Impact of Internet Banking on Customer Satisfaction in Private and Public Sector Banks

** Garima Srivastav*
*** Arun Mittal*

Abstract

This is an exploratory research paper which discussed the impact of various Internet banking (IB) services on the overall satisfaction levels of the banking customers. With the help of forward stepwise regression, we explained how various variables both negatively and positively influenced customers' satisfaction with Internet banking. Data were collected from 500 respondents (250 from private sector banks and 250 from public sector banks) in India (Delhi-NCR), constituting a 65% response rate. The application of this analysis 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. In case of the public sector banks, customers had different sets of concerns - like they were much worried about the lack of development in rules and regulation of E- banking as well as the poor regulatory framework in Internet banking. However, security issues aroused a common concern from the customers in case of both sectors of banks. The results also showed that the customers were ready to adopt Internet banking provided they were given necessary guidelines and constant built up of trust.

Keywords : **internet banking, satisfaction, forward stepwise regression analysis, positively and negatively influencing services**

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Internet banking helps in performing several services by which customers can seek information and carry out their banking transactions such as account balance inquiry, inter account transfers, payment of bills, requests for cheque book, and other banking operational activities without even physically visiting the branches (Daniel, 1999; Mols, 1998; Sathye, 1999). In the coming days, it is quite likely expected that there will be an existence of virtual market (market space) along with physical market competition (Rayport & Sviokla, 1994, 1995).

In today's changing world, "information" has become the key success factor for the developing economies (Kenny & Qiang, 2003). With the advancements in technology and rapidly rising information systems, a number of different kinds of electronic banking systems are being introduced by banks, where each system has a unique and systematic way that facilitate the user to interact with the banks in the easiest way. The first online banking services based on the Internet were provided by Stanford Federal Credit Union (SFCU) in October 1994 ("Stanford Federal credit union pioneers online financial services," 1995).

Trust, security, and safety are the most challenging issues for the online banking business. From the various literature surveys, it has been found that most of the customers hesitate to use Internet banking services because of security and privacy issues (Lee & Turban, 2001). These security issues also play major roles in customer

* *Full Time Research Scholar,* Birla Institute of Technology, Mesra (Noida Campus), A-7, Sector 1, Noida-201 301. E-mail: srivgarima@gmail.com.
** *Assistant Professor,* Department of Management, Birla Institute of Technology, Mesra (Noida Campus), A-7, Sector 1, Noida-201 301. E-mail:arunmittal1985@gmail.com.

dissatisfaction. Therefore, for the success of any new product, it is very important that the customer should have acceptance and satisfaction towards that product (Huang, Soutar, & Brown, 2004). While on the contrary, the major causes of market failure of innovation are customer dissatisfaction and resistance (Ram & Sheth, 1989).

Literature Review

Mittal, Gera, and Batra (2015) conducted a research with a purpose to extract and validate the dimensions of service quality in retail banking services in India. The analysis was conducted using structural equation modelling. The second order model was compared to the first and the traditional model of service quality, and it was found that the second-order service quality model was more relevant as it consisted of five primary dimensions: Service delivery, tangibles, reliability, core service, and competence.

Sharma and Verma (2015) studied about the commercial banks in India. The authors applied the SERVQUAL multi-item scale model. The scale consists of five parameters, that is, tangibility, reliability, responsiveness, assurance, and empathy. The study conducted a comparative analysis of extent of service quality in private and public sector banks in Punjab. Primary data was collected from 200 top managers of private as well as public sector banks. It was found that among all the five factors of the SERVQUAL model, responsiveness acted as a dominant factor and had a greater impact on customers' expected level of satisfaction and service quality.

Garg, Rahman, and Qureshi (2014) investigated regarding the customer experience in Indian banks. Their study examined the 14 factors of customer experience and identified their impact on customer satisfaction. ANOVA test was applied to identify the relationship between experience factors and demographics of respondents. The findings of the study presented a 14 factor reliable and valid customer experience scale among which "convenience" appeared as the most significant among all the factors.

Camilleri, Cortis, and Fenech (2013) in their research paper based on customers' satisfaction in Maltese Banks mainly focused on two major things : service quality and Internet banking. The primary data was collected with the help of a structured questionnaire designed on the Likert scale, using the convenience sampling method. The study found that the customers needed improvement on issues like reliability, access, cost, security, convenience, and having the service recommended by acquaintances.

Dhurup, Surujlal, and Redda (2014) in their research paper based on South African banks provided an insight into customer perceptions of technology-based banking service quality. Factor analysis was used to analyze the data of 180 respondents. The extracted factors were assurance, responsiveness, ease of use, accessibility, fulfillment, speed and accuracy, and contact. The results showed that regular assessment of the levels of Internet banking service quality should become an integral part of any bank's efforts and strategy in improving service quality levels.

Sindhu (2013) conducted a research work with the aim of understanding and comparing the perception towards and the acceptability of E-banking. *F* test was used to analyze the data of 200 customers collected through quota sampling technique in Ludhiana, Punjab. It was found that banks must put in efforts to improve certain issues like the security in online fund transfer, speedy cheque transfer via ATM, speed of online problem identification and awareness.

