

## **Growth and Factors Affecting the Uses of e-banking Services in India**

Dr. Jivan Biradar

Assistant Professor (Economics)

School of Commerce, Dr. Vishwanath Karad MIT World Peace University

### **Abstract**

The banking sectors and bankers have started using advanced technology to deliver banking services. In the e-banking, banks are using modern technology for banking activities and operations to provide good quality of services to their customers. This study is based on primary as well as secondary data. A five-point likert scale was used as a quantitative measure to understand consumer's perception and factor affecting uses of e-banking services. The study found that, the uses of e-banking services like mobile banking, credit card facility and internet banking services are becoming popular in recent period and the comfortable level is higher with the ATM and debit card facility whereas customers are not comfortable while using internet banking services. The major reasons for less use of e-banking services are connectivity problem, less number of ATMs and ignorance of staff members. So, there is a need to increase infrastructure facilities and financial institutions should take initiatives for staff training and awareness related activities to increase uses of e-banking services.

**Keywords: e-banking services, mobile banking, Credit Cards, Debit Cards**

### **I. Introduction:**

Over the period, the banks have changed their way of doing business as per the necessity of the society. The bank has started in the temple and over the period it is changing way of doing business, but the central idea remained the same. It's intermediary between saving and investment section in the society.

In today's digital era, across the globe, modern technologies become important tools of development which decrease human efforts and increase the welfare of the society. The banking sectors and bankers have started using advanced technology to deliver banking services (Mohammad Abdul Hannan Mia and et al 2007). In the e-banking, banks are using modern technology for banking activities and operations to provide good quality of services to their customers. The banking services are changing drastically due to e-banking services (A. H. M. Saidul Hasan et al 2010, Shilpan Dineshkumar Vyas 2012). It also helps banks to increase the market

share (Ali Nazaritehrani et al 2020) and contribute positively to banks' return on equity with a time lag (Md. Nur Alam SIDDIK et al 2016).

In view of the above context, the current study aims to understand the growth of e-banking services in India along with understanding the factor affecting use of e-banking. The specific research questions of the study are:

1. Which are the e-banking services growing rapidly in India among others? and,
2. Identifying the factors affecting use of e-banking services.

The remainder of the article is as follows: The review of literature is presented in section II while research methodology is depicted in section III. The results are presented and discussed in Section IV and finally, section V summarizes the finding of the study.

## **II. Review of Literature:**

### **a) Perceptions about e-banking:**

Divya Singhal and V. Padhmanabhan, (2008) studied customer perception towards internet banking and discussed various factors determining the internet banking in India. Himani Sharma (2011) pointed out that how various banking sector across the World are using e-banking. This study is empirical study conducted for investigating bankers' prospective or views on e-banking and they found that bankers' are convinced that e-banking helps to improve the relationship between banker and costumer. Bruce Mwiya et al (2017) examined the influence of e-banking technology's perceived usefulness, perceived ease of use and trust (safety and credibility) on e-banking adoption. Mahesh Kumar and Sanjay Gupta (2020) investigated e-banking users' perception with regard to online risk for public, private and foreign banks in India. The risk perception was assessed on three major risk parameters, i.e. security aspect, privacy aspect, and trust; using a multiple-criteria decision-making tool, called the Analytical Hierarchy Process (AHP). The general user's perception of three risk parameters taken together, public sector banks are perceived to be the most secure, followed by private and foreign banks. Jamil Hammoud et al (2018) studied about e-banking service quality and customer satisfaction to determine which dimension can potentially have the strongest influence on customer satisfaction. The main objective of this study is to identify factors that affect customers' usage of electronic banking services Beza Muche Teka (2020).

### **b) Barriers in use of e-banking:**

Nyangosi, JS Arora (2011) pointed out that e-banking perceived as important change in way of doing business in banking sector in India and Kenya. Further the analysis revealed that high adoption cost, privacy issues, fear of increase in e-crimes and inadequate infrastructure in banks were the most affecting factors for the growth and adoption of e-banking. RBI (2001) conducted a research on the opportunities and risk associated in E-banking in India. It has found that there are lots of opportunities in the E-banking in India; however the risk associated is also very high due to the illiteracy and lack of Knowledge of E-banking. Richard Singh P. (2013) explained various barriers in the use of E-banking in India.

**c) Determinants of e-banking:**

Pooja Malhotra, Balwinder Singh (2010) have used multiple regression technique to explore the extent of determinant of internet banking services. Kumar Sharma, S. and Madhumohan Govindaluri, S. (2014), explored the factors determine uses of internet banking in especially urban India. They found that ease of use, usefulness, awareness; social influence and quality of internet connection are basic determinants for use of internet banking. The statistical techniques revealed that several major factors, including perceived ease of use, perceived usefulness, security and reasonable price, stand out as the barriers to intention to use e-banking services in Jordan Abdel Latef M. Anouze et al (2019).

**d) Types of bank and e-banking:**

Dhandayuthap S.P., (2012) revealed that dissatisfied level is highest in case of ATMs services, internet banking and mobile banking in the public sector banks as compared to private sector. Majid Karimzadeh, (2014) found that in India, new private sector banks are pioneer to adopt and provide world class e-banking services to their customers but public sector and old private banks are not well equipped by these facilities. Mishra, R. K.; Kiranmai, J. (2009) studied overview of e-banking, its product, services provided by various banks etc. and finally they done comparison of e-banking among various banks in India. Priya Vasagadekar (2012) conducted research on the psychology of an Indian customer towards public and co-operative banks e-banking in Pune region.

