CHAPTER 5

THE PERFORMANCE OF THE E-BANKING SERVICES OF DIFFERENT BANKS

5.1 Introduction

Banks play an important role in the economic development of a country and thus measuring the performance of the banks in its all spheres is an absolute necessity. The banking industry is facing a rapid change because of new technologies, economic uncertainties, fierce competition, and more demanding customers (Nagabhushanam). Investment and reliance in E-banking innovation by its providers to offer their services makes it essential to understand how various aspects of consumer behaviour affect the innovation and respond to service quality (Ahmed, Rezaul, and Rahman, 2010). Banking customers get satisfied with the system when it provides them maximum convenience and comfort while transacting with the bank (Singhal and Padhmanabhan, 2008). The perception on the performance of electronic banking of corresponding bank of a customer is obtained through experience. Thus, there is a growing interest to find out the customer experience as regards to E-banking as customer experience is broader then customer satisfaction (Hiltunen, Laukka, and Luomala, 2002). Hence, assessing the users experience is essential for technological products and services (Wilson and Sasse, 2004). Here in this chapter user experiences are tapped to find out the performance of banks based on quality dimensions. Additionally, service quality is a key determinant in differentiating service offers and building competitive advantages, since the costs of comparing alternatives are relatively low in online environments (Gro¨nroos, Heinonen, Isoniemi, and Lindholm, 2000) (Santos, 2003). In view of these developments, service quality is a crucial issue in e-banking.

5.2 Concept of performance based on quality dimensions

The following literature review obtained suggests different quality dimensions or parameters for measuring the performance of an electronic or web based service.

Table 5.1 Parameters for measuring Electronic/web Based services

Sl.No	Title of the Study	Author(s)	(Parameters/Dimensions/Factors)
1	Internet Banking Websites Performance in Greece	(Christos, 2008)	Reach, page views, daily traffic rank
2	Development of an instrument to measure Internet banking service quality in India	(Gupta and Bansal, 2012)	Security/privacy, reliability, efficiency, responsiveness, site aesthetics
3	An assessment of Internet banking service quality	(Molapo, 2008)	Efficiency, fulfilment, system availability, privacy, assurance and trust, responsiveness, contact, website aesthetics
4	An evaluation of the performance of hotel web-Sites using the managers' views about online Information services	(Costas, Vasiliki, and Dimitrious)	Website content and richness
5	Measuring The Quality Of E-Service: Scale Development And Initial Validation	(Swaid and Wigand, 2009)	Website design, website usability, information quality, service reliability, responsiveness, assurance, personalization,

6	The effect of automated service quality on Australian banks' financial performance and the mediating role of customer satisfaction	(AL-Hawari and Ward, 2006)	ATM – five items, telephone banking – six items; internet banking – seven items.
7	Measuring the quality of e-banking portals	(Bauer, Hammerschmidt, and Falk, 2005)	security and trust, basic services quality, cross-buying, services quality, added values, transaction support, responsiveness
8	Service quality in Internet banking: the importance of customer role	(Broderick and Vachirapornpuk, 2002)	Customer expectations, image and reputation of the service organisation, aspects of the service setting, actual service encounter, customer participation.
9	Service quality in the banking sector: the impact of technology on service delivery	(Joseph, McClure, and Joseph, 1999)	convenience/accuracy, feedback/compliant management, efficiency, queue management, accessibility, customization
10	The key determinants of Internet banking service quality: a content analysis	(Jun and Cai, 2001)	Customer service quality: reliability, responsiveness, competence, courtesy, credibility, access, communication, understanding the customer, collaboration, continuous improvement; banking service product quality: product variety/diverse features; online systems quality: content, accuracy, ease of use, timeliness, aesthetics, security
11	Determinants of online Channel use and overall satisfaction with a Relation, multichannel service provider.	(Montoya-Weiss, Voss, and Grewal, Fall 2003)	Website Design Factors: navigation structure, information content, graphic style; customer evaluations: service quality – online channel and alternative channel, risk perception
12	Internet Banking: An Initial Look at Ghanaian Bank Consumer Perceptions	(Woldie, Hinson, Iddrisu, and Boateng, 2008)	Reliability, assurance, responsiveness