Sumathi and Thyagarajan (2013) conducted a research in Coimbatore city to identify ways to retain and satisfy customers. Chi- Square test, discriminate analysis, and Garrett's ranking technique were used to analyze data of 300 customers collected through the convenient sampling method. The major findings of the study were that the bank officials need to educate their customers regarding technological development.

Fozia (2013), in her research study, attempted to determine customers' perception towards the e-banking services. ANNOVA was used to analyze the data collected from 196 customers. The results proposed that behaviour, specifically occupation and age significantly impacted Internet banking. Finally, this paper suggested that an understanding about the customers' perception regarding the e-banking services of public and private banks will help the bankers to understand the customers' needs in a better way.

Nimako, Gyamfi, and Wandaogou (2013) empirically examined customer satisfaction with Internet banking in the Ghanaian banks. One-Way ANOVA and Kruskal-Wallis ANOVA were used to analyze the data of 200 respondents of two banks. It was found that customers were dissatisfied with the promptness of reception of responses to customer request, online guidance to resolve problems, offering of preferentially lower fees/ rates and charges, and reasonability of the transaction fee for online banking transactions.

Sharma and Thakur (2012) propounded that their analysis measured awareness, perception, and the satisfaction level of the employees' with respect to IT services offered by the public and private sector banks in Jaipur city. Their study was divided into four major segments - strategic advantages of information technologies, technological details and capacity of the organization, decision making process, and motivations toward information technology.

Hassan, Mukhtar, Ullah, Shafique, Rehmna, and Anwar (2012) conducted a research to find out the determinants that affected service quality perception of Internet banking amongst genders and different age groups. Chi square was used to analyze the data of 120 customers and they found that web design, security, trust, product diversification, credibility, collaboration, access and communication strongly affected the customer perception about the quality of Internet banking service.

Khare (2011) attempted to understand the Indian customers' perceptions towards the service quality of multinational banks. ANOVA, post-hoc analysis, and multiple regression tests were used to analyze the data of 198 Indian customers collected using SERVQUAL based on a questionnaire. The results showed that Indian customers' quality perceptions differed between the two genders and across age categories.

Omar, Naveed, Khalid, Nazish, Abdul, and Khalid (2011) examined the customer perceptions, preferences, problems, and suggestions about online banking in Pakistan. Their study highlighted the point that customers prefer Internet banking mainly because of reliability, convenience, speed, safety and security, cost effectiveness, and user-friendliness.

Dixit and Datta (2010) studied the factors affecting the acceptance of e-banking services among adult customers. The findings depicted many factors like security and privacy, trust, innovativeness, and familiarity. The awareness levels increased the acceptance of Internet banking services amongst the customers. The findings showed that the adult customers wanted to adopt online banking, but only if the banks provided them the necessary guidance.

Hazra and Srivastava (2010) found that service quality was a critical determinant of competitiveness for establishing and sustaining satisfying relationships with customers. Service marketers have realized that competition can be well managed by differentiating through quality. A customer-minded corporate culture, an excellent service-system design, and effective use of technology and information are crucial to superior service quality.

There has been no denial in growth of Internet/online banking. Connecting it to the growth of plastic money, Kumaresan, Chitrakala, and Gowtham (2010) carried out a study and found that the Indian population felt that a wallet without a card is empty. During the last one decade, there has been an exponential growth in the issue of credit cards and their usage.

Haque, Ismail, and Daraz (2009) developed a research framework to testify the statistical relationships between consumer perception and E banking transactions in Malaysia. Their study showed that only secure transactions had a significant impact on consumer perception about E banking transactions. The other three factors found in the study like regulatory framework, service quality, and sufficient mechanism had a negligible impact on customers' perception.

Singhal and Padhmanabhan (2008) found in their research paper that Internet banking had become increasingly popular because of its convenience, flexibility, and any anytime approach. Their paper explored the major factors responsible for internet banking. These factors were shortlisted on the basis of respondents' perception of various internet applications. This paper also provided a basis for those factors which helped in the assessment of the perception for internet banking.

Rao, Shankaraiah, and Haklani (2004) studied e-banking in National Bank of Oman and found that with the emergence of the E-banking phenomena, the nature and scope of retail banking service provision underwent drastic changes. A number of banks are working to develop Internet as a service delivery medium and coordinate customer relationship management in the context of multiple media, including websites, call – centers, kiosks, ATMs, and branches.

Research Gap

The cited literature shows that significant work has been done in this field. However, the review of various studies shows that there was almost no work on analyzing the impact of service quality on customer satisfaction in private and public sector banks at Delhi NCR with reference to Internet banking services. Therefore, the present study investigated the impact of these internet banking services on the customers' satisfaction levels

Objective of the Study

The objective of this paper is to list out the most important variables having a significant impact on overall satisfaction levels represented as the recommendation of the banks to others based on Internet banking services w.r.t. private and public sector banks in an emerging Indian market.

Research Methodology

The present study is exploratory in nature, where a survey method was used to collect the primary data. The data were collected from the customers having a bank account in – private or public sector banks in India (Delhi-NCR, that is, Delhi, Ghaziabad, and Noida). A structured questionnaire with 44 variables based upon Internet banking services quality was used to collect the primary data. A five-point Likert scale from 1-5 points (1-*strongly disagree* and 5-strongly agree) was used to measure the questionnaire responses. Before the finalization of the questionnaire, a pilot study was performed with 50 respondents in order to finalize the 44 variables. Initially, 760 questionnaires were distributed, out of which over 500 duly filled questionnaires were returned. This resulted in a 65% response rate.

