



A Comparative Study On Electronic Banking (E-Banking) Satisfaction Among The Customers Of Public And Private Sector Banks

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Abstract: This study examines the electronic banking satisfaction among the customers of the public and private banking sector to compare their electronic service quality. This research study focuses the respondents of the banking sector located in Ahmedabad city only. In this research, hypotheses were developed with the help of secondary sources. The objective of the study is to find out consumer satisfaction with respect to e-banking and perception. After the literature review, a Likert scale-based questionnaire was developed for surveying consumers. Various electronic banking services factors like ATM/debit cards, cash debit machines, NTFS/RTGS/IMPS, online banking, credit cards, e-response/messaging, mobile banking, online security and data security have been analyzed along with customer satisfaction. Primary data was collected through a random sampling technique. Collected data was analyzed using the statistical software R programming and visualized with jitter boxplot. The findings show that most of the customers from private bank are satisfied with the electronic services provided by the private banking sector which indicates the service quality of the electronic services. With high service quality, the level of satisfaction will also be high which means that the private banking sector is providing good quality to the customers as compare to public sector banks.

Keywords: Electronic Banking, E- Banking, Customers, Information and Communication Technology, ATM/Debit Cards, Cash Debit Machine, NTFS/RTGS/IMPS, Online Banking, Credit Cards, E-Response/ Messages, Mobile Banking, Physical Branches, Online Security & data protection

I. INTRODUCTION

Over the years, banks have been adding services for their customers. The Indian banking industry is going through a consumer market phase. Customers have more choices to choose their banks. A competition has been built up inside the banks operating in India. Electronic banking is a major factor in the banking industry to survive in this competitive environment. Electronic banking is commonly known as Internet banking or simply net banking. Electronic banking is also pronounced with E-Banking. Electronic banking has become an indispensable tool of banking business strategy and a strong catalyst for economic growth. It is a website-supported electronic payment system that offers a range of products and services of any bank that can be operated electronically, such as payments, transfers, deposits and more. The advantages of electronic banking include convenience, speed and flexibility. Customers can use banking services when they suit. Electronic banking can make good financial sense. Electronic banking creates a new perception of banking in the minds of customers. Customer satisfaction in electronic banking builds brand image. Therefore, the study of customer satisfaction is important in the banking industry to measure the performance of electronic banking and to know the importance of electronic banking. Banks will know the service performance with the help of customer satisfaction level and they will improve their services

through customer suggestions. This study describes the level of customer satisfaction in various electronic banking services in public and private sector banks located in Ahmedabad city

II. OBJECTIVES OF THE STUDY

1. To assess various aspects of services provided by the public sector and private sector banks.
2. To determine the extent of customer satisfaction with quality of banking services based on various component factors.
3. To compare customer satisfaction with quality of electronic banking services in between public and private sector banks.

III. LITERATURE REVIEW

(Angusamy et al.) An empirical Study on E-Banking and Customer Satisfaction describes a research framework for the study based on relevant studies outlined in 4 factors which are security and privacy, reliability, responsiveness and ease of use. Based on those factors hypotheses were invented and the results show that there is a significant association between security and privacy and the adoption of E-banking consumer satisfaction, responsiveness toward E-Banking customer satisfaction is found to have a significant impact, there is a positive and significant relationship between reliability and E-Banking customer satisfaction, and the ease of use is not able to affect customer satisfaction.

(Kumbhar) studied factors affecting customer satisfaction in e-banking with some evidence form Indian banks. This study focuses on the three major factors affecting customer satisfaction which were service quality, brand perception and perceived value of e-banking service. On behalf of those factors, hypotheses were invented and different statistical tests were applied. A result of the study indicates that all variables of service quality were found significant and were good predictors of overall satisfaction in e-banking. A result of the principle component analysis indicates that Perceived Value, Brand Perception, Cost Effectiveness, Ease of Use, Convenience, Problem Handling, Security/Assurance and Responsiveness are important factors in customer satisfaction in e-banking.

(Agrawal et al.) Studied electronic banking and its comparison between public and private banks with special reference to SBI and HDFC banks based in Haridwar. The study collected data from 50 respondents each from public and private sector banks. From the data analysis, it is concluded that many problems faced by people in electronic banking are more in public sector banks and people are more satisfied with electronic banking due to their better services provided by private sector banks. The study also concluded that more number of people had accounts in private banks and majority of people availed internet/phone banking and ATM/debit card in private sector banks.