13	Measuring customer perceived online service quality: Scale development and managerial implications.	(Yang, Jun, and Peterson, 2004)	Reliability, responsiveness, competence, ease of use, security, product portfolio
14	Determinants of Satisfaction with E-Retailing: The Role of Usability Factors	(Rahman, Cripps, Salo, Hussain, and Zaheer, 2013)	Site Interactivity, site in formativeness, site trust, site contact, site ease of use.
15	An Integrative Approach to the Assessment of E-Commerce Quality	(Barnes and Vidgen, 2002)	Usability, design, information, trust and empathy
16	Customer perceptions of e-service quality in online shopping	(Lee and Lin, 2005)	Web design, reliability, responsiveness, trust, and personalization
17	E-TailQ: Dimensionalizing, Measuring and Predicting Etail Quality	(Wolfinbarger and Gilly, 2003)	Website design, fulfillment/reliability, security/privacy and customer service

5.3 Conceptualizations of E-Banking Services Dimensions

Based on the conceptualization of E- Banking quality dimensions derived from literature review, the closely related parameters are grouped together into four dimensions i.e. E-banking Channel Design, Reliability, Responsiveness and Security. The grouping of the items seemed to match and coincide with the SERVQUAL measurement given by (Parasuraman, Zeithaml, & Berry, 1988).

Table 5.2 Electronic Banking Services Performance Dimensions

Dimensions	Closely related dimensions	Author(s)	SERVQUAL
E-banking channel Design	Website interactivity, Website in-formativeness, website ease of use, Navigation structure ,Information content, richness, Graphic style, website usability, Website aesthetics	(Gupta and Bansal, 2012), (Molapo, 2008), (Costas, Vasiliki, and Dimitrious) , (Swaid and Wigand, 2009), (Jun and Cai, 2001), (Montoya-Weiss, Voss and Grewal, Fall 2003), (Yang, Jun and Peterson, 2004), (Rahman, Cripps, Salo, Hussain and Zaheer, 2013), (Barnes and Vidgen, 2002) , (Lee and Lin, 2005) , (Wolfinbarger and Gilly, 2003).	TANGIBLES: Physical Facilities, Equipment, Staff Appearance Etc. (Parasuraman, Zeithaml and Berry, 1988)
Reliability	Security, Privacy, Trust, Accuracy	(Wolfinbarger and Gilly, 2003), (Lee and Lin, 2005), (Barnes and Vidgen, 2002) , (Rahman, Cripps, Salo, Hussain, and Zaheer, 2013), (Yang, Jun, and Peterson, 2004) , (Woldie, Hinson, Iddrisu, and Boateng, 2008), (Jun and Cai, 2001), (Bauer, Hammerschmidt, and Falk, 2005), (Swaid and Wigand, 2009), (Gupta and Bansal, 2012)	RELIABILITY: Ability to perform service dependably and accurately. (Parasuraman, Zeithaml, and Berry, 1988)

Responsivenes	Timeliness, Queue management	(Lee and Lin, 2005)**,** (Yang, Jun, and Peterson, 2004)**,** (Woldie, Hinson, Iddrisu and Boateng, 2008)**,** (Jun and Cai, 2001)**,** (Joseph, McClure, and Joseph, 1999)**,** (Bauer, Hammerschmidt, and Falk, 2005)**,** (Swaid and Wigand, 2009)**,** (Molapo, 2008)**,** (Gupta and Bansal, 2012)	RESPONSIVENESS: Willingness to help and respond to customer needs. (Parasuraman, Zeithaml, and Berry, 1988)
Service	Site contact, transaction support, Feedback/compliant Management	(Wolfinbarger and Gilly, 2003)**,** (Rahman, Cripps, Salo, Hussain and Zaheer, 2013)**,** (Molapo, 2008)**,** (Bauer, Hammerschmidt and Falk, 2005)**,** (Joseph, McClure and Joseph, 1999)	EMPATHY and ASSURANCE: Extent to which caring and individual service is given, ability of staff to inspire confidence. (Parasuraman, Zeithaml, & Berry, 1988)

5.4 Methodology

Here in this chapter performance is measured under quality dimensions and hence four dimensions such as, E-banking channel design, reliability of the channel, responsiveness of the channel, and service are used. Descriptive statistics were used to measure the performance score.

