stands rejected and alternative hypothesis is accepted.

Similarly, in the private banks, Beta(β) value is .255, which is more than the public banks Beta(β) value i.e. .057, which shows that the impact of Ease of use on overall customers' satisfaction is more in the private banks as compared to the public banks. The t-value is 4.014 and sig. value of the private banks is .000, which is less than 0.05, which indicates that there is a significant impact of Easy to use on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Ease of use as a dimension of mobile banking on overall customer satisfaction of the customers of the private banks* stands rejected and alternative hypothesis is accepted.

Ho$_4$: There is no significant impact of dimensions of Mobile Banking on overall customer satisfaction of the customers of the banks.

Ho$_{4.1}$: There is no significant impact of Accuracy as a dimension of Mobile Banking on overall customer satisfaction of the customers of the public banks.

Ho$_{4.2}$: There is no significant impact of Accuracy as a dimension of Mobile Banking on overall customer satisfaction of the customers of the private banks.

Table 4: Beta (β), T value and significant value of Accuracy on overall customer satisfaction

S.No.	Results of Multiple Regression				
	Accuracy vs. Overall Customer Satisfaction				
	Accuracy	Beta(β)	T	Sig.	Results
Ho$_{4.1}$	Public Banks	.073	.906	.366	No sig. Impact
Ho$_{4.2}$	Private Banks	.013	.225	.822	No sig. Impact

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In the above table 4, results of Multiple Regression Test are shown. This table indicates the Beta (β), T value, significant value and the result estimates the impact of Accuracy on overall customer satisfaction.

The above table shows the result of multiple regression test employed to assess the impact of dimension of mobile banking i.e. Accuracy as an independent variable on overall customer satisfaction as a dependent variable. In the public banks, Beta(β) value is .073, which is more than the private banks Beta(β) value i.e. .013, which shows that the impact of Accuracy on overall customers' satisfaction is more in the public banks as compared to the private banks. The t-value is .906 and sig. value of the public banks is .366, which is more than 0.05, which indicates that there is no significant impact of Accuracy on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Accuracy as a dimension of mobile banking on overall customer satisfaction of the customers of the public banks* stands accepted and alternative hypothesis is rejected.

Similarly, in the private banks, Beta(β) value is .013, which is less than public banks Beta(β) value .073, which shows that the impact of Accuracy on overall customers' satisfaction is less in the private banks as compared to the public banks. The t-value is .225 and sig. value of the private banks is .822, which is more than 0.05, which indicates that there is no significant impact of Accuracy as a dimension of mobile banking on overall customer satisfaction. Hence, the hypothesis that *there is no significant impact of Accuracy as a dimension of mobile banking on overall customer satisfaction of the customers of the private banks* stands accepted and alternative hypothesis is rejected.

V. CONCLUSION

In this research Security & Privacy in public banks, Accessibility and Ease of Use variables have a significant impact on overall customer satisfaction towards mobile banking. Even though

Accuracy and Security & Privacy in private banks variables do not have a significant impact on overall customer satisfaction. In this research, the importance of these two variables cannot be ignored by mobile banking providers because prior research had shown that Accuracy and Security & Privacy variables are important in fulfilling Overall Customer Satisfaction toward Mobile Banking. This research can help mobile banking providers to know mobile banking users' opinion and find the solution through customers' perspective. It can help mobile banking providers easily achieve customer satisfaction.

There are several recommendations that can help in overcoming this research. The problem of constraints on time can be solved by increasing the range of time in conducting a research in the future. The sample size of the research should be increased because the sample size may affect the reliability of the research. Sample size can help to improve the reliability between independent variables and dependent variable. Increase in sample size can help researchers to choose more working adults who work in different areas in NCR. In addition; this research study is geographically restricted to NCR due to time and financial constraints and restricted to Public & private banks only. Co-operative & foreign banks are not included in the study. These are some of limitations in this research, but they can be solved by applying the recommendations mentioned above. After the limitations are solved an accurate and reliable result can be generated in the future research.

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