IV. RESEARCH METHODOLOGY

This study is based on customer satisfaction with different types of electronic banking services provided by the public and private sector banks. The primary and secondary types of data were collected in this research. In this research data was collected by random sampling technique. The selected sample consists of 50 samples of respondents from public and private banking sectors who use electronic services provided by banks located in Ahmedabad. The data was collected through the questionnaire survey method from December 2023 to January 2024. Data collected from primary sources were analyzed with graph-analysis where box plot and jitter graph were used to analyze the data. Secondary data was collected from previous studies on the relevant topic. The questionnaire consists five-point Likert scale where 1 is strongly dissatisfied, 2 is satisfied, 3 is neither satisfied nor dissatisfied, 4 is satisfied and 5 is very satisfied. This study has some limitations in outlining the research. This study only consists of the data of the respondents located only in Ahmedabad city. Also, this study describes customer satisfaction only with the electronic services provided by the banks. Hypothesis of the study are as follows.

H0:- There is no difference in satisfaction level of electronic services provided by public and private sector banks.

H1:- There is difference in satisfaction level of electronic services provided by public and private sector banks.

V. RESULTS AND DISCUSSIONS

From Table 1 in public bank, 16 respondents are below 25 years, 19 respondents are between 25-40 years, 13 respondents are between 41 to 55 years and 2 respondents are above 56 years. Same as in private bank, 4 respondents are below 25 years, 25 respondents are between 25-40 years, 21 respondents are between 41 to 55 years. From Table 2, 30 respondents belong to the male group and 20 respondents belong to the female group in public bank. 37 respondents belong to the male group and 13 respondents belong to the female group in private bank. From Table 3 in public sector bank, 17 respondents are Post-Graduate, 15 respondents are Graduate, 16 respondents are Up to + 2 and 2 respondents are having Technical/Professional qualification. In private sector bank, 12 respondents are Post-Graduate, 30 respondents are Graduate, 7 respondents are Up to + 2. It is clear that most of the respondents are graduates and postgraduates.

Table 1:- Distribution of sample respondents according to their age.

Public Bank		Private Bank	
Age in Group	No. of respondents	Age in Group	No. of respondents
Below 25	16	Below 25	4
25 – 40	19	25 – 40	25
41 - 55	13	41 - 55	21
56 & above	2	56 & above	0
Total	50	Total	50

Table 2:- Distribution of sample respondents according to their gender.

Public Bank			Private Bank		
	Gender	No of Respondents		Gender	No of Respondents
	Male	30		Male	37
	Female	20		Female	13
	Total	50		Total	50

Table 3:- Distribution of sample respondents according to their education qualification.

Public Bank		Private Bank	
Education Qualification	No of Respondents	Education Qualification	No of Respondents
Up to + 2	16	Up to + 2	7
Graduation	15	Graduation	30
Post-Graduation	17	Post-Graduation	12
Technical/Professional	2	Technical/Professional	0
Total	50	Total	50

Table 4 describes the distribution of sample respondents according to the length of their relationship with the bank. Most of the respondents have a relationship with the bank from 1 to 5 years. 2 respondents less than 1 year, 18 respondents 1 to 5 years, 13 respondents 6 to 10 years and 17 respondents 11 years or more associated with public sector banks. In private sector bank, 27 respondents 1 to 5 years, 3 respondents 6 to 10 years and 20 respondents 11 years or more associated with private sector banks.

Table 4:- Distribution of sample respondents according to length of relationship with the bank.

Public Bank		Private Bank	
Length of relationship with the bank	No of Respondents	Length of relationship with the bank	No of Respondents
Less than 1 year	2	Less than 1 year	0
1yr – 5yrs	18	1yr – 5yrs	27
6yrs – 10yrs	13	6yrs – 10yrs	3
11yrs & Above	17	11yrs & Above	20
Total	50	Total	50

Table 5 describes the distribution of sample respondents according to the length of time spent using electronic services provided by the banking sector. Most of the respondents used electronic services for 1 to 5 years. . In public sector bank, 20 respondents less than 1 year, 17 respondents 1 to 5 years, 8 respondents 6 to 10 years and 5 respondents 11 years or more use the electronic services provided by the public sector bank. In private sector bank, 15 respondents less than 1 year, 29 respondents 1 to 5 years and 6 respondents 11 years or more use the electronic services provided by the public sector bank.

