



An Empirical Study On Adoption Of Indian I-Banking Services

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Abstract: This aim of this paper is to understand, develop and enhance the adoption of Internet banking services by comparing two banks one is private bank (ICICI) and other is public bank (SBI) in India. The primary data was collected from 200 respondents through well structured questionnaire of I-banking customers of SBI and ICICI bank from public and private sector. Statistical analysis, descriptive, factor and logistic regression analysis were used to know the trend of service delivery in public and private bank. The findings depicts that expectation of service quality are very high. ICICI bank was perceived significantly better e-services portfolio in comparison to SBI bank. Majority of customers are willing to adopt I-banking services in private sector bank. The security concern and lack of adequate technological knowledge are two main obstacles to use the system of I-banking services. There are a great number of Indian customers, who have not internet banking account at present. So the potential for Internet banking in India is very high for the future. This study identifies number of strategy which bank manager could adopt.

Keywords: E-Banking, Security, Service quality, Retail banking

INTRODUCTION

The rapid growth and development of information and communication technologies (ICT) have enabled Banking to create value in a digital environment (Schreieck and Wiesche, 2017). Internet and technological development have changed how financial services are offered and used (Malaquias and Hwang, 2019). Banks and many financial institutions suggest alternative innovative electronic channels for maintaining a competitive advantage and satisfying customer expectations. Mobile devices and destock have increasingly become tools that customers implement through e-banking to pay for products and services (Zhang et al., 2018). Therefore, e-banking can adapt to clients' needs, such as performing banking activities, without physically visit an office or an ATM (Malaquias and Hwang, 2019). For this reason, e-banking has considerable value for many financial organizations and customers (Baabdullah et al., 2019). Satisfaction is very necessary in the banking industry to provide better financial services to enhance the level of profitability and strengthen the financial position. Private sector banks' offices growth is evident that the service quality and customers' satisfaction are the prime consideration for the development of the banking business in India. Public sector banks are more capable to attract and retain customers due to their reputation and convenient location of bank branches in India. There is need to get opinion of customers about service quality and customers' satisfaction in banks and identify the areas where improvements are necessary to make customers more satisfied (Ali and Bisht, 2018). Sadhana Mahajan, 2014 studied that customer satisfaction is one of the most important factors in the public sector banks. The finding reinforces the need for banks managers to place an emphasis on satisfying the customers and take into account the moderating effect of demographics and situational factors. The managers should periodically assess and monitor customer satisfaction levels in their banks and recognize its importance in developing and maintaining enduring relationship with their customers as crucial parameters leading to increased performance.

Some of the main advantages of Internet Banking are for both the consumer and the bank are:

1. Lower transaction costs;
2. It is very convenient and customer friendly;
3. Twenty Four hour access from any where in the world;
4. Targeting international customers;

A strong banking industry is very important in every country and can have a significant effect in every developing country through efficient financial services. Currently, in India important function of E-commerce is the transferring of payment over Internet. Implication of a payment system for e-commerce is still in embryonic stage in India. If Indian customers are unwilling in accepting of internet banking services, it may be because they are not aware about such services being available and the benefit it offers. This concept leads to be different variable to be examined. The purpose of this study to make a comparison between public and private bank and to understand, develop and enhance the role of e-commerce. It will establish if customer of different types of bank do or do not have the same service quality expectations in relation to an excellent bank. This study also provides suggestion that how bank can improve their service quality.

The paper is organized as follows: section 1 introduces the basic problem of the research. Section 2 highlights some of the factors that affect internet banking adoption. And section 3 describes research method which is performed for result. Then we present findings and discussion on research result in section 4, and section 5 presents conclusion and further research scope and at the end of the paper present managerial implication of the research results which is represented in section 6.

Literature Review

E-banking in India

In now a days future of Banking is not possible without e-banking. As per future is concern many research suggest that Internet banking is a form of self service technology. Several studies bring out the importance of security in Internet banking. BismarckAmiya and Eric Ashley (2015) studied on electronic banking and customer satisfaction. E- banking allows customers to inquire information and carry out most banking services such as account balance inquiry , bill-payments and inter-account transfers through the internet. E-banking therefore, includes systems that enable financial institutions customers, individuals and business to access accounts , transact business and obtain information on financial products and services through public or private networks. His studies on e-banking acknowledges that factors that drive customer satisfaction are security design, availability, convenience and reliability being the most influence factors of e-banking on customer satisfaction. Srivastava and Mittal (2016) discussed the impact of various Internet banking (IB) services on the overall satisfaction levels of the banking customers. This paper revealed that customers wanted the private sector banks to improve upon the features like quality of service, frequency of reminder given for password change, safety, privacy of ID and password, and proper entering of the details in the bank registers. However, security issues aroused a common concern from the customers in case of both sectors of banks. Agarwal et. al., (2017) analyzed how much e-banking used in Public and Private sectors bank. They have found the consumer satisfaction in respect of e-banking and the perception of employees for using e-banking in Public and Private sectors banks. and explained that more number of problem faced by the people is more in public sector banks. People are more satisfied from the private sector banks due to their better services provided by them. Kumbhar and Vijay (2011) examined the relationship between the demographics and customers satisfaction in

