

Determining Internet Banking Service Quality and Customer Satisfaction in India

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ABSTRACT

The purpose of this research paper has been to examine the scale validation through the relative significance among the five dimensions of internet banking service quality scale adopted from Gupta and Bansal (2012) scale that influence customer satisfaction dimensions adopted from Basker and Ramesh (2010) scale in the banking industry in India. With this insight, the main objectives of this empirical study have been to determine the bank-wise comparison among the customers usage of internet banking services by using one-way ANOVA and to evaluate consequent impact of the Internet Banking Service Quality on the Customer Satisfaction through Multiple-Regression statistical techniques. ANOVA results have depicted that there is no significant difference in facilities determining the customers' usage of internet banking services of Public-sector, Private-sector and Foreign Banks in India. The Regression measures have indicated that Responsiveness, Security/Privacy and Site-Aesthetic are influential factors, whereas, Reliability and Efficiency have insignificant impact on satisfaction of the online customers. It can, therefore, be concluded that internet banking service quality enhances the efficiency of the banks. E-banking facilities enable both customers and employees of the organisation to be more effective and productive in receiving, providing and delivering services.

Keywords: Scale Validation, Internet Usage, Comparison and Impact, Customers Satisfaction, Banking Industry, India.

1. Introduction

Due to the entrance of the private-sector banks and foreign banks in India internet banking has flourished over the couple of years in India. Banking industry has revolutionised the internet banking services with the help of technology. Therefore, technology in the banks is currently catching up with a high level of development around the world. Since last two decades, due to an increasingly competitive saturated and dynamic business environment, banks in many countries have adopted customer-driven philosophies to address the rapid and changing needs of their customers (Walker et al., 2008). Today, public sector and private sector banks are offering online banking services to customers for effective relations. Various alternative channels of e-banking providing easy and anywhere banking have been properly established in the globalized world. The process of bank computerization was started in 1985 in public sector banks in India. The quality of service has become as one of the major determinants of the customer satisfaction which can be enhanced by using ICT (Information and Communication Technology) available to survive. Various studies have also been proposed in the context of marketing, which state that retaining the existing customers and attracting new ones have become very difficult for the banks (Bhatt, 1990). In the past scenario, customers were simple persons and were happy at whatever banks provided to them. Over a period of time, many improvements have been made in the web world. With the competition and technological improvements, customers have become fully aware of their protocol and new concept of e-marketing.

Hence, customer service has become significantly important in the present day situation as competition is increasing among the banks. To meet the needs of the existing customers, banking organisation offers multiple products and services through different electronic channel of delivery i.e., www (World Wide Web). To improve performance and sustainable growth in the organisation, the banking industry focuses on the cost reduction vis-à-vis quality improvement of the e-banking services. However, cost control and improvement in quality of service delivery need to be addressed simultaneously. A key issue among banking industry concerns the impact of IT (Information Technology) enabled electronic delivery of services versus traditional delivery through banks, on the overall customer satisfaction (Krishnan M.S. et al., 1999). In this regard, the banks have shifted out-dated technology and organisation rethinking over the usage of the new technology along with managing the customer relationship management strategies. Innovations in technology are incessant in the core area of the banking industry. Furthermore, gimmick business world are getting more conscious about the electronic service quality in the internet banking facilities in the Indian economy.

Internet banking is still in infancy stage in India. The Government of India enacted the Information Technology Act, which came into effect from the 17th October, 2000. In the banking industry, this act has been implied to provide legal acknowledgment to electronic facilitating transactions and other means of Electronic Commerce. The working group established by Reserve bank of India (RBI), has been working

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as a watchdog on the different aspects of the Internet banking. ICICI bank has been the pioneer bank to use Internet banking for some of its services in India. ICICI bank and a lot of other Indian banks use the Internet banking system to provide online banking solution (Srivastava R.K., 2007). The public sector banks are more interested in adopting new technology facilitating and differentiating them in the globalized competitive market scenario. Since the introduction of technology in the banking industry, sustainable growth, size and productivity have been increased to enhance the growth rate in the Indian economy. In the present scenario, banks have capabilities to reduce the cost and to increase economic growth, innovation and productivity with the help of employing the technology. Internet banking service quality has also been helpful to build the strong relationships with bank customers. Owing to the internet banking service conveniences, customers are able to make banking transactions in easy mode namely: deposits money, transfer funds, check their bank balance and pay the bill etc.