### **III. Research Methodology:**

This study is based on primary as well as secondary data. The secondary data were collected from economic survey of India, handbook of statistics on Indian economy, report on trend and progress of banking in India, website of RBI for payment system and e-

banking services. At initial level of the present study, in depth discussion and interaction was conducted with key persons in banks and a survey was designed and conducted to find out the factor affecting uses of e-banking in Pune based different public, private, urban cooperative as well as foreign banks. A specifically designed questionnaire was used as a tool and the survey covered a sample of 80 respondents for the purpose of analysis. These respondents were the customers of various banks. A five-point likert scale was used as a quantitative measure to understand consumer's perception and factor affecting uses of e-banking services. The location of mean is used in the range of five-point likert scale data to understand factor affecting the uses of e-banking services by the respondents.

We have also used Statistical Package for Social Sciences (SPSS) version 20 as the statistical analysis tool, while descriptive statistics were computed and used in the interpretation of findings. The ANOVA is used to test whether there is significant difference between mean of rating for quality of various e-banking services by all types of banks. Normally, ANOVA is used to test the formulated hypothesis based on the analysis of significant difference between the means of the two samples. Thus, the null hypothesis is formulated as there is no significant difference between the mean of rating for quality of various e-banking services by all types of banks and the alternative hypothesis is there is significant difference between mean of rating for quality of various e-banking services by all types of banks. In this study the hypotheses are tested under 5% level of significance.

The Relative Importance Index (RII) is used in this study for understanding and ranking the various problems faced by respondents while using e-banking services and suggestions to improvement in e-banking services by various respondents. The following formula is used to determine the relative importance index:

$$\text{The Relative Importance Index (RII)} = \frac{\sum w}{AN} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5N}$$

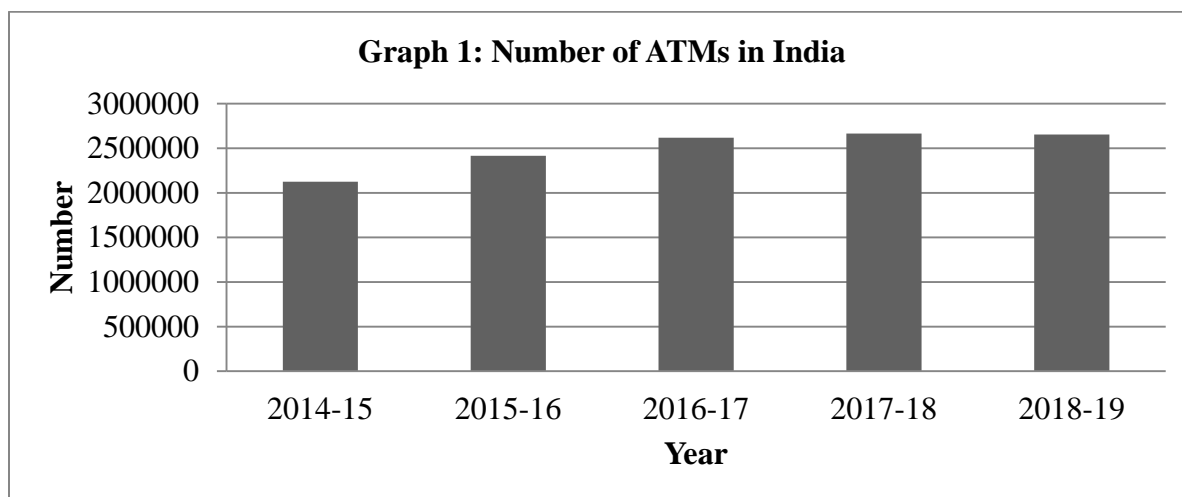
Where  $w$  is the weighting given to each factor by the respondent, ranging from 1 to 5.  $A$  is the highest weight (i.e. 5 in the study) and  $N$  is the total number of respondents. The relative importance index ranges from 0 to 1.

The data is presented in the form of tables and graphs. The growth of e-banking has been described in the initial part with latest data and in the second part; factor affecting use of e-banking has been discussed with the help of primary data.

#### IV. Results and Discussion:

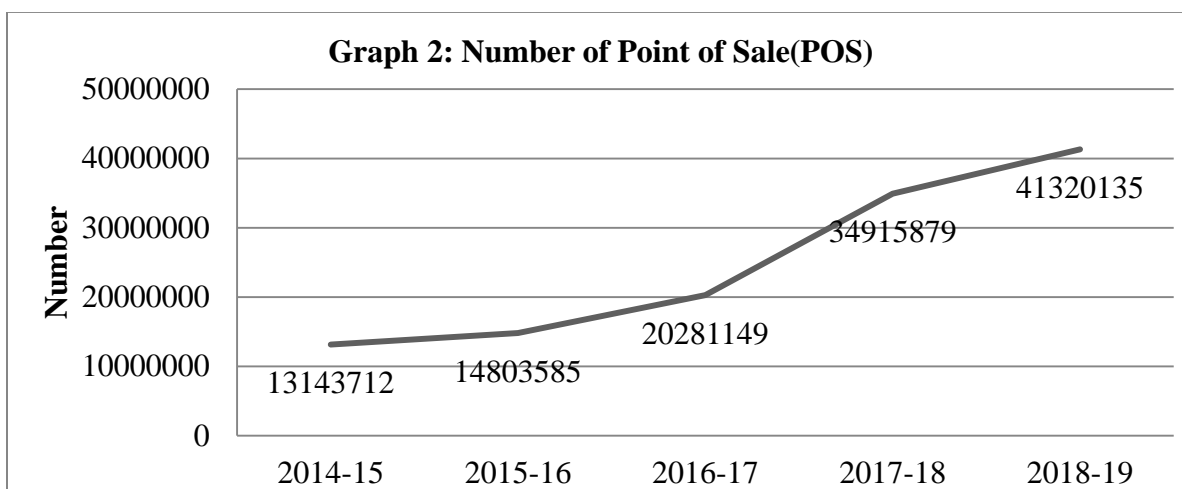
##### a. Growth of e-banking in India:

The e-banking is nothing but availing banking services through electronic mode. In recent years, mode of e-banking services increased rapidly. The number of ATMs increased from around 21 lakh in 2014-15 to 26 lakh in 2018-19 with 5.72 per cent of compound annual growth rate (CAGR) (Graph 1).



