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## Service Quality Perception and Customers' Satisfaction in Internet Banking Service: A Case Study of Public and Private Sector Banks

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### **Abstract:**

*Present research is based on empirical evidences collected through the customers' survey regarding to the customers perception in internet banking services provided by public and private sector banks. It is efforts to examine the relationship between the demographics and customers' satisfaction in internet banking, relationship between service quality and customers' satisfaction as well as satisfaction in internet banking service provided by the public sector bank private sector banks.*

*Present research shows that, demographics of the customers' are one of the most important factors which influence using internet banking services. Overall results show that highly educated, a person who are employees, businessmen and belongs to higher income group and younger group are using this service, however, remaining customers are not using this services. Results also show that overall satisfaction of employees, businessmen and professionals are higher in internet banking service. There is significant difference in the customers' perception in internet banking services provided by the public and privates sector banks. Private sector banks are providing better service quality of internet banking than service provided by the public sector banks. Therefore, public sector banks should improve their internet banking services according to the expectations of their customers.*

### **Introduction**

In banking industry, e-services are revolutionizing the way business is conducted. Electronic based business models are replacing conventional banking system and almost of banks are rethinking business process designs and customer relationship management strategies. It is also known as e-banking, online banking which provides various Internet e-channels to using banking services i.e. ATM, credit card, debit card, internet banking, mobile banking, electronic fund transfer, electronic clearing services etc. however, as per Indian e-banking scenario ATM is most acknowledged than other e-channels. However, internet banking is one of the best alternatives for traditional banking.

The history of ATM can be traced back to the 1960s, when the first ATM machine was invented by John Shepherd-Barron he was managing director of De La Rue Instruments. That machine used by Barclays Bank (Barclays Bank in Enfield Town in North London, United Kingdom) in 27 June 1967 (Wikipedia E-encyclopedia). However, the first bank to introduce the ATM concept in India was the Hong Kong and Shanghai Banking Corporation (HSBC) in the year 1987 followed by Bank of India in 1988. According to R.B.I. annual report (2008-09) almost commercial banks are providing ATM facilities to its customers and

to date 27,277 ATMs installed by public sector banks and 15320 ATMs installed by private sector banks in India.

Till 1993 internet was dose not used commercial purpose but after 1993 internet has used as tool of commerce and trade. Internet banking began in 1993 the office of the Thrift Supervision Chartered Security First Network Bank (SFNB) in Atlanta (Georgia) and it opened for business in October 1995. In 1998 it was acquired by the Royal Bank Financial Group, Canada. Internet banking not limited to the USA many banks in the developed and developing countries are using this technology.

In India, ICICI Bank Ltd. was started internet banking service in 1997 as brand name “Infinity” followed by HDFC Bank Ltd in Sept 1999. However, of late many public sector banks and scheduled commercial banks have taken a led in this area. Internet or web based banking is network of banks and financial institutes as well other sealers. It provides electronic payments and settlement services to customers. It implies the most pragmatic use of information technology as medium of universal communication. It has brought unprecedented changes in banking industry. There are high increase indicates in internet users in India.

### **1. Research Gap**

The review of literature suggest that most of the studies have been done on issues related to Internet banking in countries like USA, UK, Malaysia, Singapore Finland, Australia (Sathye, 1999; Wang et al, 2003 etc.) However, not sufficient work has been done in India with regard to internet banking service and customer satisfaction issues. The present study intends to know the determinants of customers’ satisfaction in internet banking service concern regarding Indian context.

### **2. Objectives of the Study**

- To observe major users group of internet banking services
- To examine the relationship between service quality and their satisfaction in internet banking
- To examine the relationship between customers ‘demographics and their satisfaction in internet banking
- To examine the customers’ satisfaction in internet banking service provided by Public and private sector banks.