Table 5:- Distribution of sample respondents according to the length of time spends using electronic services.

Public Bank		Private Bank	
Length of time spend using electronic services	No of Respondents	Length of time spend using electronic services	No of Respondents
Less than 1 year	20	Less than 1 year	15
1yr – 5yrs	17	1yr – 5yrs	29
6yrs – 10yrs	8	6yrs – 10yrs	0
11yrs & Above	5	11yrs & Above	6
Total	50	Total	50

Table 6 depicts the distribution of sample respondents according to their satisfaction level in public banks where items are rated through a five-point Likert scale. where 1 is strongly dissatisfied, 2 is satisfied, 3 is neither satisfied nor dissatisfied, 4 is satisfied and 5 is very satisfied. A total of 50 collected data from public banks is described in table 6. That shows the majority of respondents are neither satisfied nor dissatisfied with the electronic services. From the ATM/Debit Cards service factor, most of the respondents are satisfied which hold 32 respondents. From the Cash Debit Machine service factor, a total of 12 respondents are satisfied and 9 respondents are dissatisfied. From the NTFS/RTGS/IMPS service factor, 15 respondents are satisfied and 1 respondent is dissatisfied whereas 34 respondents are neither satisfied nor dissatisfied with the service. From the Online Banking service factor, 20 respondents are satisfied and 2 respondents are dissatisfied and 28 respondents are neither satisfied nor dissatisfied with the service. From the Credit Cards service factor, 9 respondents are satisfied and 3 respondents are dissatisfied and 38 respondents are neither satisfied nor dissatisfied with the service. From E-Response/ Messages service factor, most of the respondents are satisfied with the service. From the mobile banking service factor, 23 respondents are satisfied and 1 respondent is dissatisfied whereas 26 respondents are neither satisfied nor dissatisfied with the service. From the Physical Branches service factor, most of the respondents are satisfied which hold 41 respondents. From the Online Security & data protection service factor, 28 respondents are satisfied and 2 respondents are dissatisfied.

Table 6:- Distribution of sample respondents is according to their satisfaction level in public bank.

Electronic service factor	Very Dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied	Total
ATM/Debit Cards	3	2	13	24	8	50
Cash Debit Machine	2	7	29	8	4	50
NTFS/RTGS/IMPS	0	1	34	13	2	50
Online Banking	1	1	28	15	5	50
Credit Cards	1	2	38	6	3	50
E-Response/ Messages	3	0	7	28	12	50
Mobile Banking	0	1	26	16	7	50
Physical Branches	1	4	4	35	6	50
Online Security & Data Protection	1	1	20	19	9	50
Total	12	19	199	164	56	450

Table 7 shows the distribution of the sample respondents according to their satisfaction level in private banks which includes a total of 50 collected data from private banks. That shows the majority of respondents are satisfied with the electronic services. From the ATM/Debit Cards service factor, most of the respondents are satisfied which hold 36 respondents. From the Cash Debit Machine service factor, a total of 24 respondents are satisfied and 6 respondents are dissatisfied. From the NTFS/RTGS/IMPS service factor, 40 respondents are satisfied which means most of the respondents are satisfied with the service. Also from the Online Banking service factor, most of the respondents are satisfied with the service which holds 46 respondents. From the Credit Cards service factor, 20 respondents are satisfied and 7 respondents are dissatisfied and 23 respondents are neither satisfied nor dissatisfied with the service. From E-Response/ Messages, Mobile Banking, Physical Branches and Online Security & data protection service factor, most of the respondents are satisfied with the services which hold 46, 46, 43, and 42 as respectively.

Table 7:- Distribution of sample respondents is according to their satisfaction level in private bank.