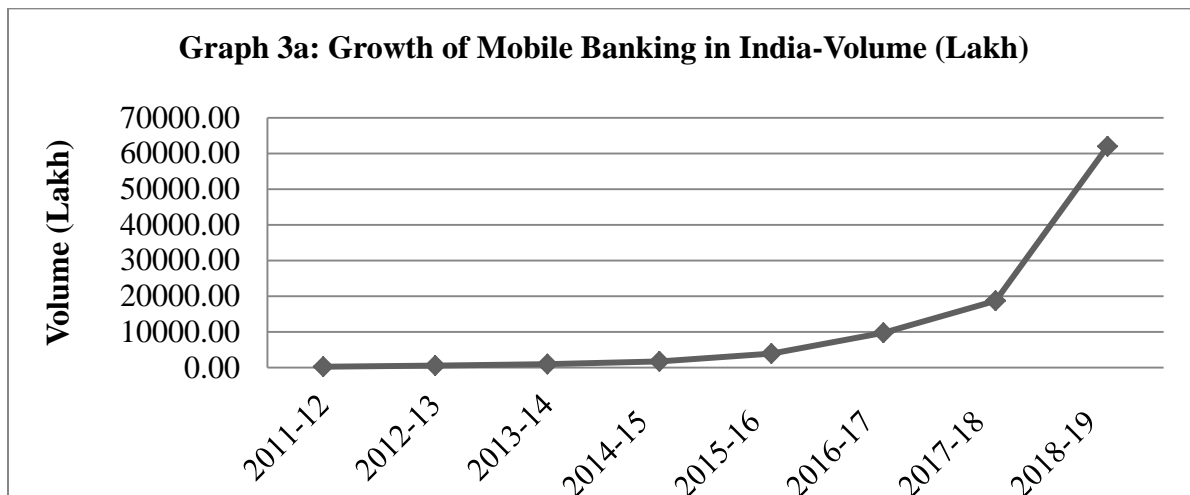
**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

But the point of sale (POS) increased with CAGR of the 33.16 per cent from 2014-15 to 2018-19. The growth in POS is more in the last three year period (Graph 2). The POS mode is more convenient than any other mode of e-banking product.

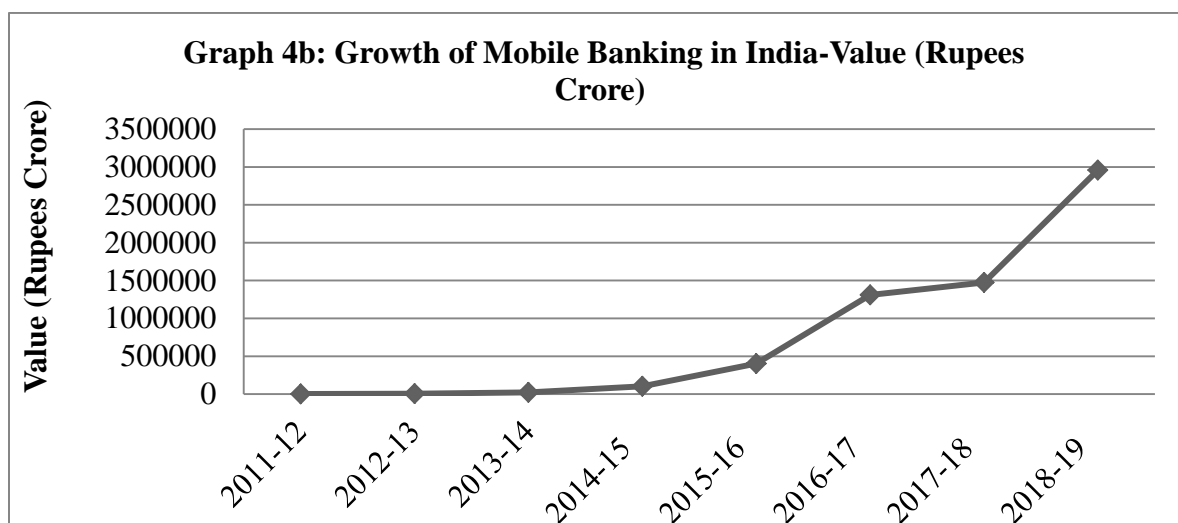


**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

The mobile banking is increasing rapidly in India in recent years. The decrease in prices of mobile phone and evolution in telecommunication industry given more boost to use of mobile phone in India and banking industry tapped this opportunity to increase the banking business. The mobile banking was negligible till 2013-14, but after that, it's increased with the CAGR of 119.13 per cent in terms of volume and 187.55 per cent in terms of value (Graph 3a & 3b).



**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.



**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

The analysis of both credit and debit cards shows that, in last three year, the growth rate of credit cards are more than the debit cards. The volume of credit cards increased with CAGR of

27.58 per cent, whereas debit cards increased by 14.87 per cent and the value also shows same trends (table 1).