### **3. Review of Literature**

The marketing literature clears that, the customer satisfaction is measured via service quality and service quality measured by various measurement tools and instruments developed by various researchers and marketing consultancy organisations e.g. SERVQUAL, SERVPERF, SITQUAL, WEBQUAL, etc. A number of studies specifically address the role of satisfaction in service contexts. Research literature suggests that service quality is a more specific judgement which can lead to a broad evaluation of customer satisfaction (Oliver, 1993; Parasuraman et al, 1985, 1988, 2005; Cronin and Taylor, 1994). The higher level of perceived service quality results in increased customer satisfaction. When perceived service quality is

less than expected service quality customer will be dissatisfied (Jain and Gupta, 2004). In e-service era e-service quality is important aspect of measuring customer satisfaction (Parasuraman et al, 2005, Loiacono and Goodhue, 2000; Yoo and Donthu, Abdullah, 2005, 2001; Zeithaml et al, 2000; Nadiri, et al 2009 etc.). Table no 1 reveals that there are various dimensions of service quality has been used by different researchers to assess service quality and customers' satisfaction.

Scale	By	Dimensions	Method
<b>SERVQUAL</b>	Parasuraman, Zeithaml and Barry (1985; 1998)	Reliability, Responsiveness, Assurance, Empathy and Tangibles	Likert Scale
<b>SERVFERF</b>	Cronin and Taylor (1994)	Reliability, Responsiveness, Assurance, Empathy and Tangibles	Likert Scale
<b>WebQual</b>	Loiacono, Watson and Goodhue (2000)	Information fit to task, interactivity, trust, responsiveness, design, intuitiveness, visual appeal, innovativeness, websites flow, integrated communication, business process and viable substitute, accessibility, speed, navigability and site content.	Likert Scale
<b>SITEQUAL</b>	Yoo and Donthu (2001)	ease of use, aesthetic design, processing speed, and security	Likert Scale
<b>e-SQ</b>	Zeithaml, Parasuraman, and Malhotra (2000)	efficiency, reliability, fulfilment, privacy, responsiveness, compensation, and contact	Likert Scale
<b>E-S-QUAL and E-RecS-QUAL</b>	Parasuraman, Zeithaml & Malhotra in (2005)	Efficiency Fulfilment, System availability, Privacy, Responsiveness, Compensation and Contact	Likert Scale
<b>GIQUAL</b>	Tsoukatos and Rand (2007)	Responsiveness, Assurance, Empathy, Tangibles and Reliability	Likert Scale
<b>BANKSERV</b>	Akiran (1994, 2002)	polite, greet, help, promptness, neatness, apology, concern, mistake, security, informed, acctypes, advice, learn, know, servwhen, teller and staff number	Likert Scale
<b>BANKZOT</b>	Nadiri, et al (2009)	Desired, adequate, predicted and perceived service quality	Likert Scale
<b>SOFTWARE Quality</b>	Yang and Zhang (2009)	Completeness, Security, Adequacy, Simplicity, Self-descriptiveness, Functionality, Reliability, Facility, Efficiency etc.	Likert Scale
<b>WEB-QUAL (Internet)</b>	Barnes and Vidgen (2002)	Usability, Design, Information, Trust, Empathy	Likert Scale
<b>eTailQ</b>	Wolfenbarger and Gilly (2003)	Design, Personalization, Fulfillment, reliability, privacy/security, customer service	Likert Scale

Apart from service quality brand perception and perceived value also plays crucial role in customer satisfaction in service industry. Marketing literature examined positive link between the satisfaction and the brand image and brand perception (Woodruff et al 1983; Wafa et al 2009). An obtained '*Value*' of service also one of the most important factors affecting on customers satisfaction. There are close relationship between service value and customers satisfaction. Value may be conceptualized as arising from both quality and price or from what one gets and what one gives (Zeithml, 2002). Value increases as quality increases

and as price/rent/charges or cost of transaction decreases. Therefore, in this study author has used three major dimensions e.g. service quality, brand perception and perceived value to assess customer satisfaction.