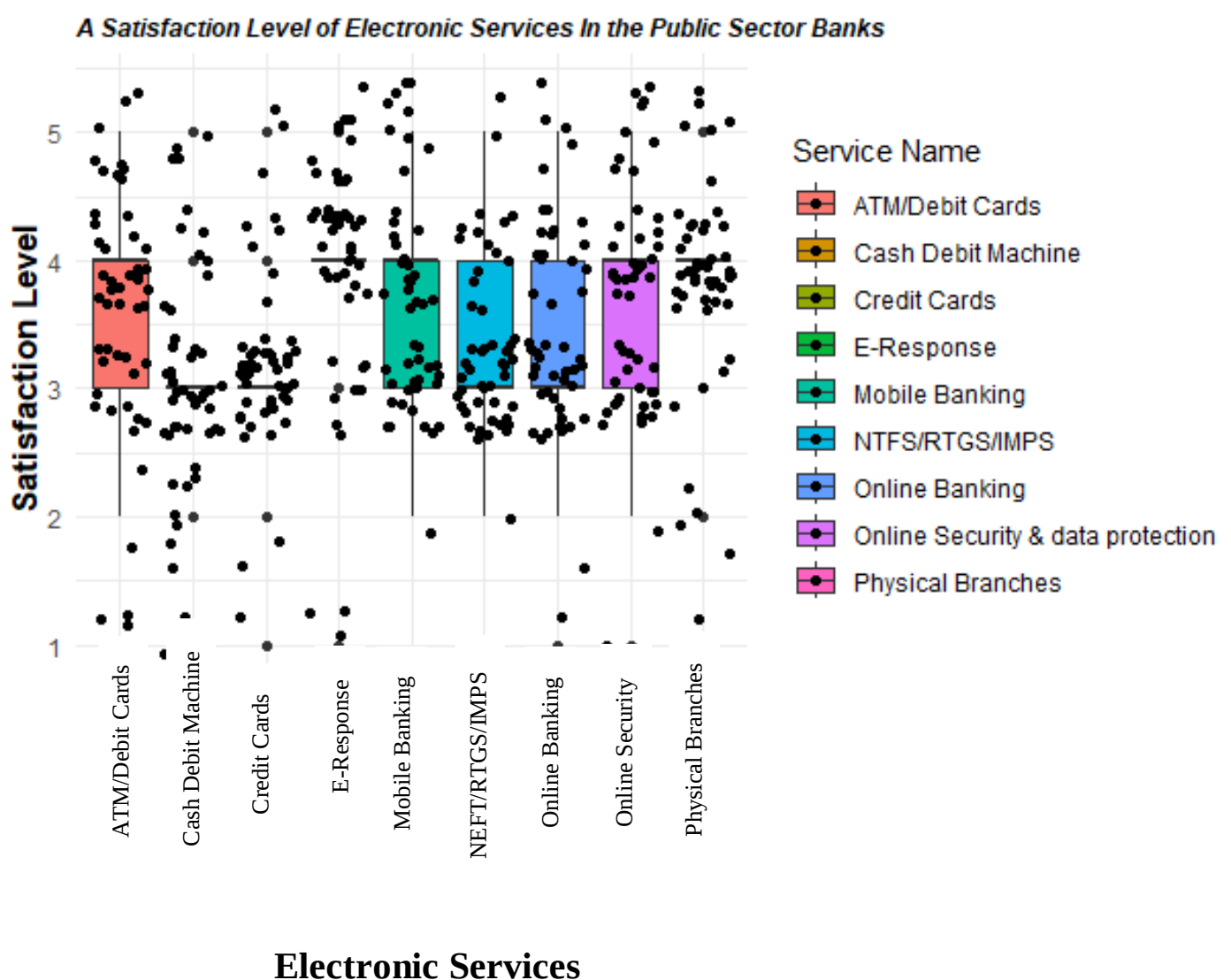
Electronic service	Very Dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied	Total
ATM/Debit Cards	3	4	7	36	0	50
Cash Debit Machine	0	6	20	24	0	50
NTFS/RTGS/IMPS	0	0	10	37	3	50
Online Banking	0	0	4	36	10	50
Credit Cards	0	7	23	17	3	50
E-Response/ Messages	0	0	4	32	14	50
Mobile Banking	0	0	4	39	7	50
Physical Branches	0	3	4	32	11	50
Online Security & Data Protection	0	0	8	32	10	50
Total	3	20	84	285	58	450