**Table 1: Growth Rate of Numbers of Cards in India (%)**

Year	Credit Cards		Debit Cards	
	Vol.	Value	Vol.	Value
2012-13	23.92	27.13	6.76	19.92
2013-14	28.26	25.11	16.14	18.23
2014-15	20.97	23.51	16.36	14.03
2015-16	27.81	26.75	18.48	14.76
2016-17	38.13	35.91	18.55	-0.22
2017-18	29.21	39.67	8.97	24.86
2018-19	25.44	31.41	19.49	16.24
<b>CAGR</b>	<b>27.58%</b>	<b>29.81%</b>	<b>14.87%</b>	<b>15.16%</b>

**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

The usage of credit and debit cards shows that the use of credit cards are more at POS and debit cards at ATMs in India. But, in recent years, use of debit cards at POS are increasing and at ATMs are decreasing. This shows that, POS service is becoming more popular in India (table 2).

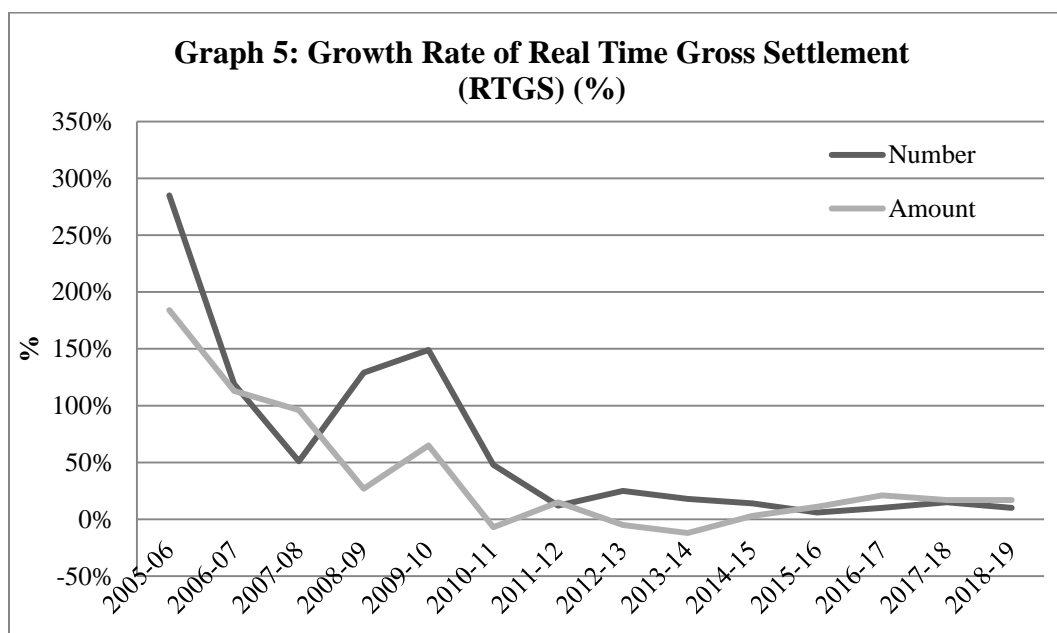
**Table 2: Share of Usage of Credit and Debit Cards in India (%)**

Year	Usage credit cards at ATMs		Usage credit cards at POS		Usage of debit cards at ATMs		Usage of debit cards at POS	
	% Share in Volume	% Share in Value	% Share in Volume	% Share in Value	% Share in Volume	% Share in Value	% Share in Volume	% Share in Value
2011-12	0.68	1.29	99.32	98.71	93.95	96.32	6.05	3.68
2012-13	0.63	1.16	99.37	98.84	91.92	95.74	8.08	4.26
2013-14	0.58	1.08	99.42	98.92	90.77	95.37	9.23	4.63
2014-15	0.69	1.22	99.31	98.78	89.65	94.83	10.35	5.17
2015-16	0.76	1.25	99.24	98.75	87.31	94.11	12.69	5.89
2016-17	0.58	0.86	99.42	99.14	78.11	87.74	21.89	12.26
2017-18	0.55	0.79	99.45	99.21	72.01	86.3	27.99	13.7
2018-19	0.55	0.75	99.45	99.25	69.07	84.8	30.93	15.2
<b>Total</b>	<b>0.61</b>	<b>0.94</b>	<b>99.39</b>	<b>99.06</b>	<b>81.21</b>	<b>90.68</b>	<b>18.79</b>	<b>9.32</b>
<b>CAGR</b>	<b>23.82</b>	<b>20.07%</b>	<b>27.60%</b>	<b>29.91%</b>	<b>9.93%</b>	<b>13.09%</b>	<b>45.00%</b>	<b>41.05%</b>

**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

As technology is changing so rapidly that some mode of banking services are also changing. If we look at the growth rate of real time gross settlement (RTGC) and electronic

clearing services (ECS) then it is confirmed that, now a days, the bank customer are using mobile banking and POS modes of payment than these. The growth rate of both payment mode is declined (graph 5 & table 3).



**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

**Table 3: Annual Growth Rate of Electronic Clearing Services (ECS) (%)**

Year	ECS /NECS (Credit)		ECS /NECS (Debit)	
	No.	Amt	No.	Amt
2004-05	97%	97%	94%	30%
2005-06	10%	60%	135%	345%
2006-07	56%	158%	109%	96%
2007-08	14%	839%	69%	92%
2008-09	13%	-88%	26%	37%
2009-10	11%	21%	-7%	4%
2010-11	20%	54%	5%	6%
2011-12	4%	1%	5%	13%
2012-13	1%	-4%	7%	30%
2013-14	25%	41%	9%	17%
2014-15	-24%	-19%	17%	37%
2015-16	-66%	-48%	-1%	-5%
2016-17	-74%	-86%	-96%	-98%
2017-18	-39%	-18%	-82%	-75%



2018-19	-13%	12%	-40%	29%
<b>CAGR</b>	<b>-8.50%</b>	<b>1.73%</b>	<b>-13.30%</b>	<b>-3.81%</b>

**Source:** RBI, Monthly Bulletin- December-2018, Reserve Bank of India and Report on Trend and Progress of Banking in India, 2018-19.