internet banking. It also found out relationship between service quality and customers satisfaction as well as satisfaction in internet banking service provided by the public sector bank and private sector banks. The study found out that overall satisfaction of employees, businessmen and professionals are higher in internet banking service. Also, it was found that there is significant difference in the customers perception in internet banking services provided by the public and privates sector banks.

Suhair and Nagasanthi (2017) Studied on Service Quality of E-Banking of Private Sector and Public Sector Banks in Kerala. E-banking is a milestone change in the banking industry in India and this services should be updated according to the advancements happened in technology. "Update yourself or you will be kept in the shelf" is the proverb come into mind while we check the current scenario of banking sector. The study on quality of e-banking services provided by the banks come to a conclusion that private sector banks are more quality oriented than public sector banks in India. As far as the general eight dimensions are considered, except for credibility and security, all others are well favorable to private sector banks. The credibility and security are favorable to public sector due to the government ownership in those banks. In overall study, quality e-banking services are provided by private sector banks rather than public sector banks in India.

Research Methodology

As an empirical study have been conducted by using structured questionnaire from bank customers. The measurement instrument used was questionnaires which consider a two section. First section of the questionnaire describes demographic profile and second section describe attitude of the respondents regarding usefulness and security perspective of the Internet banking. Questionnaire collected primary data from current and prospective customers of Internet banking services in India. This research was conducted through survey of Internet banking users of Rajasthan and Uttar Pradesh in India. The respondents are users of Internet banking of leading Indian banks and foreign banks. Predominantly the users are State Bank of India (SBI) and Industrial Credit Investment Corporation of India (ICICI) Internet banking users. This is largely because of the penetration of Internet banking of these banks. In order to collect primary research data from consumers, a seven-point scale, self-reported questionnaire was developed to measure customer attitude on Internet banking in India. and finally Descriptive Statistics, Cronbach alpha, Correlation and Regression analysis have been used to analysis the data.

Sample

The survey instrument used in this study was a structured questionnaire for the empirical study. For the collection of data cluster sampling was used. We make two cluster one was related to ICICI bank and other was related two SBI bank. Of the 250 people responding survey, 200 respondents were male (80%) and 50 respondents were female (20%).

Hypotheses development

Meuter et al., 2000 studied many variables. All variables related to internet banking usefulness, internet banking characteristics and demographic characteristics influencing internet banking services' adoption are studied in this research. Internet banking provides two major advantages convenience and fast services, compare to traditional branch banking services. Most of the customers are afraid about the Internet security when they transact online. Security and privacy is a key factor to the acceptance of online banking. Cheung and Lee (2001) point out that security refers to aspects such as integrity, authentication, encryption, and non-repudiation. Integrity refers to impossibility of the transmitted data by third party without permission. Authentication enables a certain operation carried out only after identification. Finally, non-recognition refers to procedure that prevents an individual or organization from denying that they had carried out a certain operation. Privacy refers to protection of personal financial information. Moreover privacy is the consumer's perception of the ability of the bank to protect personal information from unauthorized use. According to Chellappa (2000), consumer trust in e-commerce and e-banking was influenced by a consumer's perception of risk to the privacy and the security. Chellappa (2000) argued that different classes of people have different expectations of privacy and its definition depends on the nature and type of situation. Desai et al., 2003 found that privacy is one of the factor that online consumer concerned for. They are not buying on the Internet because they are afraid their personal information will not be misused. Demographic characteristics such as age, marital status, education level and etc are also established in this research work. According to this study the following hypotheses will be tested.

Hypothesis 1: There is positive relationship between security and privacy and e-banking financial service quality and adoption.

Hypothesis 2: There is a positive relationship between convenience and e-banking financial service quality and adoption.

Hypothesis 3: There is a positive relationship between transaction speed and e-banking financial service quality and adoption.

Hypothesis 4: Personal characteristics can significantly influence e-banking financial services quality and adoption.

Findings and discussion

The following characteristics are concerned with demographic profile. They are listed in Table 1, along with the respondents' response. The percentage value for each characteristic for separate bank ICICI and SBI bank are also listed. In the ICICI bank 79% are male and 21% are female. While for SBI bank 55.6% are male and 44.6% are female. If see occupational background of the respective bank, For SBI bank 16.7% respondents were government employee and around 755 respondents are educated.