VI. RESEARCH ANALYSIS

A plot is a graphical technique for representing a data set, usually as a chart appearing the relationship between two or more variables. A boxplot, also known as a boxplot, box plots, or box-and-whisker plot, is a standardized way of displaying the distribution of a data set based on its five-number summary of the data points: "minimum", first quartile or lower quartile [Q1], median [M], third quartile or upper quartile [Q3] and "maximum." The first quartile value (Q1 or 25th percentile) is the number that marks one-quarter of the ordered data set. In other words, there are exactly 25% elements that are less than the first quartile and exactly 75% elements that are greater than it. The first quartile value can be easily determined by finding the "median" number between the minimum and the median. The third quartile value (Q3 or 75th percentile) is the number that marks three-quarters of the ordered data set. In other words, there are exactly 75% elements that are less than the third quartile and 25% elements that are greater than it. The third quartile value is easily obtained by finding the "median" number between the median and the maximum. The upper whisker boundary of the box plot is the largest data value and similarly, the lower whisker boundary of the box plot is the smallest data value.

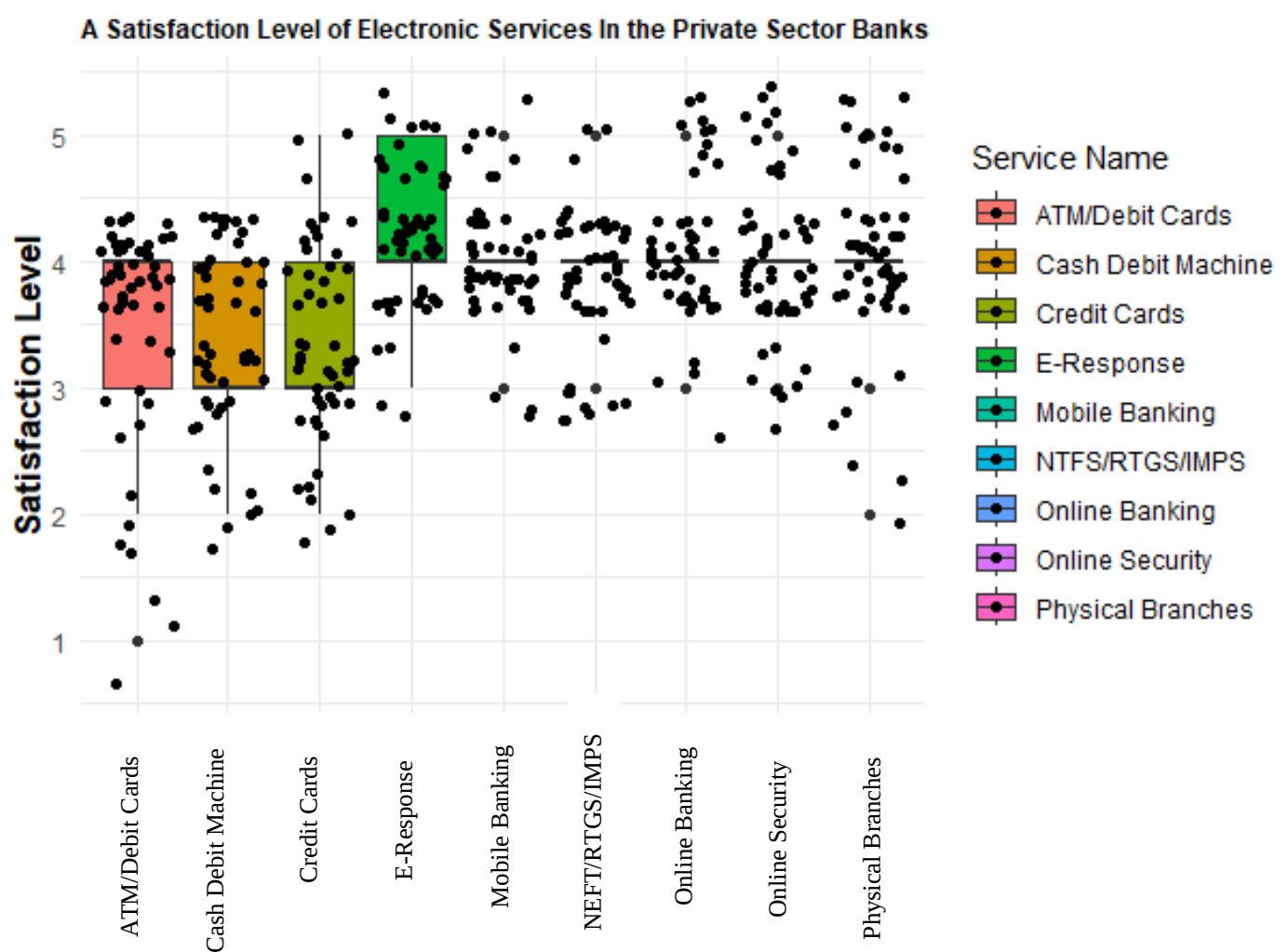
A jitter box plot graph is given below to visualize the data given in Table 6 and Table 7. Where the x axis includes various electronic services and the y axis includes their satisfaction level in a five point Likert scale. Responses of respondents show in jitter graph with black dots.