The sample size for the study is 500 respondents (250- public sector banks and 250- private sector banks). The respondents were selected on the basis of quota sampling and judgmental sampling. Quota sampling allowed us to reach the desired sample size, that is, 500 respondents, and judgment sampling allowed for the selection of the sampling unit. The judgment criteria included a requirement that respondents needed to have a bank account in India and must be using Internet banking. The selection of the leading 20 banks were done on the basis of judgmental sampling (based on the BT-KPMG "Best banks survey of the YR 2009-2010"). The selection of the final six banks and their respective branches was done on the basis of simple random sampling technique (Fish-Bowl method). The customers of public sector banks such as: State Bank of India, Punjab National Bank, and Union Bank of India were chosen for conducting the survey; while the private sector banks selected were: ICICI Bank, HDFC Bank, and AXIS bank. The overall reliability (Cronbach's alpha) of the reduced factors in case of public sector banks and private sector banks using Factor Analysis was 0.891 and 0.990, respectively. The time period of the research work is from January - June 2014.

Hypotheses

➔ **H01 :** There is no significant impact of various parameters of Internet banking upon the overall satisfaction

level of the respondents represented as "recommendation of the banks to others".

➔ **H1 :** There is a significant impact of various parameters of Internet banking upon the overall satisfaction level of the respondents represented as "recommendation of the banks to others".

Table 1. Model Summary

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.974	.949	.944	.286

Table 2. ANOVA

Model		Sum of Squares	*Df*	Mean Square	*F*	Sig.
1	Regression	346.060	23	15.046	184.402	.000
	Residual	18.440	226	.082		
	Total	364.500	249			

Table 3. Coefficient

	Model	Unstandardized Coefficients		Standardized Coefficients	*T*	Sig.
		B	Std. Error	Beta		
Sr.No.	(Constant)	.225	.155		1.453	.148
1.	Promise and Commitment	.365	.033	.375	11.100	.000
2.	Awareness about Security	.658	.065	.404	10.087	.000
3.	Design is Efficient	-.688	.071	-.311	-9.741	.000
4.	Regulatory Framework	.370	.045	.356	8.295	.000
5.	Security Feature	-.200	.062	-.189	-3.225	.001
6.	Any Time, Any Where Banking	.182	.049	.178	3.718	.000
7.	Transaction Error	.299	.068	.208	4.360	.000
8.	Banks' Websites Provide Financial Security and Confidentiality	.186	.051	.195	3.652	.000
9.	Information will remain in Register	-.482	.056	-.347	-8.574	.000
1.	Secure for Fund Transfer	.201	.057	.144	3.512	.001
2.	Authorized can access own Account	-.255	.052	-.265	-4.906	.000
3.	Benefit	.401	.050	.412	8.037	.000
4.	Use will Increase in Future	-.526	.058	-.369	-9.042	.000
5.	IB Provides Solutions to the Problems	.272	.048	.181	5.638	.000
6.	Encouragement given by the Banks	.179	.048	.133	3.701	.000
7.	Information protection Satisfying	.370	.081	.250	4.566	.000
8.	Service Quality	-.399	.055	-.263	-7.229	.000
9.	Feeling towards own Bank	-.288	.073	-.115	-3.935	.000
10.	Lower Transaction Fee	.318	.061	.206	5.246	.000
11.	ID and Password are Case Sensitive	-.186	.047	-.184	-4.001	.000
12.	Use of IB in Future	.070	.030	.072	2.294	.023
13.	Reminder given for Password Change	-.227	.085	-.169	-2.666	.008
14.	Increase in Customer Interest	.082	.035	.083	2.342	.020

Analysis and Results

Forward stepwise regression analysis is used here to find out the variables having a significant impact on overall satisfaction level represented as "Recommendation of the banks to others" based on Internet banking services. Furthermore, the proxy variable "Recommendation of the banks to others" was used as a dependent variable, 23 and seven independent variables (private and public sector banks, respectively) were used as in the forward stepwise regression.

The analysis was done firstly of private sector banks and then of public sector banks. Forward stepwise regression analysis was used to analyze the data. This method is often used to provide an initial screening of the individual variables when a large group of variables exists. In this method, the algorithm adds one factor at a time, starting with the one which explains most of the variations in the dependent variable and adding any one of the given independent variables every time. This can be seen in the six tables (Tables 1, 2,3, 4, 5, and 6) summarizing the data. Moreover, positive/negative impact of various variables on 'Recommendation of IB services to others' in case of both the bank categories are depicted with help of Figures 1 and 2.

Impact on Overall Satisfaction (Recommendation of the Banks to Others) with Respect to Private Sector Banks

In case of stepwise forward regression model, in which the algorithm adds one independent variable at a time, starting with the one which explains most of the variation in the "IB recommendation to others," that is, dependent variable *(Y)*, and adding one more independent variable *(X)* to it, rechecking the model to see that both variables form a good model, then adding a third independent variable if it adds again to the explanation of *Y* and so on.