Table 1: Demographics profile of respondents

Respondent characteristics	ICICI Bank (Private Bank)		SBI Bank (Public Bank)	
	Users (%)	Non-Users (%)	Users (%)	Non-Users (%)
Age				
18-25	20.4	14.5	11	12.5
25-35	30.6	20.6	20.4	18.7
35-45	25.8	19.7	24	27.6
45-55	15.2	7.7	18.5	13.5
>55	7.9	5.4	8.9	6.5
Gender				
Male	79	85	55.6	84.7
Female	21	15	44.4	15
Marital status				
Married	65	75	36.5	24.8
Unmarried	35	45	63.5	75.2
Education				
Intermediate	3.6	2.5	8.4	12.7
Bachelor	24.8	20	20.4	22.5
Masters	58.8	55.3	39	27.6
Professionals	23.6	30	32	37.2
Income (monthly)				
<15000	20.4	22.5	13.5	11.5
15000-25000	25.6	26.9	21.7	24.2
25000-35000	40.9	38	35.6	39.7
35000-45000	10.6	7.8	15.4	13.6
45000-55000	9.9	15.6	8.1	4.3
>55000	12.8	7.7	3.2	4.5
Occupation				
Private	20.5	15	45.6	22.8
Government	39.5	45.3	16.7	20.4
Self Employed	35.7	39.6	19.8	32.9
Others	17.8	9.5	17.9	29.9

For ICICI bank the six research variables such as convenience, security and privacy, transferring the fund from same branch of ICICI and different branch of other bank, cost saving and ease of use were related to Internet banking services. The data were subjected to the principal component method (Correlation matrix approach) using orthogonal rotation. Furthermore, the KMO and Bartlett's sphericity were used to test the sample appropriateness. The variables, which have loadings of more than 0.5 and Eigenvalues of 1 or above were retained. The results show that only 1 factor is extracted from the analysis along with the percentage of variance attributed to the factor (57.9%). Since only one component is extracted the solution cannot be rotated. For ten variables related to Internet banking services characteristics in ICICI bank, only two factors were emerged. These two factors have variance respectively 37.783% and 24.564%. The rotated factor matrix of Table 2, factor 1 has high coefficients for convenient, security and privacy and fast transaction, therefore this factor may be labelled as secure and convenient transaction. The factor 2, has high coefficients for easy to use by others, satisfaction and recommendation. Thus one could be summarized the data, customer appears to seek two major kinds of benefits from satisfaction of Internet banking services: First; it should be secure and private of all financial activities as well as easy usage of financial transaction. And second; it should be ease of use and complete banking transaction.

Table 2: Factor analysis for e-banking adoption characteristics in ICICI bank

Characteristics	F1	F2
Convenient	0.765	
Security and Privacy	0.711	
Ease of Use	0.693	
Fast Transaction	0.717	
Cost Saving	0.598	
Suitable for any banking transaction	0.611	
Easy to use by others		0.818
Recommending to others		0.791
Satisfy with all banking and financial need		0.801

In further analysis of the data of ICICI bank, logistic regression analysis was implemented. Table 3 exhibits the result of the logistic regression model. Logistic regression model shows that four characteristics have negative value of β so it can be say that ease of use, banking transactions, easy to use by others and satisfaction have negative impact. While, Internet customers who perceive convenient, secure, fast transaction, recommending to other in Internet banking have higher probability to adopt Internet banking in ICICI bank. Hence hypothesis H1, H2, H3 and H4 are accepted in case of ICICI bank internet banking adoption among customers.

Table 3: Variable in the equation of logistic regression model in ICICI bank

Characteristics	β	Sig.	Exp (β)
Convenient		0.548**	1.055
Security and Privacy		0.217**	1.107
Ease of Use	-0.314	0.179**	
Fast Transaction		0.362**	1.821
Cost Saving		0.392**	
Suitable for any banking transaction	-0.178	0.054*	
Easy to use by others	-0.247	0.120**	
Recommending to others		0.483**	1.104
Satisfy with all banking and financial need	-0.078	0.469**	

For ten characteristics related to Internet baking service characteristics in SBI bank, two factors emerged. Before rotation, factor 1 account for considerably more variance than the other (41.58% in comparison to be 12.26%). However, after extraction, it account for only 33.85% of variance in comparison to 19.755, respectively. I the rotated factor matrix Table 4, factor 1 is highly coefficient for security and privacy, ease of use, fast transaction, easy to use by others, recommendation to others and satisfy with all banking and financial need. Thus, factor 1 could be labeled as easy use of financial and banking transaction. Factor 2 is highly related with convenient; cost saving and suitable for any banking transaction, Therefore factor 2 could be labeled as flexibility of banking transaction and no need more cash. Thus one could be summarized the data, customer appears to seek two major kinds of benefits from satisfaction of Internet banking services: First; it will be easy use of financial and banking transaction. Second; it will be flexibility of any banking transaction and no need to more cash.