Figure 1:- Distribution of responses of customers on the satisfaction level of electronic services provided by Public Sector Banks.



Various services provided by the banking sector have various perceptions among the customers. The level of satisfaction examined according to different perceptions of customers is shown in Figure 1. The Jitter Graph shows customers' responses regarding various services. The maximum value in this data set is 5 and similarly, the minimum value in this data set is 1. Where 1 represents the least satisfaction among the respondents and 5 represents the highest satisfaction among the respondents similarly 3 represents the moderate satisfaction among the respondents. In this case, ATM/debit cards, mobile banking, and online security and data protection have the same upper quartile and median. It shows the maximum value and average value of the response from the respondents are the same. The lower quartile and median are the same in NEFT/RTGS/IMPS and online banking. It shows the minimum value and average value of the responses from the respondents are the same. Where cash debit machines, credit cards, e-response, and physical branches have the same lower quartile, median, and upper quartile. It shows that most of the respondents give the same answer. High value of the plot shows the high satisfaction level among the customers and low value of the plot shows the low satisfaction level of the customers. In that case, ATM/Debit cards, e-response, mobile banking, online security and data protection and physical branches have high plot value which represents the high satisfaction level of the respondents which means most of the customers are satisfied with the services. Where cash debit machines and credit cards have median value of the plot which represents moderate level of customer satisfaction which means most of the customers are neither satisfied nor dissatisfied with the services.

Figure 2:- Distribution of responses of customers on the satisfaction level of electronic services provided by Private Sector Banks.



Electronic Services

The level of satisfaction examined according to different perceptions of customers is shown in Figure 2. In this case, ATM/debit cards have the same upper quartile and median. It shows that the maximum value and mean value of the response of the respondents are same. The lower quartile and median are similar in cash debit machines, credit cards, and e-responses. It shows that the minimum value and mean value of the responses of the respondents are same. Mobile banking, NEFT/RTGS/IMPS, online banking, online security and physical branches have the same lower quartile, median and upper quartile. It shows that most of the respondents give the same answer. High value of the plot shows the high satisfaction level among the customers and low value of the plot shows the low satisfaction level of the customers. In that case, ATM/Debit cards have high plot value which represents the high satisfaction level of the respondents which means that the customers are satisfied with the services. Where cash debit machines and credit cards have median value of the plot which represents moderate level of customer satisfaction which means that the customers are neither satisfied nor dissatisfied with the services. Mobile banking, NEFT/RTGS/IMPS, online banking, online security and physical branches have high plot value which represents the high satisfaction level of the respondents which means most of the customers are satisfied with the services.

VII. FINDINGS & CONCLUSION OF THE STUDY

As this study describes the level of customer satisfaction with electronic services provided by the public and private sector bank it also shows the quality of service provided by the banking sector. With high service quality, the level of satisfaction will also be high which means that the banking sector is providing good quality to the customers. The analysis of data shows that the customers of private sector banks are more satisfied with the electronic services provided by the bank as compared to the public sector bank. The null hypothesis of the study is rejected and the alternative hypothesis of the study is accepted which means that there is a difference in the satisfaction level of electronic services provided by public and private sector banks. From the above study, it is clear that the private sector bank provides better electronic service than the public sector bank. In online security, private sector banks provide more security than public sector banks as per the data. Both public sector and private sector banks provide quality services as per customer response in physical branches. Also, this study shows that customers are more satisfied with e-response, mobile banking, neft/rtgs/imps, and online banking services. Customer satisfaction is the demand of time, so banks should organize customer meetings to solve the problems of their customers. Public sector banks should improve their electronic service quality and solve their customer problems to increase their customer satisfaction to survive in the competitive environment.

VIII. REFERENCES

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