## **b. Factors Affecting the Uses of e-banking Services:**

### **i. Demographic Profile:**

The table 5 shows all the key variables related to demographic profile of the respondent. Out of the total respondents, 56.25 per cent were male and 43.75 per cent were female. The age-wise classification shows that, almost 50 per cent customer were from the 20 to 35 years age group and the lowest percentage were from less than 20 years age group, whereas more than 17 per cent were from the 50 and above years category. This shows that more than 75 per cent customer are from 20 to 50 years age group category. Around 81 per cent respondents were married, whereas 18.75 per cent were unmarried.

**Table 5: Demographic Profile of Respondent**

<b>Characteristics</b>		<b>Frequency</b>	<b>% to Total</b>
<b>Gender</b>	Male	45	56.25
	Female	35	43.75
<b>Age (Years)</b>	Less Than 20	6	7.50
	20 To 35	40	50.00
	36 To 50	20	25.00
	50 And Above	14	17.50
<b>Marital Status</b>	Married	65	81.25
	Unmarried	15	18.75
<b>Education Level</b>	High School	24	30.00
	Bachelor Degree	47	58.75
	Master Degree	7	8.75
	Doctorate Degree	2	2.50
<b>Occupation</b>	Service Class	40	50.00
	Business Class	28	25.00
	Professional	7	8.75
	Other	5	6.25
<b>Annual Income (in Rs)</b>	Less Than Rs. 2,00,000	14	17.50
	Rs. 2,00,000 - Rs. 4,00,000	5	6.25

	Rs. 4,00,000 - Rs. 6,00,000	36	45.00
	More Than Rs. 6,00,000	25	31.25

**Source:** Primary data

The education qualification of respondents reveals that, more than 58 per cent were having bachelor degree and 30 per cent were carries high school level education but only 2.50 per cent were with the doctorate. The occupation-wise classification shows, the 50 per cent respondent were from service class whereas 25 per cent were from business class. Reaming 15 per cent respondents were from professional and others category of occupation. The majority of respondent were from 4 lakh to more than 6 lakh income category (more than 75 per cent), and more than 17 per cent respond from less than 2 lakh income group category.

## ii. Service quality of e-banking:

**H0-**There is no significant difference between mean of rating for quality of various e-banking services by all types of banks.

**H1-** There is significant difference between mean of rating for quality of various e-banking services by all types of banks.

To understand the quality of e-banking services, the analysis is carried out to identify the mean rating variation in different e banking services, mobile banking services, internet banking services, tele- banking services, bill payment facility, ATM facility, credit card facility, EFT facility, debit card facility provided by public sector bank, private sector bank, urban co-operative bank and foreign bank. The null hypothesis is assumed that there is no significant difference between mean of rating for quality of various e-banking services by all types of banks and alternative hypothesis is that there is significant difference between mean of rating for quality of various e-banking services by all types of banks. The mean of rating by respondent have been compared between more than two groups by using ANOVA followed by post-hoc test for group-wise comparison. In case of mobile banking services and tele-banking services, the difference between at least two types of bank is statistically significant with *p value* less than 0.05. It can be said that there is significant mean change in rating of mobile banking services and tele-banking services. In case of other e-banking services the mean rating are not statistically significant having *p value* more than 0.05 in all cases. It means the e-banking services other than mobile banking services and tele-banking services are having similar pattern. Therefore,

alternative hypothesis is accepted for only mobile banking services and tele-banking services by all banks (Table 6).

Moreover, the test of homogeneity of variances that is the Levene statistic is used to find out nature of data. The Levene statistic shows that data of mobile banking services is Homogenous) and tele-banking services is heterogeneous, so, we have used Least significant difference (LSD) and Dunnett T3 respectively to see the significant changes between the various types of banks.

**Table 6: One Way ANOVA**

Groups	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Mobile banking services	Between Groups	9.437	3	3.146	2.664	<b>.050*</b>
	Within Groups	89.750	76	1.181		
	Total	99.188	79			
Internet banking services	Between Groups	3.900	3	1.300	1.119	.347
	Within Groups	88.300	76	1.162		
	Total	92.200	79			
Tele- banking services	Between Groups	9.850	3	3.283	3.480	<b>.020*</b>
	Within Groups	71.700	76	.943		
	Total	81.550	79			
Bill Payment facility	Between Groups	1.738	3	.579	.613	.608
	Within Groups	71.750	76	.944		
	Total	73.488	79			
ATM facility	Between Groups	1.050	3	.350	.339	.797
	Within Groups	78.500	76	1.033		
	Total	79.550	79			
Credit card facility	Between Groups	2.738	3	.913	.721	.542
	Within Groups	96.150	76	1.265		
	Total	98.888	79			
EFT facility	Between Groups	3.938	3	1.313	1.280	.287
	Within Groups	77.950	76	1.026		
	Total	81.888	79			
Debit Card facility	Between Groups	2.238	3	.746	.903	.444
	Within Groups	62.750	76	.826		
	Total	64.988	79			

The mean difference is significant at the .05 level, \* denotes the significant value.

The analysis clarifies that there is statistically different pattern for rating of quality of mobile banking services between public sector and private sector bank as their *p value* are less than 0.05. The quality of mobile banking services of urban co-operative bank and foreign bank are having similar pattern. The quality of mobile banking services by public sector and private sector banks are in good mode as the mean of rating for these banks are 4.1 and 3.9 respectively in Likert-scale responses 5 points. That means public and private sector banks are provide good quality of mobile banks services to the customer. And, there is no statistically different pattern

for rating of quality of tele-banking services. That means, all type of banks are providing similar tele-banking services to the customer.