5.4.1 Scale used

For scaling techniques 7-point Likert scales, ranging from 1 (strongly disagree) to 7 (strongly agree) is adopted. 7-point Likert scales are used rather than 5-point

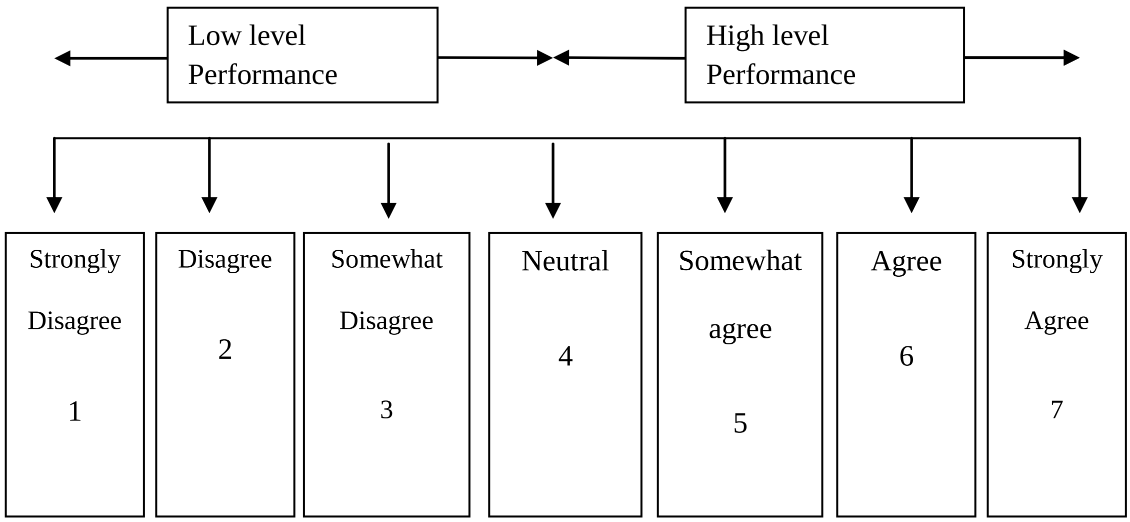
Likert scales to increase variation for statistical analysis as well as add additional details.

5.4.2 Tools used

The study involved both primary and secondary sources. For primary sources structured questionnaires are used. Self administered questionnaire is developed based on relevant statements from (Kenova and Jonasson, 2006), (Bauer, Hammerschmidt, and Falk, 2005), (Barnes and Vidgen, 2002), (Lee and Lin, 2005), (Olayinka, 2012), (Wolfinbarger and Gilly, 2003), (Swaid and Wigand, 2009), (Jun and Cai, 2001), (Joseph, McClure, and Joseph, 1999). The E-Banking channel designs were measured by six statements, Reliability was measured by five statements, Responsiveness was measured by four statements and Service was measured by four statements. For statistical analysis and scoring IBM SPSS 19 and Microsoft Excel 2007 were used. To measure the reliability of the applied questionnaire Cronbach's Alpha (α) test is conducted. This is followed by finding out one of the descriptive statistics i.e. mean to compare between banks and conclude about its' performance on each dimensions.