2. Literature Review

a. Internet Banking Service Quality in India:- Due to the swift development of Internet banking facilities, many research studies have been done in the context of internet banking services quality in the banks in India. Internet banking is opening new avenues to exploit the efficient banking facilities with the long lasting relationship strategies with their customers. Internet banking service quality is beneficial both for banking industry and users (customers). The evolution of electronic banking (e-banking) was started with the use of automatic teller machine (ATM) (Titrad Cristina and et al., 2008).

Internet banking has witnessed an explosive growth in the past decade in the Indian banking industry. Over the last decade, there has been a rising body of work focusing on conceptualizing, measuring, and managing service quality in the internet technology. A number of scales for measuring Internet Banking service quality have been developed. Gupta and Bansal, (2012) have identified the five dimensions namely; Security/Privacy, Reliability, Efficiency, Responsiveness and Site Aesthetics for examining the internet banking service quality in the banks in India.

E-Banking is also called Internet banking, online banking or PC banking (Mobarek, 2007). Internet banking is an integrated system that provides their customers a flexible, convenient and inexpensive platform with integrated services including online bank balance checking and savings accounts, money market accounts, certificates of deposit, credit cards, home equity loans, home mortgage, insurance, investment services, portfolio management, and other related financial services (Bhattacharjee, 2001). Internet banking service quality

is a valid measurement to indicate the customer satisfaction in the banks.

Most of the banks in the developed and developing world are now offering internet banking services (Bawumia, 2007). According to Yang (2001) and Zeithaml (2002), e-service banking experience greatly affects the establishment of trust and relation with customers and enterprises must pay attention in this regard. Companies are adopting the innovative information and communication technology in the performance of their activities, not only to support traditional activities, but also to sustain new opportunities with the support of Internet in the banks (Hongxiu & Reima, 2008). Hence, Internet banking has become a topical issue in research area and has been playing a dominant role in banking industry's success.

b. Customer Satisfaction: - Customer satisfaction is difficult to be built in an online environment, because the technology-oriented environment lacks the face-to-face interaction between customers and bankers. A satisfied customer may be considered as an unpaid brand ambassador for the organisation. Satisfied customer can lead to employee branding and customer engagement in the banks. On the flip side, if the service is marked below the expectations of customers, then they remain dissatisfied. And if the gap between their expectations and actual experience is wide, customers are likely to communicate negative word-of-mouth and they will never return to the organization (Zeithaml, Berry, & Parasuraman, 1996). Satisfaction is an attitude or evaluation that is formed by the customer by comparing their pre-purchase expectation of what they would receive from the product to their subjective perceptions of the performance actually when they receive (Oliver, 1980). Satisfaction can be defined as "Customer satisfaction is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service" (Saha and Zoha, 2005).

c. Relationship between Internet Banking Service Quality and Customer Satisfaction: - Internet banking service quality and customer satisfaction are inarguably the two core concepts in the marketing area for the researchers. In banking industry, satisfaction is usually conceptualized as a multidimensional construct (Manrai, L.A., Manrai, A.K., 2007). Measuring the customer satisfaction is essential for the every service industry because it is an antecedent of the organisation's success. Similarly, it has been analysed that internet banking service quality is a key issue to maintain customer satisfaction (Khalil K.M., 2011). In order to be competitive in the market, banks must provide facilities to be satisfying to their customers. On the other side, increasing the importance of e-services quality in the technology makes it easily accessible for customers to

compare different services offered than through traditional channels (Santos, 2003). Despite, increasing the awareness of online services among the customers, there is the problem of how the quality of online service may be defined, what its determinants are and how it can be actually measured (Kenova and Jonasson, 2006).