### iii. Duration of Use of E-Banking Services:

Table 7 shows the duration of using e-banking services. More than 37 per cent respondents are using mobile banking services for more than 3 years while 11 per cent respondents are using this service for less than 1 year. The tele-banking service is used by 30 per cent respondent for 2-3 years duration. The internet banking facility was used by 36.25 per cent respondent for more than 3 years. Around 25 per cent respondents are using this service for 1-2 years. Majority of respondents (46 per cent) are using the credit card facility for less than 1 year. The use of ATM facility and debit card facility are for more than 3 years by around 62.5 per cent respondent and more than 7 per cent respondent are using these services for less than 1 year.

**Table 7: Likert-scale responses and means of duration of uses of E-banking services**

<b>E-banking Services</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Mean</b>	<b>Results</b>
Mobile Banking services	9	17	24	30	2.09	<i>1 to 2 years</i>
Internet Banking services	9	20	22	29	2.08	<i>1 to 2 years</i>
Tele-Banking services	18	19	24	19	2.55	<i>2 to 3 years</i>
Bill Payment facility	15	21	18	26	2.68	<i>2 to 3 years</i>
ATM -Automated Teller Machine facility	6	9	15	50	3.36	<i>More than 3 years</i>
Credit Card facility	37	14	16	13	2.06	<i>1 to 2 years</i>
EFT-Electronic Fund Transfer facility	13	17	24	26	2.78	<i>2 to 3 years</i>
Debit Card facility	5	7	18	50	3.41	<i>More than 3 years</i>

**Source:** Primary Data

**Note:** 1= Less than 1 year, 2= 1 year to 2 years, 3= 2 year to 3 years, 4= More than 3 years.

The four point likert-scale is considered an interval scale. If the mean is from 1 to 1.75, it means average respondent are using e-banking services for less than 1 year, from 1.75 to 2.50 means for 1-2 years, from 2.50 to 3.25 means for 2-3 years and from 3.25 to 4 means for more than 3 years. The likert-scale responses and mean analysis shows, ATM and debit card facilities are used for more than 3 years with mean 3.36 and 3.41 respectively whereas the uses of mobile banking, credit card facility and internet banking services are for 1-2 years with the mean 2.09, 2.06 and 2.08 respectively. Its shows, the uses of e-banking services like mobile banking, credit card facility and internet banking services are becoming popular among various respondent in recent period.

#### iv. Comfort Level for E-banking:

Any new technology, adoptability directly varies with the comfortableness of the use of that technology. Table 8 shows the more than 28 per cent respondents are somewhat uncomfortable with using mobile banking services, while 41 per cent says they are very comfortable with this e-banking service. The 49 per cent respondents are not comfortable with the use of internet banking service; only 16 per cent are comfortable while using this e-banking service. Out of total respondents, 51 per cent and 44 per cent are very comfortable while using debit card and ATM facility respectively. But, only 24 per cent respondents are comfortable while using of bill payment facility whereas 29 per cent are neither comfortable nor uncomfortable while using tele-banking services.

**Table 8: Likert-scale responses and means of comfort level while using e-banking services**

E-banking Services	1	2	3	4	5	Mean	Result
Mobile Banking services	6	23	3	15	33	3.57	<i>Somewhat Comfortable</i>
Internet Banking services	7	32	28	3	10	2.03	<i>Somewhat Uncomfortable</i>
Tele-Banking services	13	9	20	23	15	3.18	<i>Neither Comfortable nor Uncomfortable</i>
Bill Payment facility	10	16	4	31	19	3.56	<i>Somewhat Comfortable</i>
ATM -Automated Teller Machine facility	8	12	4	21	35	4.28	<i>Very Comfortable</i>
Credit Card facility	16	16	26	12	10	3.20	<i>Neither Comfortable nor Uncomfortable</i>
EFT-Electronic Fund Transfer facility	9	15	9	24	23	3.47	<i>Somewhat Comfortable</i>
Debit Card facility	5	17	3	14	41	4.36	<i>Very Comfortable</i>

**Source:** Primary data

**Note:** 1 Very Uncomfortable, 2 Somewhat Uncomfortable, 3 Neither Comfortable nor Uncomfortable, 4 Somewhat Comfortable, 5 Very Comfortable.

The five point likert-scale is considered an interval scale. If the mean is from 1 to 1.80, it means average respondent are very uncomfortable while using e-banking services, from 1.80 to 2.60 means somewhat uncomfortable, from 2.60 to 3.40 means neither comfortable nor uncomfortable, from 3.40 to 4.20 means somewhat comfortable and from 4.20 to 5 means respondents are very comfortable. The likert-scale responses and mean analysis shows that, average respondents are very comfortable while using debit card and ATM facilities with the

mean 4.36 and 4.28 respectively whereas the respondents are somewhat uncomfortable while using mobile banking service with the 2.03 as lowest mean. The comfortable level is also higher for mobile banking service and bill payment facility with the 3.57 and 3.56 mean respectively. About the tele-banking services and credit card facility respondents are neither comfortable nor uncomfortable with the mean range between 2.60 to 3.40 interval scales. Its shows, the comfortable level is higher with the ATM and debit card facility whereas respondents are not comfortable while using internet banking services.

v. **Satisfaction level for Grievance Settlement System:**

Due to increase in competition, many banks started uses of modern technology. The e-banking is a fast, safe, easy and efficient electronic services provided by various banks through these technology to perform various activities. Various banks have taken initiative to create awareness among the customer about these e-banking services and also they have created separate grievance settlement system. Under this system, they address various issues faced by the customer while using e-banking services.