From the Table 1, we can see that the value of R^2 equals 0.949, indicating that there is 94.9% of the variation in the dependent variables by the above mentioned independent variables. The R^2 is significant as indicated by the *p* - value (0.000) given in the ANOVA Table 2 (which is less than the assumed level of significance, that is, 0.05). This also tells that the model is statistically significant. The coefficient Table 3 also shows the result of running a forward stepwise regression, which ends up with 23 most influential variables. The coefficient Table 3 indicates that all the 23 variables are significant, as we can clearly see that their *p* - value is below 0.05 (assumed level of significance). Hence, based on these variables, the null hypothesis is rejected. From the below mentioned estimated regression equation, it is clearly indicative that 14 out of 23 independent variables like "promise and commitment" are positively related to the dependent variable, that is, "IB recommendations to others" depending upon the positive value of unstandardized coefficient B (.365), while rest of the nine variables like "design is efficient" are negatively related to the dependent variable as evident from the negative value of the coefficient (-.688). This means that (keeping others constant) if the variable "promise and commitment" goes up by one unit, the variable "IB recommendations to others" goes up by .365 unit, while if "design is efficient" goes up by one unit, the "IB recommendations to others" will go down by -.688 units (keeping others constant). Hence, we decide to propose the following equation and model (Figure 1):

IB Recommendations to Others = .225 + .365 (Promise and Commitment) + .658 (Awareness about Security) + .688 (Design is Efficient) + .370 (Regulatory Framework) + -.200 (Security Features) + .182 (Anytime, Any where Banking) +.299 (Transaction Error) + .186 (Bank Website provides Financial Security and Confidentiality) + -.482 (Information will Remain in Register) + .201 (Secure for Fund Transfer)+ -.255 (Authorized can access own Account) +.401 (Benefit) + -.526 (Use will increase in Future) +.272 (IB Provides Solution to the Problem) +.179 (Encouragement given by the Bank) + .370 (Information Protection Satisfying) + -.399 (Service Quality) + -.288(Feeling towards own Bank) + .318 (Lower Transaction Fee) + -.186 (ID and Password are Case Sensitive)

Figure 1. Variables Having Positive/Negative Impact on 'Recommendation of IB Services to Others' w.r.t. Private Sector Banks