Customer satisfaction is a critical issue for the success of any business. Service quality is the main indicator to measure the customer satisfaction. Service quality asserts that it had a direct influence on customer satisfaction and service quality is demonstrated to be an antecedent to satisfaction (Anderson & Fornell, 1994). Some authors have developed tools to measure service quality of the internet banking. Zeithaml, Parasuraman and Malhotra, (2000 & 2002) have advocated that e-SERVQUAL tool is one of the key indicators for measuring the electronic service quality to study how customers judge e-service quality. They have identified the four dimensions i.e., Efficiency, Privacy, Fulfilment and Reliability to measure the customer satisfaction. Service quality has been identified as a critical success factor for organisation to build their competitive advantage in the market. Internet banking service quality is a significant measurement for banking sector performance as well as customer satisfaction. Another study has emphasised that an excellent customer service plays a vital role in an organisation's success and failure in today's profusely competitive scenario. Customer perceptions and preferences of service quality carry a substantial impact on a bank's success. Banks in India are increasingly using technology to deliver their regular services to customer to survive in competitive environment (Mouawad & Kleiner, 1996).

3. Objectives of the Study

In this study, the efficacy of one of the e-CRM tools that is, the Internet Banking has been determined. With this backdrop, the main objectives of this empirical study have been to determine the bank-wise comparison among the customers usage of internet banking services and to evaluate the consequent impact of the Internet Banking Service Quality on the Customer Satisfaction in the banks in India.

4. Research Methodology of the Study

a. This section represents the research methodology which has been used in this research study. The universe of the study has been consisted of the public-sector, private-sector and foreign banks in India. The information for the research study has been collected from the primary as well as secondary sources. The survey method has been employed to collect the data with the help of a structured questionnaire. Judgemental-cum-convenience sampling technique has been adopted for collecting the data in this empirical study because only those customers had been contacted who had been surfing the web-facilities of the internet banking frequently and had been comfortable in using it.

The two types of research approaches have been used in this research study namely: quantitative and qualitative method. Firstly, the queries about the internet banking service quality have been asked from the bank managers. Also, information has been collected from the respondents (internet users) along with the observations method used in the process of data collection.

The quantitative aspect of the study is the data collected using a questionnaire survey administered in the Punjab state. The research questionnaire has been designed based on previous empirical literature reviews in the banking industry. The research study has been conducted in the three representative cities of the three districts in the Punjab state i.e; Amritsar (Majha District), Jalandhar (Doaba District) and Ludhiana (Malwa District). The study conducted has been comprised of the educated and internet savvy residents of the major cities of the Punjab. Other reasons for selecting these cities have been that the development, sustainable growth, urbanisation and awareness regarding internet banking facilities among the customers (online users) have been significant in them. This research paper has addressed the internet banking service quality issues in the Indian banking industry. To serve the objectives of the study, data has been collected from sample size of 36 banks and 180 respondents belong to different age group, gender and occupation status.

The target area has been selected on the basis of the survey conducted by KPMG (Klynveld Peat Marwick Goerdeler) 2011 in Business Today. KPMG ranked the large-sized banks in India on the basis of size, growth and strength. For the purpose of the present research study, only large-sized banks have been considered. This data pertains to the growth and size of the public sector, private sector and foreign banks in India measured on the basis of standardized parameters including deposits, loans and advances, fee income, operating profit and increase in market share and deposits, operating profits and balance sheet respectively.

The proposed sample had been of 180 respondents taken from three categories of banks viz; Public-sector, Private-sector and Foreign banks. But due to ambiguous responses, effective actual sample has been taken of 146 (81%) respondents for finding the problems and fulfilling the objective. As the research point of view, the sample should be four or five times of the variables to be analysed (Hair, J.F. and et al. 1990). The dimensions of the Internet Banking Service Quality and Customer Satisfaction items have been measured on the basis of 5-point Likert-scale ranging from 5 (Strongly Agree) to 1 (Strongly Disagree). The collected data has been analysed with the help of 19.0 version of SPSS software. The respondents (bank customers) have been selected from the Public-sector, Private-sector and Foreign banks in the Punjab. The table below shows the actual sample design for the present research study.