Table 9 shows the rating of likert-scale responses and mean of satisfaction level for grievance settlement system. Out of total, 51 per cent respondents are satisfied with the grievance settlement system of mobile banking services whereas 8 per cent are dissatisfied with the same e-banking services. The majority of the respondents (86 per cent) are not satisfied with the grievance settlement system of internet banking services. The respondents are satisfied with the grievance settlement system of bill payment facility, credit card facility and electronic fund transfer facility provided by various banks. Moreover, the 45 per cent and 40 per cent respondents are very satisfied with the grievance settlement system of ATM and debit card facility respectively.

**Table 9: Likert-scale responses and means of satisfaction level for grievance settlement system of e-banking services**

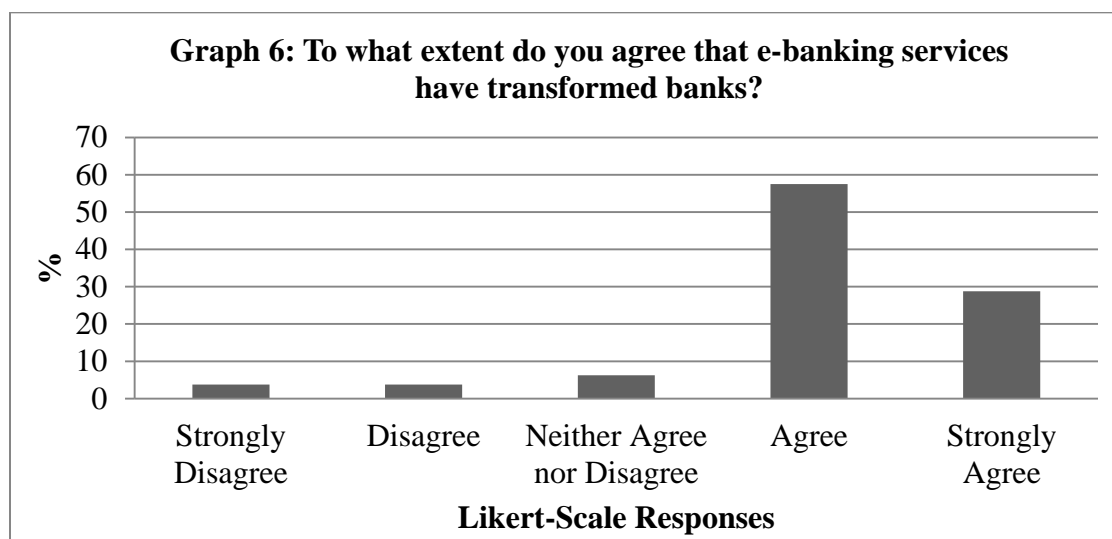
<b>E-banking Services</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Mean</b>	<b>Result</b>
Mobile Banking services	3	6	10	41	20	3.86	<i>Satisfied</i>
Internet Banking services	19	40	10	7	4	2.50	<i>Dissatisfied</i>
Tele-Banking services	5	3	41	18	13	3.20	<i>Neither Satisfied nor Dissatisfied</i>
Bill Payment facility	1	5	16	42	16	3.83	<i>Satisfied</i>
ATM -Automated Teller Machine facility	1	9	11	23	36	4.38	<i>Very Satisfied</i>
Credit Card facility	5	10	15	33	17	3.58	<i>Satisfied</i>

EFT-Electronic Fund Transfer facility	4	7	18	33	18	3.67	<i>Satisfied</i>
Debit Card facility	1	7	8	32	32	4.48	<i>Very Satisfied</i>

**Source:** Primary data

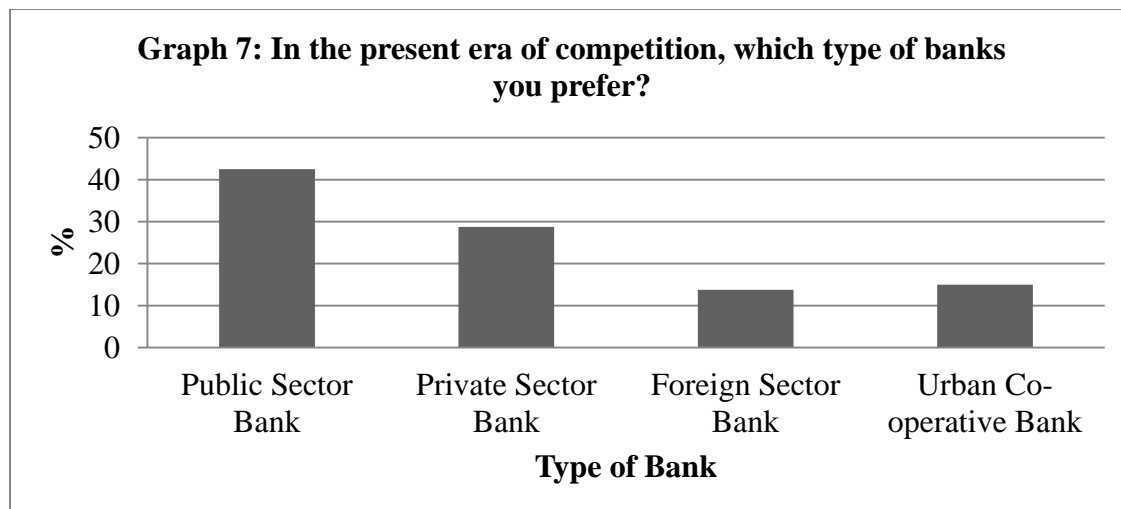
**Note:** 1 Very Dissatisfied, 2 Dissatisfied, 3 Neither Satisfied nor Dissatisfied, 4 Satisfied, 5 Very Satisfied.