For each bank under consideration, at first the mean of the responses for each statement is obtained, which is followed by finding the mean of all individual dimensions to find out the performance score of individual bank for each dimensions. As per the likert scale coding ranging from 1 (strongly disagree) to 7 (strongly agree) we can represent the scale as follows:

Figure 5.1 Performance Scale



Thus we assume further division of the levels as follows:

Table 5.3 Level of Performances based on mean scores

Mean value Obtained	**Level of Performance**
1.000 to 1.999	Very Low
2.000 to 2.999	Low
3.000 to 3.999	Somewhat low
4.000	Neutral
4.001 to 5.000	Somewhat high
5.001 to 6.000	High
6.001 to 7.000	Very High

5.4.3 The data

The data collected for the study follows the methodology described in chapter one. A survey was conducted keeping in mind the study area i.e. Cachar, Hailakandi and Karimganj districts of Assam and the list of banks mentioned in chapter one. For sample size we depend on the formula

$$n = \frac{1}{e^2}$$ where e is the proportion of error present in the study.

n is the Final approximate sample size

An error of 5 % will require a sample of approximately 400 units.

Thus, a total of 400 respondents were collected adopting post stratified random sampling which has been elaborately explained in chapter1. The number of respondents collected from each bank was based on proportional allocation that they contribute in the total population. Chapter 1 describes details of sample, population and related information.

Table 5.4 Bank wise sample size collected

No.	Name of bank	Total no of Customers(Population) as on March, 2014	Sample collected out of 400
1	STATE BANK OF INDIA	399206	246
2	ICICI BANK LTD	7800	5
3	AXIS BANK LTD	20000	12
4	HDFC BANK LTD.	7374	5
5	UNION BANK OF INDIA	67239	41
6	BANK OF BARODA	16429	10
7	CANARA BANK	25688	16
8	VIJAYA BANK	14500	9
9	UCO BANK	54593	34
10	INDUSIND BANK LTD	3000	2
11	PUNJAB NATIONAL BANK	32843	20
	Total	**648672**	**400**

5.5 Descriptive statistics

This section illustrates the descriptive statistics for each main constructs and their respective dimensions with mean and standard deviation. Performance is measured on four dimensions such as, E-banking channel design, Reliability of the channel, Responsiveness of the channel, and Service. The Variable E-banking channel design is measured by 6 items, reliability of the channel is measured by 5 items, responsiveness is measured by 4 items and service is measured also by 4 items.

Table 5.5.1 Descriptive Statistics of E-Banking Channel Design

No.		Mean	Std. Deviation
1	The website/other channel design are aesthetically attractive.	2.32	.932
2	It is easy to find what I need on the website/channel	2.30	.929
3	Using the bank’s website/channel does not require a lot of effort	2.28	1.102
4	The organization and structure of E-banking channel content is easy to follow.	2.33	.998
5	The user interface is appropriate.	2.34	.904
6	The website/channel provides relevant and accurate information	2.19	.975

Table 5.5.2 Descriptive Statistics of Reliability of the channel

No.		Mean	Std. Deviation
1	E-banking system operations are regular.	2.39	1.141
2	E-banking system operations are inaccurate.	4.96	1.454
3	Customers get confirmation of e-banking transactions.	2.05	1.017
4	The bank does not misuse my personal information.	2.08	1.137
5	I feel safe in my transactions with the bank.	1.93	.973

Table 5.5.3 Descriptive Statistics of Responsiveness of the channel

No.		Mean	Std. Deviation
1	The E-banking channel does not waste my time.	1.86	1.053
2	The E-banking channel is always available (24*7).	2.21	1.299
3	The bank's site makes accurate promises about the services being delivered.	2.58	1.180
4	When there is E-banking problem, bank tries to solve it quickly.	2.79	1.228

Table 5.5.4 Descriptive Statistics of Service

No.		Mean	Std. Deviation
1	The bank gives prompt responses to my requests by e-mail or other means.	2.76	1.216
2	Responses are relevant and accurate and appropriate to customer requirements.	2.73	1.163
3	When E-banking systems fail, banks ensure getting reimbursed is straightforward.	2.98	1.421
4	During complaint the bank is easily accessible by telephone or other means.	3.11	1.588

5.6 Analysis and Results

This section deals with the analysis and results about performance obtained from responses.