Table 1
Actual Sample Design for the Present Research Study

PUBLIC SECTOR BANKS			PRIVATE SECTOR BANKS		FORGEIN BANKS			
Names of the Banks		No. of Respondent	Names of the Banks		No. of Respondent	Names of the Banks		No. of Respondent
1.	State Bank of India & its subsidiaries	22(27.5%)	1.	HDFC	22(42.3%)	1.	Citi Bank	3(21.4%)
2.	Punjab National Bank	21(26.25%)	2.	ICICI Bank	18(34.6%)	2.	Standard Chartered Bank	8(57.14%)
3.	Oriented Bank of Commerce	22(27.5%)	3.	AXIS Bank	12(23.07%)	3.	HSBC	3(21.4%)
4.	Union Bank of India	3(3.75%)		Total	52(100%)		Total	14(100%)
5.	Central Bank of India	3(3.75%)						
6.	Corporation Bank	6(7.5%)						
7.	Allahabad Bank	3 (3.75%)						
	Total	80(100%)						

In the above table, a total of 30 banks have been approached from the proposed sample design. In this actual sample design, 7 public-sector banks out of 20 banks, 3 private-sector banks out of 7 banks and 3 foreign banks out of 3 banks have been taken as actual sample size. State Bank of India and its subsidiaries have been measured as the one of the unit in the Punjab state.

b. Measurement Instruments

To determine the impact of Internet Banking Service Quality on Customer Satisfaction, the Internet Banking Service Quality dimensions have been adopted from Gupta and Bansal (2012) scale and Customer Satisfaction dimensions have been adopted from Basker and Ramesh (2010) scale. The questionnaire contained 27 statements with specifying set of responses with respect to perceptions of the customers in the context of internet banking service quality (22 statements) and their customer satisfaction (5statements). The One-way ANOVA and Multiple Regression statistical techniques have been applied to determine the bank-wise comparison among the customers usage of internet banking services and to evaluate consequent impact of the Internet Banking Service Quality on the Customer Satisfaction in India.

c. Pilot Testing, Reliability and Validity

The questionnaire method has been adopted for undertaking the survey from the bank customers. Pilot study has been conducted in order to confirm the feasibility of the

developed items scale of Internet Banking Service Quality in Banks in India. A pilot test has been conducted on the 30 bank customers from proposed sample of Public Sector, Private Sector Bank and Foreign Banks of Punjab. The results found from pilot test have assured the content validity of the measurement instrument. In order to check the reliability of the scale, Cronbach alpha measure technique has been used. The reliability coefficient of the Internet Banking Service Quality and for the Customer Satisfaction has been 0.872 and 0.824 respectively. Kaiser-Meyer-Olkin (KMO) test has been used for indexing the sampling adequacy. It has been computed to be 0.634 and 0.775 respectively and it indicates the adequacy of sample for using both Internet Banking Service Quality and Customer Satisfaction scales respectively. The questionnaire used has also been verified with the help of content validity (face validity). For this purpose, the opinion of experts in the banking industry and literature review on the banking sector has been systematically evaluated to determine validity of scale selected for measurement. The limitation of this study has been that since the research has been conducted in the banks in the state of Punjab; hence the results may not be suitable for overall generalization in the banking industry in India.

5. Results and Discussion

a. The table below shows the bank-wise comparison among the customers usage of internet banking services by using one-way Anova technique.

Table 2
Showing One-way ANOVA Analysis Results

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Security	Between Groups	.094	2	.047	.245	.783
	Within Groups	27.347	143	.191		
	Total	27.441	145			
Reliability	Between Groups	1.537	2	.769	2.631	.075
	Within Groups	41.782	143	.292		
	Total	43.319	145			
Efficiency	Between Groups	.322	2	.161	.452	.637
	Within Groups	50.990	143	.357		
	Total	51.312	145			
Responsiveness	Between Groups	1.181	2	.591	1.788	.171
	Within Groups	47.216	143	.330		
	Total	48.397	145			
Site-Aesthetic	Between Groups	.033	2	.017	.050	.952
	Within Groups	47.725	143	.334		
	Total	47.758	145			

H₀₁: There is no significant difference between the customer usages of internet banking services among the three categories of banks in India.

The results reflect that there is no difference in the customer usage of internet banking facilities among the three categories of banks in India. All the dimensions of the internet banking services do not act as differentiating parameters among the three categories of banks according to the opinion of customer that have been sampled under survey in this research study.