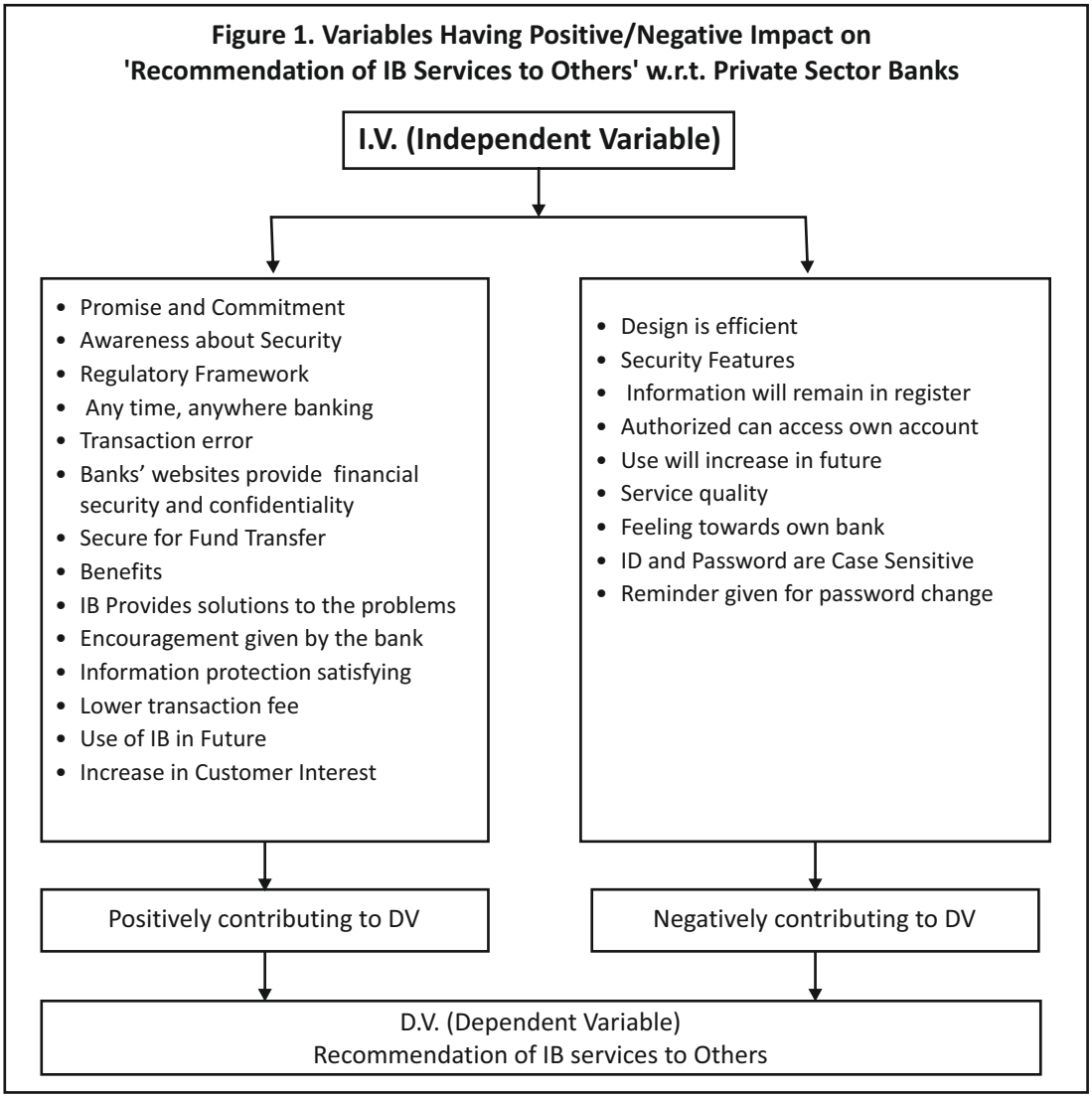


Table 4. Model Summary

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.927	.859	.855	.289

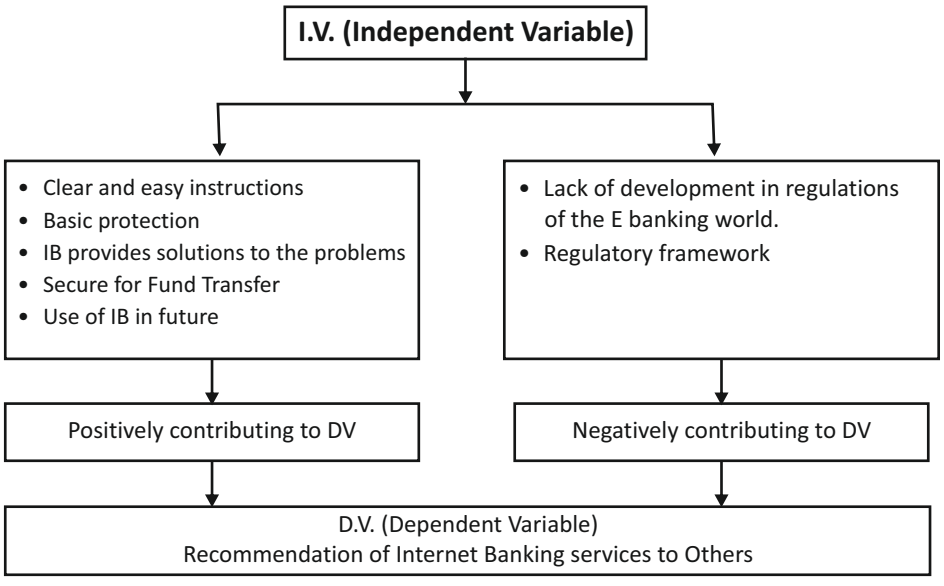
Table 5. ANOVA

	Model	Sum of Squares	*Df*	Mean Square	*F*	Sig.
1	Regression	123.098	7	17.585	211.033	.000
	Residual	20.166	242	.083		
	Total	143.264	249			

Table 6. Coefficient

	Model	Unstandardized Coefficients		Standardized Coefficients	*T*	Sig.
		B	Std. Error	Beta		
Sr.No.	(Constant)	-.536	.148		-3.634	.000
1.	Clear and Easy Instructions	.319	.031	.447	10.353	.000
2.	Basic Protection	1.024	.068	.754	15.030	.000
3.	Lack of Development in Regulations of the E-Banking World	-.306	.104	-.312	-2.929	.004
4.	IB Provides Solutions to the Problems	.195	.029	.278	6.694	.000
5.	Secure for Fund Transfer	.101	.031	.096	3.296	.001
6.	Use of IB in Future	.108	.037	.109	2.908	.004
7.	Regulatory Framework	-.286	.112	-.299	-2.546	.012

Figure 2. Variables Having Positive/Negative Impact on 'Recommendation of IB Services to Others' w.r.t. Public Sector Banks



+ .070 (Use of IB in Future) + -.227 (Reminder given for Password Change) + .082 (Increase in Customer Interest).

Impact on Overall Satisfaction (Recommendation of the Banks to Others) with Respect to Public Sector Banks

From the model summary Table 4, we can see that the value of R^2 equals 0.859, indicating that 85.9% of the variation in the dependent variables is by the afore mentioned independent variables. The coefficient Table 6 explains the forward stepwise regression analysis. The model is statistically significant as indicated by the *p* - value (0.000) as given in the ANOVA Table 5 (which is less than the assumed level of significance, that is, 0.05). The coefficient Table 6 also shows the result of running a forward stepwise regression, which ends up with seven most influential variables. The Table indicates that the all the seven variables are significant, as we can clearly see that

their *p* - value is below 0.05 (assumed level of significance). Hence, based on these variables, the null hypothesis is rejected. From the estimated regression equation, it is clearly indicative that five out of seven independent variables like "clear and easy instructions" are positively related to the dependent variable, that is, "IB recommendations to others," depending upon the positive value of unstandardized coefficient B (.319), while rest of the two variables, that is, "lack of development in regulation of the E-banking world" and "regulatory framework" are negatively related to the dependent variable as evident from the negative value of coefficient (-.306 and -.286, respectively). This means that (keeping others constant) if the variable "clear and easy instructions" goes up by one unit, the variable "IB recommendations to others" goes up by .319 unit, while if the variable "lack of development in regulation of the E-banking world" goes up by one unit, the "IB recommendations to others" will go down by -.306 units (keeping others constant). Hence, we propose the following equation and model (Figure 2):