#### 4. Expectation-Performance Scale Vs Performance Only Scale

Parasuraman, Zeithaml and Berry (1985; 1988; 2005) posited that Expectation-Performance Scale (Gap Analysis) is necessary to examine level of customer satisfaction in service industry. They argued that if there is expected quality of service and actual perceived performance is equal or near about equal there is customers can be satisfy, while a negative discrepancy between perceptions and expectations a 'performance-gap' as they call it causes dissatisfaction, a positive discrepancy leads to consumer delight. However, Cronin and Taylor (1992; 1994); Kumbhar, 2011a; Kumbhar, 2011c argued that customer satisfaction can be obtainable with low quality, whenever one's expectations in a given situation are low and performance is adequate to the task. Emergency situation fit this scenario well. Similarly, dissatisfaction with high quality can ensue when some element of the service delivery is not up to personal expectations. Therefore performance only scale is suitable to assess service quality and customer satisfaction. Various researchers has used performance only scale and proved that it is an excellent for measuring service quality and customer satisfaction i.e. Pont and Brady et al (2002); Andronikidis and Bellou (2010); Jain and Gupta (2004); Cohen et al (2006); Kumbhar, 2011 Many empirical studies proved its validity, reliability, methodological soundness, superiority and psychometric soundness of the SERVPERF scale. More specifically Lianxi Zhou, (2004) and Aaron and Robin (2010) mentioned that the performance-only measurement of service quality (SERVPERF) as determinants of consumer satisfaction and subsequent behavioral intentions associated with banking services. Therefore this study focused on performance only scale to measuring service quality and customer satisfaction in e-banking.

#### 5. Hypothesis of the Study

- 1) **Null:** All types of customers are using internet banking services i.e. male and female; semi literate and highly literate; belongs to all professions; belongs to low and high income group;  
**Alt :** All types of customers are not using internet banking services i.e. male and female; semi literate and highly literate; belongs to all professions; belongs to low and high income group
- 2) **Null:** Overall customers satisfaction in the Internet banking services is not differ based demographic characteristics  
**Alt :** Overall customers satisfaction in the Internet banking services is differ based demographic characteristics
- 3) **Null:** There is no significant relationship between service quality dimensions and overall customer satisfaction in Internet banking  
**Alt :** There is significant relationship between service quality dimensions and overall customer satisfaction in Internet banking
- 4) **Null :** There is no significant deference between service quality perception in internet banking services provided by public and private sector banks  
**Alt :** There is significant deference between service quality perception in internet banking services provided by public and private sector banks

#### 6. Material, Methods and Measures

The primary data were conducted by (N= 190) customer survey of public sector banks (SBI; Bank of Baroda, Corporation Bank, IDBI Bank Ltd.) and private sector banks (Axis Bank Ltd. and HDFC Bank Ltd) in Satara city (Maharashtra). Stratified judgmental sampling was adopted and data were collected during the period July 2010 to Oct 2010 spanning four months period. A five point likert scale ranging from strongly agree to strongly disagree was adopted as the scale for the statements in the questionnaire and method of data collection was through personal mode. The survey questionnaire has been designed using 29 statements related to service quality dimensions of internet banking *i.e.* System Availability (3), E-Fulfillment (3), Efficiency (3), Security and Responsiveness (5), Easiness and Convenience (6), Cost Effectiveness (2), Problem Handling and Compensation (5) and Contact (2). Each statement in the questionnaire has positively worded. The data was analyzed by using SPSS 19.0 software. Kruskal-Wallis Chi Square tests, spearman's rho non-parametric correlation and Mann Whitney U test were performed according to need of the fulfill objectives and testing hypothesis under study.

## 7) Results :

### Hypothesis-1: Demographic profile of internet banking users

The present research evidence that most of internet banking users were male (81.2%), with a age group between 25 to 35 (34.7%), 36 to 50 years (34.8%), graduates (49.5%), post graduates (41.1%), Businessman (36.4%), employees (31.6%). Income wise data shows that there most of users were belongs to middle income group. About 56.45% users were from annual income group of Rs 3 to 8 lacs; 18.30% were from annual income group of more than 8 lacs and remaining was from annual income group of below than Rs. 3 lacs. This data indicates that reject null and accept alternative hypothesis – 1 *i.e.* **Alt:** All types of customers are not using internet banking services *i.e.* male and female; semi literate and highly literate; belongs to all professions; belongs to low and high income group

### Hypothesis-2: Customers' demographic characteristics and satisfaction in the Internet banking

Most of previous researches mentioned that gender, age, education; profession and level of income affect customers' satisfaction in banking services. Therefore, we have tested this hypothesis to know "what is actual impact of the demographics and customer satisfaction in Internet banking services?"