The above one-way ANOVA table reflects that the values of all dimensions of internet banking service quality scale that is Security (f= .245, p=.783), Reliability (f= 2.631, p=.075), Efficiency (f= .452, p=.637), Responsiveness (f= 1.788, p=.171) and Site-Aesthetic (f= .050, p=.952) are insignificant. Hence, the null hypothesis has been accepted and it has been found that there is no significant difference between the customer usage of internet banking services among the three sectors of banks in India. The results have indicated that the internet banking users of banks find no difference with regard to all the dimensions of internet banking service. In the competitive scenario also, all banks are providing similar internet facilities to their customers because of all banks use almost the same level of technology. In this research study, it has been observed that all categories of banks provide “customer friendly internet banking services” to their customers. Despite the same level of technology, the qualitative observations analysis have depicted that customers are more satisfied from the private-

sector banks and foreign banks due to their better services delivery in terms of fully computerised facilities, more working hours, speedy transactions, competent and co-operative staff, and better approach to customer relationship management.

b. Regression Analysis

On the basis of five dimensions as given in the referred scale, the five null hypotheses have been formed. These five dimensions of the internet banking service quality have been adopted from Gupta and Bansal, 2012 and of customer satisfaction has been adopted from Basker and Ramesh, 2010. It has been investigated that whether these dimensions have a significant impact on the customer satisfaction of the internet users or not.

H₀₁: Security/Privacy has insignificant impact on customer satisfaction

H₀₂: Reliability has insignificant impact on customer satisfaction

H₀₃: Efficiency has insignificant impact on customer satisfaction

H₀₄: Responsiveness has insignificant impact on customer satisfaction

H₀₅: Site Aesthetic has insignificant impact on customer satisfaction

The hypotheses formulated above have been tested empirically by employing regression model. The regression model is as follows:

$$Y = \beta + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \epsilon$$

Where the dependent variable is satisfaction of the customers denoted by Y and the independent variables are: Security/Privacy (β_1), Reliability (β_2), Efficiency (β_3), Responsiveness (β_4), and Site Aesthetic (β_5). The error term

(ϵ) contains the extraneous variables aside from independent variables that determine the value of the dependent variable (Y) for a specific observation. Step-wise regression method has been used to evaluate the data. Regression technique has been employed using weighted average scores. Weighted average scores have calculated on Regressors and Regressand. Regression results have been shown in below Tables.

Table 3
Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.579 ^c	.335	.321	.39780

ϵ = Intercept, and β = Error term

Table 3, shows that $R^2 = 33.5$ percent and Adjusted R^2 (adjusted for d.f.) = 32.1 percent which means existing model

has explained 33.5 percent variance in dependent variable which has been caused by independent variables.

Table 4
ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.317	3	3.772	23.839	.000 ^c
Residual	22.470	142	.158		
Total	33.787	145			

F-value of the model has been found to be significant at 1% level of significance showing that model is best fit to

use and model is significant in explaining variation in the dependent variable (refer Table 4).

Table 5
Coefficients and Collinearity Statistics

Model	Unstandardized Coefficients		Standardized Coefficients	t- value	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.318	.365		3.606	.000		
Responsiveness	.250	.061	.299	4.061	.000***	.865	1.156
Security	.276	.082	.249	3.370	.001***	.860	1.162
Site—Aesthetic	.202	.065	.240	3.116	.002***	.791	1.264

Note: *** indicates significant at 1% level, ** indicates significant at 5 % level of significance.

The regression results has indicated that the impact of five dimensions of internet banking service quality on the customer satisfaction in the banks in India. In the present study, it has been epitomized that out of the five dimensions; three dimensions have significantly influenced customer satisfaction. Responsiveness ($\beta = .250$, $p = .000$); Security/Privacy ($\beta = .276$, $p = .001$); and Site Aesthetic ($\beta = .202$, $p = .002$); have been found to be significant at 1 percent level of significance. From the customers' point of view, Responsiveness, Security/Privacy and Site aesthetic are the