IB Recommendation to Others = -.536 +.319 (Clear and Easy Instructions) + 1.024 (Basic Protection) + -.306 (Lack of Development in Regulation of the E-Banking World) + .195 (IB Provides Solution to the Problems) + .101 (Secure for Fund Transfer) + .108 (Use of IB in Future) + -.286 (Regulatory Framework)

Recommendations

(1) Strong Customer Authentication and Limiting the Authentication Attempts : Strong customer authentication process must be installed so that only authorized persons can access the accounts and to prevent the misuse of information. Limited number of login or authentication attempts must be given, there should be a proper time limit for the validity of authentication. In addition, the rules for the "time out" session must be clearly defined.

(2) Ensuring more Trust and Better Security/Privacy of the Customers' Details : Banks need to increase the level of trust, privacy, and security between banks' websites and customers. They need to provide them with simple operational procedures. The public sector banks have gained the trust of the people. The results and the discussion reveal that privacy, security, secure transaction, ID and password are case sensitive issues, have emerged as common and major issues in case of both the categories of banks, and this shows that customers are using IB and prefer it because of lower transaction fee, anywhere, anytime usage, but were highly concerned about the above-mentioned issues.

(3) Better Customer Experience and User Friendly Website : Website design emerged as a common issue between both the categories of banks. Hence, banks must put in efforts so that their websites must be user friendly (website may reflect the regional language like in ATM for non-English speaking/reading customers) ; the website must show the proper relevant links and provide clear and easy transactional instructions, useful tips, and should provide online help/chat whenever needed. Moreover, there should not be any hassles while transferring funds online as it emerged as a concern in case of private sector banks. Banks must also put in efforts for designing different views of their websites for different category of customers like normal and privileged customers as this will surely make the customers highly delighted.

(4) Better Continuity/Updates to the Customer : In the age of information immediacy, customers need the most updated information immediately or they won't be satisfied (customers want to check the account balance on their mobile phones, move money without going to the bank or to an ATM, and get answers to their questions quickly and easily). Technologies such as mobile phone, web, email and social media must be used as new and powerful ways to connect and facilitate these actions. Regular reminder for the ID and password change (in case of private sector banks) must be given to the customers via SMS, email, or social media.

(5) Regular Seminars/Conferences/Demo Lectures : Mainly, private sector banks must put in efforts for customer education and conducting regular awareness programmes for the Internet banking users so as to clarify the instructions, rules, and regulations to the users, thereby making IB more user friendly as most of the users avoid using IB due to lack of knowledge and awareness.

(6) Better Regulatory Framework and IB Governance : The government/regulatory body should formulate more stringent cyber laws and implement them strictly whenever needed so as to minimize any erroneous transactions as customers' perception on security and privacy as well as regulatory framework and IB governance aspect have been seen as a major area of concern in the literature as well as in the present research. These efforts will improve IB governance and remove apprehensions regarding the regulatory framework in case of both categories of banks. Moreover, banks must improve the E banking service hours (mainly public sector banks) from limited to 24 hours as in case of RTGS and NEFT. Banks must also put in efforts to improve the inter bank transaction hours similar to intra bank transactions.

(7) Paperless Banking : Banks must put in efforts for more and more use of IB in the future by introducing paperless banking, that is, all the banking transactions should be online. For example, in case of cheque withdrawal, the code can be generated with the help of mobile banking apps and same can be sent to the individual by SMS. Matching the same code in the branch will complete the process, and money can be obtained.

(8) Systematic/Convenient Record Availability : Banks must ensure customers that all their confidential information (family background, income status, customer requirement, ATM related query/complain, grievances, and any other feedback) are safely recorded in the register. The banks must make use of proper CRM software so as to maintain these important records.

Originality/Value of the Study

In order to find out the significant impact of various parameters of Internet banking upon the overall satisfaction levels of the respondents represented as "Recommendation of the banks to others" using forward stepwise regression analysis is a novel concept that has been used in the present study. The study would be quite helpful for the policy makers in ascertaining the satisfaction levels of banking customers towards Internet banking services. This research would surely provide an edge while developing new strategies and designing new measures for improving the satisfaction level of the customers and placing the banks at competitively advantageous positions.

Practical Implications

The results of this study will help banking officials to understand customers' perception and activities. In addition, the results also reveal several issues and areas where public sector banks can improve their services, and the results may help the banks (both private and public) to fill up the gap created by customers' perceptions. This data (if used) can lead to a reduction in cost of operation for banks as manual banking is more costly and time consuming as compared to Internet banking. The data interpretation clearly shows that private sector banks have an edge (based on various parameters of Internet banking) over public sector banks in terms of customer satisfaction. Internet banking is a new trend in retail banking services (Omar et al., 2011). Hence, this study would contribute towards the advancement of service quality in the private as well as public sector banks.