The *Kruskal-Wallis Chi Square tests (non parametric test)* were performed to overall satisfaction in the Internet banking services was differing or not by demographic characteristics group. In order to test this hypothesis The Kruskal-Wallis tests for several independent (gender, age, education, income level and profession) and one dependent variable (overall satisfaction) was performed (Khalid et al, 2000; Khattak). Formula<sup>1</sup> for calculating H statistics is given below;

$$H = \frac{12}{N(N + 1)} \sum_{i=1}^c \frac{R_i^2}{n_i} - 3(N + 1)$$

<sup>1</sup> Default Formula used in SPSS

where

$C$  = the number of samples,  
 $n_i$  = the number of observations in the  $i$ th sample,  
 $N = \sum n_i$ , the number of observations in all samples combined,  
 $R_i$  = the sum of the ranks in the  $i$ th sample.

According to Kruskal-Wallis large values of  $H$  (Chi-Square) lead to rejection of the null hypothesis and same or less than table value lead to accept null hypotheses (Kruskal-Wallis, 1952). Chi-Square values of Gender ( $X^2 = 0.232$ ,  $df = 1$ ,  $sig. = .462$ ) and Level of Income ( $X^2 = 7.255$ ,  $df = 6$ ,  $sig. = .299$ ) Age ( $sig. = .027$ ) are found significant. It leads to accept null hypotheses ( $H^2a$  and  $H^2e$ ) and reject alternative hypothesis. However, Chi-Square values of Age ( $X^2 = 12.543$ ,  $df = 4$ ,  $sig. = .020$ ), Educational level ( $X^2 = 11.561$ ,  $df = 4$ ,  $sig. = .027$ ) and Profession ( $X^2 = 13.145$ ,  $df = 4$ ,  $sig. = .022$ ) are found insignificant and leads to reject null hypothesis ( $H^2b$ ,  $H^2c$ ,  $H^2d$ ) and accept Internet hypothesis. Descriptive statistics also shows that there was significant relationship between age, education and profession while level of customer satisfaction of male and female, as well as respondents of belongs to different income groups is almost same.

	Null Hypothesis	N	Calcu. Value $X^2$	Table Value $X^2$	df	Sig.	Decision
$H^1a$	Gender	190	0.232	3.841	1	.462	Retain the null hypothesis.
$H^1b$	Age	190	12.543	9.488	4	.020	Reject the null hypothesis.
$H^1c$	Education	190	11.561	9.488	4	.027	Reject the null hypothesis.
$H^1d$	Profession	190	13.145	9.488	4	.022	Reject the null hypothesis.
$H^1e$	Level of Income	190	7.255	12.592	6	.299	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

### 6.6.2 Hypothesis-3: Perception of Service Quality and Customers' satisfaction in Internet Banking

The second hypothesis of this study has been tested using correlation test. Here *spearman's rho non-parametric correlation* test was performed to understand correlation between each of service quality dimensions and overall customer satisfaction in Internet banking. As per SPSS 19.0 user manual multiple correlation test is useful to assess relation between multiple independent variable and one dependent variable. Therefore, we have performed spearman's rho non-parametric correlation test and result shows that there was a significant relationship between all dimensions and overall customer satisfaction, it leads to accept null hypothesis. Therefore we have rejected null hypothesis ( $H^3$ ) and accepted Internet hypothesis. However, Table No. 2 indicates all dimensions are significantly correlated to overall customer satisfaction except responsiveness. Therefore, we have accepted Internet hypothesis and rejected null hypothesis.

	Overall Satisfaction



Overall Satisfaction	<i>r</i>	1.000
	Sig. (2-tailed)	.
System Availability	<i>r</i>	.519**
	Sig. (2-tailed)	.000
E-Fulfilment	<i>r</i>	.547**
	Sig. (2-tailed)	.000
Accuracy	<i>r</i>	.573**
	Sig. (2-tailed)	.000
Efficiency	<i>r</i>	.560**
	Sig. (2-tailed)	.000
Security/Assurance	<i>r</i>	.594**
	Sig. (2-tailed)	.000
Responsiveness	<i>r</i>	.208**
	Sig. (2-tailed)	.005
Easy to Use	<i>r</i>	.585**
	Sig. (2-tailed)	.000
Convenience	<i>r</i>	.598**
	Sig. (2-tailed)	.000
Cost Effectiveness	<i>r</i>	.541**
	Sig. (2-tailed)	.000
Problem Handling	<i>r</i>	.646**
	Sig. (2-tailed)	.000
Compensation	<i>r</i>	.324**
	Sig. (2-tailed)	.000
Contact	<i>r</i>	.626**
	Sig. (2-tailed)	.000
*Correlation is significant at the 0.05 level (2-tailed).		
**Correlation is significant at the 0.01 level (2-tailed).		