most important dimensions in the context of using the internet banking facilities. Furthermore, as shown in table 5, based on the standardized Beta estimates, Responsiveness ($\beta = .299$) has emerged as the most important dimension which has highest impact on the customer satisfaction, followed by Security/Privacy ($\beta = .249$) and Site Aesthetic ($\beta = .240$). Today, more and more services are being delivered through technology, particularly with the advent of internet applications. In the e-banking encounters, customers always seek about the security/privacy in transactions, easy access,

and responsiveness of facilities and efficiency of the service providers in providing them. VIF (Variance Inflation Factor) has been used to check the condition of multi collinearity. It shows that multi collinearity is under the

tolerance limit or there is no multi collinearity has been observed. Generally, 10 have been proposed as a cut throat value for checking the VIF for the research purpose. (Kutner et al, 2004).

Table 6
Summary of Regression Results

	H0	Result
H0 ₁	Security/Privacy has insignificant impact on customer satisfaction.	Null hypothesis may not be accepted
H0 ₂	Reliability has insignificant impact on customer satisfaction.	Null hypothesis may be accepted
H0 ₃	Efficiency has insignificant impact on customer satisfaction.	Null hypothesis may be accepted
H0 ₄	Responsiveness has insignificant impact on customer satisfaction.	Null hypothesis may not be accepted
H0 ₅	Site Aesthetic has insignificant impact on customer satisfaction.	Null hypothesis may not be accepted

The regression results in table 6 have indicated that out of the five dimensions; three dimensions have been found to be significant in influencing customer satisfaction. Responsiveness, Security/Privacy and Site-Aesthetic are the major factors that strongly lead to customer satisfaction of the online customers. It has been further found that Reliability and Efficiency are the two dimensions which have insignificant impact on the customer satisfaction. Therefore, it may be interpreted from the above analysis that banks provide the facilities to its customers more comfort through prompt services delivery via the internet usage and customers visit on websites. Customers can get services without any interpretation and delay at their doorstep through internet banking, if the internet banking system is working effectively. As concerning the insignificant influence of the factors reliability and efficiency; since, there is absence of face-to-face interaction in case of internet services, so such dimensions may not be that significantly required for customer satisfaction.

However, Banks must secure the information regarding customers' internet banking activities and should not share customers' personal information with others users to be reliable in internet banking facilities. Web-site of the bank should contain relevant information explained in an easy to understand language and should be visually attractive and regularly updated because site-aesthetic is main determinant for measuring the customer satisfaction efficiently. In case of any problem, the bank employees may speak themselves with the customer through telephone or any other mode of communication.

6. Conclusion, Recommendations & Managerial Implications

It has been concluded that responsiveness, security/privacy and site-aesthetic are the major factors that strongly lead to customer satisfaction of the online bank customers. It has been further found that reliability and efficiency are the two dimensions which have insignificant impact on the customer satisfaction. It can, therefore, be concluded that

internet banking service quality enhances the efficiency of the banks.

As a marketing manager, it is pertinent that all the facilities in internet banking service quality programs should be strictly followed and implemented successfully in the organisation. Banking managers should not only lay emphasis on the bank' objectives and goals but must also focus on the needs of the customers and enhance customers productivity.

E-banking facilities enable both customers and employees of the organisation to be more effective and productive in receiving, providing and delivering services. With the existence of globalized business, banks are providing internet services in the economy in effective manner. Internet banking has also been welcomed in the Indian economy. Hence, in order to reap benefits, the banks should provide the best possible online facilities to e-banking users.

The results of the study have proven that internet banking service quality scale is the effective indicator to measure customer satisfaction in the banks in India and the existing scale has been validated as a determinant of customer satisfaction scale. As the matter of fact, the managers should recommend the extensive customer-relations training programmes in the banking industry. It is recommended that the banking industry should be focused on the main key dimensions i.e.; Responsiveness, Security/Privacy and Site aesthetic in order to achieve the customer satisfaction, loyalty, positive word of mouth and to build long- lasting relations. Therefore, in order to attain customer satisfaction, banks should try their best to ensure and keep Security/Privacy of their customers' personal information. Despite the benefits, banks can obtain success in the competitive market. E-banking is a difficult business and banks face a lot of challenges and threats to retain sustainable growth in the cut-throat technological era.

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