5.6.1 Reliability tests

Reliability tests were conducted to ensure the validity and precision of the statistical analysis and accordingly Cronbach's Alpha (α) for the main dimensions were calculated and was found that all the four dimensions fall in the acceptance range i.e. $\alpha > 0.6$ as given by (George and Mallery ,2003) and cited by (Jan, Abdullah, and Shafiq, 2013) (Das, 2013) (Azad and Esmaeili, 2012) and many others.

Table 5.6 Reliability Statistics of the dimensions

No.	Constructs	No of Items	Coefficient
1	E-Banking Channel design	6	0.850
2	Reliability	5	0.801
3	Responsiveness	4	0.816
4	Service	4	0.834
	Overall	19	0.891

5.6.2 Performance of banks based on responses

The following table has been obtained by calculating the mean of the responses separately for each bank under consideration for the four individual dimensions. Hence for different dimensions we had different level of performance of different banks under study.

Table 5.7.1 Performance on E-Banking Channel Design

BANK	E Banking Channel Design (Mean Scores)	Level of Performance
INDUSIND	5.5	High
UCO	5.549	High
CANARA	5.719	High
PNB	5.75	High
HDFC	5.767	High
VIAJAYA	5.87	High
SBI	5.927	High
UNION	5.959	High
ICICI	6.067	Very High
BOB	6.167	Very High
AXIS	6.556	Very High

From the Table 5.7.1 it is evident that ICICI Bank, AXIS bank and Bank of Baroda performed very high on E-Banking channel design and rest all other banks are in the High category performance.

Table 5.7.2 Performance on Reliability

BANK	Reliability Mean Scores)	Level of Performance
CANARA	4.988	Somewhat High
VIAJAYA	5.356	High
HDFC	5.6	High
UCO	5.735	High
ICICI	5.84	High
UNION	5.863	High
PNB	5.923	High
SBI	5.928	High
INDUSIND	6.2	Very High
BOB	6.22	Very High
AXIS	6.383	Very High

From the Table 5.7.2 it is found that Axis bank, Bank of Baroda and IndusInd bank have very high reliability, whereas SBI, ICICI, HDFC, UNION, VIJAYA, UCO and PNB are in the High category but CANARA bank seemed to perform very less as far as reliability is concerned and is placed under Somewhat High reliable.

From table 5.7.3 it is evident that ICICI, AXIS, UNION and Bank of Baroda have very high responsiveness whereas rest all other banks are in the high category.

Table 5.7.3 Performance on Responsiveness

BANK	Responsiveness (Mean Scores)	Level of Performance
VIAJAYA	5.472	High
UCO	5.507	High
HDFC	5.65	High
CANARA	5.969	High
INDUSIND	6	High
UNION	6.012	Very High
BOB	6.225	Very High
AXIS	6.292	Very High
ICICI	6.3	Very High

Table 5.7.4 Performance on Service

BANK	Service (Mean Scores)	Level of Performance
INDUSIND	4.875	Somewhat High
PNB	4.9	Somewhat High
UNION	4.927	Somewhat High
HDFC	5.05	High
VIAJAYA	5.083	High
CANARA	5.406	High
UCO	5.522	High
BOB	5.525	High
ICICI	5.65	High
SBI	5.821	High
AXIS	6.229	Very High

The table 5.7.4 suggests that there are differences of opinion as far as service dimension is concerned. UNION, INDUSIND,PNB banks are in the category of somewhat high whereas all other banks are in the high category except AXIS bank which is perceived to be having very High level of service.

5.7 Conclusion

The users experience from the interactions with the E- banking delivery channels and the perceptions developed have been tapped to identify the performance of the E-banking channels as a whole for each individual bank under consideration. The banks were seen to perform differently for different dimensions giving a mixed result. Among all the banks Axis bank seemed to perform very high consistently on a scale of very low, low, somewhat low, neutral, somewhat high, high and very high. As a managerial implication to the findings, the top level management can interpret the results and compare the performance of its E-banking delivery channel on various dimensions and accordingly find out in which dimensions it is performing well and in which dimension it is lagging behind. The results though cannot be generalized since perception differs with person, sample and location.