Table 4: Factor analysis for e-banking adoption characteristics in SBI bank

Characteristics	F1	F2
Convenient		0.817
Security and Privacy	0.81	
Ease of Use	0.808	
Fast Transaction	0.897	
Cost Saving		0.715
Suitable for any banking transaction		0.715
Easy to use by others	0.684	
Recommending to others	0.698	
Satisfy with all banking and financial need	0.871	

In further analysis of the data of SBI bank logistic regression analysis was performed. In subsequent logistic regression analysis, all variables were entered into the general model and subsequent stepwise method was carried out. Table 5 exhibits the result of logistic regression model. It shows the value of β is negative for five variables so we can say that fast transaction, cost saving, easy to use by others, recommending to other and satisfaction has negative impact. While, customers who perceived more convenient, security and privacy, ease of use and suitable from any banking transaction. Therefore, it could be concluded that these variables are more important factors in adoption of Internet banking in comparison to ICICI bank.

Hence hypothesis H1, H2 and H4 are accepted in case of SBI bank internet banking adoption among customers.

Table 5: Variable in the equation of logistic regression model in SBI bank

Characteristics	β	Sig.	Exp (β)
Convenient		0.057*	1.47
Security and Privacy		0.315**	1.198
Ease of Use		0.442**	1.26
Fast Transaction	-0.082	0.057*	
Cost Saving	-0.082	0.491**	
Suitable for any banking transaction		0.057*	1.534
Easy to use by others	-0.078	0.675**	
Recommending to others	-0.051	0.675**	
Satisfy with all banking and financial need	-0.218		0.764

From the empirical findings of the current study it can be conclude that ICICI bank's financial service quality is superior in comparison to service quality SBI bank's. As same as service quality, Demographic characteristics have also effective impact on adoption of internet banking services. After comparison between demographic characteristics of respective banks, it can be conclude that among all characteristics of demographic specially gender, education level and income have more significant impact on adoption of internet financial banking services.

A profile of sample respondents is presented in table 1. Age was distributed normally, the age group between 25 to 30 and 31 to 35 years of age capturing about 30.6% and 25.8% respectively. Gender somewhat more than two-third sample was males. The findings also depict that, Internet banking is more adopted by the higher education level customers. Same in the case with income level, those customers who have income (Table 1) near about 25000 to 35000 because in India most of the customers have income scale between them. So bank manager should focus regarding adoption of internet banking services in this monthly income group. Through the empirical study it is observed that in the case of customer satisfaction variable, it is showed that ICICI bank uses a more personal approach than SBI bank.

Conclusion and further research

Both ICICI bank and SBI bank have highly similar services. But in case of usefulness and customer satisfaction variables, ICICI bank is more superior in comparison to SBI bank. The majority of the customers are very interested and willing to adopt high quality of Internet banking services. This is an important issue for the Indian banks to have high quality Internet banking. Out of many factors that have been tested to be influencing the adoption of Internet banking services in India, Four factors have been identified which are more significant factors. After the factor and logistic regression analysis it was found that security and privacy as well as trust is main factors which affect adoption of internet banking services in India. Among demographic characteristics it was found that gender and type of occupation are two important factors in adoption of Internet banking in India.

Overall based on the result of the findings, it could be concluded that customers ICICI bank would be preferable because it provides more convenient and efficient services with higher quality. This study is limited only in Internet banking between ICICI bank and SBI bank in India. The research can explore this study with more number of sample size by this result will come more accurate. And second; the research can be conduct research on mobile banking services between respective banks in India.

Managerial implications

The finding reveals that, negative perception of the customers such as risk of security and privacy has a significant impact on adoption of internet banking services. Therefore, bank managers should focus their promotional activities, aimed to work against negative perceptions. Gefen and Straub (2003) argued that trust is a crucial factor in many transaction relationships. Generally, customers do not trust e-banking services due to some reasons, especially lack of security of the system. The results of the current study revealed that all the customers are very much concern about security and privacy as well as fund transaction process. Thus, for manager implementation of high level of security, which supports the bank's computer system and third party is imperative. Since there are a great number of Indian customers, who have not internet banking account at present. So the potential for Internet banking in India is very high for the future. This study identifies number of strategy which bank manager could adopt. This study is the first attempt in comparison between private and public sector bank performance in India and the result could be served as basic data for further research. With respect to fact that majority of the bank in India are under the government so privatization can be affect in improvement of performance of public banks.

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