#### Hypotheses 4: Service quality perception in internet banking service provided by public and private sector banks

In the modern banking service internet banking is one of the convenient banking services. It provides wider benefits to the customers. All banks were not providing quality internet banking services. Our study indicates that, overall service quality and customer satisfaction in internet banking services is approximate same. However, dimension wise service quality was differed by type of banks. Mann-Whitney U Test (Table no 3) indicates that E-Fulfilment, Responsiveness, Problem handling and Contact dimensions of internet banking service quality was differed in public and privates sector banks. Other dimensions of service quality of internet banking service e.g. system availability, efficiency, security, easiness, convenience, cost effectiveness and compensation was same as in public and privates sector banks. Therefore we rejected null hypothesis 4 and accepted alternative hypothesis 4. i.e. There is significant deference between service quality perception in internet banking services provided by public and private sector banks

Table no 3: Hypothesis Test Summary (Mann-Whitney U Test)



	Null Hypothesis	Z	U Test	Std. Error	Mean Rank		Sig.	Decision
					Pvt	Pub.		
1	System Availability of Internet Banking is the same in Public and Private Sector Banks.	1.748	136.5	21.690	19.15	13.68	.092	Retain the null
2	Fulfillment in Internet Banking Services is the same in Public and Private Sector Banks.	2.215	145	22.154	20.00	13.25	.042	Reject the null
3	Efficiency in Internet Banking Services is the same in Public and Private Sector Banks.	1.258	121	21.883	17.60	14.45	.337	Retain the null
4	Security/Assurance in Internet Banking Services is the same in Public and Private Sector Banks.	-1.265	64	22.430	11.90	17.30	.108	Retain the null
5	Responsiveness about Internet Banking Services is the same in Public and Private Sector Banks.	-2.663	150	22.105	20.50	13.00	.024	Reject the null
6	Easy to Use in Internet Banking Services is the same in Public and Private Sector Banks.	1.452	139	22.245	19.40	33.55	.080	Retain the null
7	Convenience in Internet Banking Services is the same in Public and Private Sector Banks.	1.328	81	22.152	13.60	16.45	.391	Retain the null
8	Cost Effectiveness in Internet Banking Services is the same in Public and Private Sector Banks.	-1.231	102.5	22.435	15.75	15.38	.911	Retain the null
9	Problem Handling Regarding to Internet Banking Services is the same in Public and Private Sector Banks.	2.288	145	20.830	20.00	13.25	.031	Reject the null
10	Compensation Facilities about Internet Banking Services is the same in Public and Private Sector Banks.	-1.852	100	00.000	15.50	15.50	1.00	Retain the null
11	Contact Facilities about Internet Banking Services is the same in Public and Private Sector Banks.	2.359	146.5	21563	20.15	13.18	.031	Reject the null

Asymptotic significances are displayed. The significance level is .05.

### Conclusion and Policy implication

Present research shows that, demographics of the customers' are one of the most important factors which influence using internet banking services. Overall results show that highly educated, a person who are employees, businessmen and belongs to higher income group and younger group are using this service, however, remaining customers are not using this services. These factors not only led to use internet banking but also influence to overall customers satisfaction in internet banking. Therefore, there is need to simplify the internet banking services and encourage to lower literate peoples as well other peoples to use internet banking services, Banks should try to educate their rest of customers who are not using this service. Results also show that overall satisfaction of employees, businessmen and professionals are higher in internet

banking service; it means other users are not happy with the internet banking services therefore bank should know the barriers in it and try to remove that barriers as well obstacles in betterment of rest of customers' satisfaction. There is significant difference in the customers' perception in internet banking services provided by the public and private sector banks. Private sector banks are providing better service quality of internet banking than service provided by the public sector banks. Therefore, public sector banks should improve their internet banking services according to the expectations of their customers.

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