Conclusion

In the current study, the variable "Recommendation of banks to others" based on Internet banking (IB) services is used here as a proxy variable for overall satisfaction level of the customer. In case of the private sector banks, the variables : banks' promise and commitment, awareness about security, design is efficient, regulatory framework, security features, anytime, anywhere banking, transaction error, bank's website provides financial security and confidentiality, secure for fund transfer, benefits, IB provides solutions to the problems, encouragement given by the banks, information protection satisfying, lower transaction fee, use of IB in future, increase in customer interest (components of Internet banking services) are the factors which seem to be positively associated with the overall satisfaction level of the customers. However, on the other hand, factors such as security features, information will remain in register, authorized person can access own account, use will increase in future, service quality, the feelings towards own bank, ID and password are case sensitive, and reminder given for password change are the factors which are negatively associated with the overall satisfaction level.

However, in the case of the public sector banks, clear and easy instruction, basic protection, IB provides solutions to the problems, secure for fund transfer, use of IB in future (component of Internet banking services) are positively associated with the customers' satisfaction ; whereas, the variables : lack of development in regulation of the E-banking world, regulatory framework are the components of Internet banking are negatively associated with the customer satisfaction levels.

The analysis reveals that the customers wanted private sector banks to improve upon the features like quality of service, frequency of reminder given for password change, safety and privacy of ID and password. Customers were also concerned whether the information is noted in the registers properly or not, and they even wanted assurance that only authorized persons must access the account information. In case of public sector banks, customers had different sets of concerns - like they were quite worried about the lack of development in rules and regulations of E- banking as well as the poor regulatory framework in Internet banking. These negatively associated features are strong inhibitors which play an effective role while setting up the satisfaction level of the customers. The positively associated services are the strong drivers which again play a major role while increasing the satisfaction level of the customers.

The importance of security and privacy along with a regulatory framework have been noted in the study of many banks, and it was found that people have poor knowledge of Internet banking. The banks noted that although the consumers have a strong confidence in their banks ; yet, their trust and confidence in the technology was very weak, and they were willing to adopt Internet banking services only if banks took the necessary action. Hence, banks must look forward to more and more awareness programmes as well as encourage interaction with the customers. The growing needs of the customers are evident from the wide range of services being offered by the banks like insurance, mutual funds, depository services, and so forth. The customer base of the public sector banks is very big as compared to that of the private sector banks. This fact must be understood by the public sector banks. Hence, the public sector banks must put in efforts to retain these customers by improving their services which, in turn, will increase customer satisfaction. Last but not the least, it has become imperative for the private sector banks to train their employees to treat the customers with empathy. This effort of the private sector banks will give the required leading edge to them and finally, result in a competitive advantage over the public sector banks.

Limitations of the Study

- A survey with questionnaire is always subject to respondents' biasness. The respondents answer as per their own experience. Sometimes, the exact situation may be little different from what has been concluded from the customers' responses.

- Minor sampling error can't be denied due to a large sample size.

- Selection of the leading banks may be a small limitation of the study as the basis was not service quality, but the total annual income of the banks as the size of the banks and their customer base was more important.

- The results of this study should not be generalized as the service quality of banking services has been tested in urban India. Furthermore, a small sample may not be the representative of the whole population and hence, in future, research can be conducted by taking a large sample to facilitate a robust examination of the service quality of the banking services.

- Last but not the least, this study looked at the perceptions of customers, thereby excluding the views of employees and the bank managements.

Scope for Future Research

Future researchers may address the following important areas :

- **Exploring the Various Factors of Internet Banking in India :** Such a study will help future researchers to find various factors associated with Internet banking in the Indian context and can also study which particular factor has a greater influence.

- **Perception of Indian Consumers about Internet Banking and its Evaluation :** This study will help to find the different perceptions of the consumer and their consumption patterns of the Internet banking services.

- **Impact of Cultural Factors and their Influence on Customer Evaluation of Internet Banking :** India is a confluence of varied culture and languages. So, such a study may further help researchers to find out the influence of different cultures and their different perceptions, and thus, their different evaluations of service quality with respect to Internet banking.

- Measurement and designing of Internet banking questionnaires so that these are adapted in order to suit and provide accurate reflections of a local environment. Many studies have been done in the Indian context or a much larger platform. However, it is quite necessary to measure the perception of the local people about Internet banking.

- In order to enhance the generalization of the findings and to further investigate potential differences in customer satisfaction, coverage in a wider geographical area or city could also be considered for future studies.

References

Camilleri, S. J., Cortis, J., & Fenech, M.D.(2013). Service quality and Internet banking : Perceptions of Maltese retail bank customers. *Bank of Valletta Review, 48* (Autumn), 1-17.

Daniel, E. (1999). Provision of electronic banking in the UK and The Republic of Ireland. *International Journal of Bank Marketing, 17*(2), 72-83. DOI : http://dx.doi.org/10.1108/02652329910258934

Dhurup, M., Surujlal, J., & Redda, E. (2014). Customer perception of online banking service quality. *Mediterranean Journal of Social Sciences, 5* (2),587-594. DOI: 10.5901/mjss.2014.v5n2p587

Dixit, N., & Datta, S.K. (2010). Acceptance of E-banking among adult customers : An empirical investigation in India. *Journal of Internet Banking and Commerce, 15* (2), 1-17.

Fozia, M. (2013). A comparative study of customers' perception towards E-banking services provided by selected private & public sector bank in India. *International Journal of Scientific and Research Publications, 3* (9), 1-5.

Garg, R., Rahman, Z., & Qureshi, M. N. (2014). Measuring customer experience in banks: Scale development and validation. *Journal of Modelling in Management, 9*(1), 87 - 117. DOI : http://dx.doi.org/10.1108/JM2-07-2012-0023

Haque, A., Ismail, A.Z.H., & Daraz, A.H. (2009). Issue of e-banking transaction: An empirical investigation on Malaysian customers perception. *Journal of Applied Sciences, 9* (10), 1870- 1879.

Hassan, M.T., Mukhtar, A., Ullah, R.K., Shafique, H., Rehmna, S.U., & Anwar A. (2012). Customer service quality perception of Internet banking. *International Journal of Learning & Development, 2* (2), 86-100.

Hazra, S. G., & Srivastava, K. B. L. (2010). Impact of service quality on customer satisfaction, loyalty, and commitment in the Indian banking sector. *Indian Journal of Marketing, 40* (5), 23 - 35.

Huang, X., Soutar, G.N., & Brown, A. (2004). Measuring new product success: An empirical investigation of Australian SMEs. *Industrial Marketing Management, 33*(2), 117–123. doi : http://dx.doi.org/10.1016/S0019-8501(03)00034-8

Kenny, C., & Qiang C. (2003). ICT and broad based development. In, *ICT and development: Enabling the information society*. Washington, DC: GICT Department, The World Bank .

Khare, A. (2011). Customers perception and attitude towards service quality in multinational banks in India. *International Journal and Operations Management, 10* (2),199-215.

Kumaresan, A., Chitrakala, I., & Gowtham, K. (2010). A study on credit card holders' expectations and preferences towards selected banks in Coimbatore city, Tamil Nadu. *Indian Journal of Marketing, 40* (4), 40 - 49.

Lee, K. O., & Turban, E. (2001). A trust model for consumer internet shopping. *International Journal of Electronic Commerce, 6* (1), 75 - 91.

Mittal, S., Gera, R., & Batra, D.K. (2015). An evaluation of an integrated perspective of perceived service quality for retail banking services in India. *International Journal of Bank Marketing, 33* (3), 330 – 350. DOI : http://dx.doi.org/10.1108/IJBM-02-2014-0020

Mols, N. P. (1998). The behavioral consequences of PC banking. *International Journal of Bank Marketing, 16* (5), 195–201. DOI : http://dx.doi.org/10.1108/02652329810228190

Nimako, S. G., Gyamfi, N. K., & Wandaogou, A.M.M.(2013). Customer satisfaction with Internet banking service quality in the Ghanaian banking Industry. *International Journal of Scientific & Technology Research, 2* (7), 165-175.

Omar, A.B., Naveed, S., Khalid, Z., Nazish, B., Abdul, W., & Khalid, K. (2011). Customer perception towards online banking services : Empirical evidence from Pakistan. *Journal of Internet Banking and Commerce, 16* (2), 1-24.

Ram, S., & Sheth, J.N. (1989). Consumer resistance to innovations: The marketing problem and its solutions. *The Journal of Consumer Marketing, 6* (2), 5 - 14. DOI : http://dx.doi.org/10.1108/EUM0000000002542

Rao, D. N., Shankaraiah, K., & Haklani, A. A. (2004), Developing customer loyalty : A case study of National Bank of Oman. *Indian Journal of Marketing, 34* (2), 12 - 15.

Rayport, J. F., & Sviokla, J. (1994). Managing in the market space. *Harvard Business Review, November–December,* 141-150.

Rayport, J. F., & Sviokla, J. (1995). Exploiting the virtual value chain. *Harvard Business Review, November–December*, 75 - 85.

Sathye, M. (1999). Adoption of internet banking by Australian consumers: An empirical investigation. *International Journal of Bank Marketing, 17*(7), 324-334. DOI : http://dx.doi.org/10.1108/02652329910305689

Sharma, S., & Verma, R. (2015). Extent of service quality in commercial banks in Punjab. *Indian Journal of Marketing, 45*(10), 36-48.

Sharma, S., & Thakur, K.S. (2012). *A comparative study of computerization in public and private sector banks* (Working Paper). Delhi : Pankaj Publication International.

Sidhu, N.S. (2013). Perception and acceptability of electronic banking : A study of the customers of the selected banks. *International Journal of Social Science & Interdisciplinary Research, 2* (6), 45-57.

Singhal, D., & Padhmanabhan, V. (2008). A study on customer perception towards Internet banking: Identifying major contributing factors. *The Journal of Nepalese Business Studies, 5* (1), 101-111.

Stanford Federal credit union pioneers online financial services. (1995, June 21). *Business Wire.* Retrieved from http://www.sfcu.org

Sumathi, K., & Thygarajan, M. (2013). A study on customer perception towards services selected public and private sector banks-with special reference to Coimbatore city. *IOSR Journal of Business and Management, 8* (3), 45-49.