The likert-scale responses and mean analysis shows that, the respondents are very satisfied about grievance settlement system of debit card and ATM facility with the mean 4.48 and 4.38 respectively. But the respondents are not satisfied with grievance settlement system of internet banking services. About the tele-banking services respondents are neither satisfied nor dissatisfied with the mean range between 2.60 to 3.40 interval scales. That means, banks should improve the grievance settlement system for internet banking and tele-banking service and also they should introduce various techno savvy methods in grievance settlement system.



**Source:** Primary data

The e-banking services are changing way of banking service in the recent year. It helps to increase financial inclusion the India. The respondents are in opinion that e-banking services are transforming entire banking system. Out of total, 68 per cent are agreed with the statement that e-banking services have transformed banks (Graph 6).



**Source:** Primary data

In this new technology era banking sector is changing rapidly. But still, out of total, 43 per cent respondents prefer public sector bank as preferred bank among others and 29 per cent prefer private sector bank. The preference for foreign sector bank is 14 per cent (Graph 7).

#### vi. Problems While using e-banking services:

Table 10 shows the likert scale response and ranks of problems while using e-banking services. From pre study discussion with key informant, we have listed the problems faced by customer while using e-banking services. Those problems are related to various aspects of e-banking services. Out of total respondents, 41 per cent strongly agreed that the connectivity problem is the obstacle in the uses of e-banking services; whereas 5 per cent are strongly disagreeing with this problem. The deduction of balance without withdrawal is not major problem, however 54 per cent respondents are agreed that the less number of ATMs is the major constrain while using e-banking services.

**Table 10: Likert-scale responses and ranks of problems while using e-banking services**

Problems	1	2	3	4	5	Total	Weighted Total	RII	Ranks
Connectivity problem	4	6	26	11	33	80	303	0.758	1
Deduction of balance without withdrawal	6	19	24	23	8	80	248	0.620	5
Less number of ATMs	6	6	25	29	14	80	279	0.698	2
Inconvenient location of ATMs	8	10	22	22	18	80	272	0.680	4



High interest rates for Credit Cards	33	29	12	3	3	80	154	0.385	7
Ignorance of staff members	4	9	27	27	13	80	276	0.690	3
Loss of personal information	12	15	31	14	8	80	231	0.578	6

**Source:** Primary data

**Note:** 1 Strongly Disagree, 2 Disagree, 3 Neither Agree nor Disagree, 4 Agree, 5 Strongly Agree.

The 23 per cent respondents are in opinion that, inconvenient locations of ATMs are the major barrier in uses of e-banking. Out of total respondents, 78 per cent are disagree with the problem of high interest rates for credit cards is the problems while suing e-banking services, but, 39 per cent respondents are neither agree nor disagree on the loss of personal information while using e-banking services.

The likert-scale responses and Relative Importance Index (RII) analysis shows that, the respondents are strongly agreed with the connectivity problem while using e-banking with the 1<sup>st</sup> rank as per RII. Moreover, less number of ATMs is also major constrain in the uses of e-banking with the 2<sup>nd</sup> rank. However, high interest rate for credit card is not major difficulty in using e-banking services. The RII rank is lowest (7<sup>th</sup>) for this problem. Additions to this, the respondents are not agreed with the problem of loss of personal information while using e-banking services with the 6<sup>th</sup> rank. It means, the major problems are connectivity problem, less number of ATMs and ignorance of staff members.

#### vii. Suggestions to improvement in e-banking services:

Table 11 shows the likert-scale responses and ranks of suggestions to improve in e-banking services. Out of total respondents, 69 per cent are in opinion that banks should conduct more staff training programmes whereas 73 per cent suggested that there is need to conduct customer education programmes to improve e-banking services.

**Table 11: Likert-scale responses and ranks of Suggestions to improve in e-banking services**

Suggestions	1	2	3	4	5	Total	Weighted total	RII	Ranks
To conduct more staff training programmes	3	3	19	27	28	80	314	0.785	1
More transparency is required in the services	5	2	14	33	26	80	313	0.783	2
To conduct customer education programmes	3	6	13	33	25	80	311	0.778	3

To inform about new products and services through E-mail	2	9	16	32	21	80	301	0.753	5
To conduct demo-fare regarding E-Banking services	5	6	10	39	20	80	303	0.758	4
Making working hours more flexible	5	5	34	25	11	80	272	0.680	6

**Source:** Primary data

Note: 5 Strongly Agree, 4 Agree, 3 Neither Agree nor Disagree, 2 Disagree, 1 Strongly Disagree.

The majority of respondent suggested that banks should give information about new product and various services through e-mail and conduct demo-fare regarding e-banking services. However, regarding making working hours more flexible, majority of respondents are neither agree nor disagree.

The likert-scale responses and Relative Importance Index analysis shows that, majority of the respondents are given suggestions to conduct more staff training programmes with 1<sup>st</sup> rank and more transparency is required in the services with 2<sup>nd</sup> rank. They have also suggested that conduct customer education programmes, conduct demo-fare regarding e-banking services and inform about new products and services through e-mail. It means, more staff training and awareness related activities are required to increase uses of e-banking services.

## V. Summary:

The use of e-banking services increased rapidly in recent period. From above study the following important conclusions can be derived:

Firstly, the public and private sector banks are providing good quality of mobile banks services to the customer. Secondly, the uses of e-banking services like mobile banking, credit card facility and internet banking services are becoming popular in recent period. Thirdly, the comfortable level is higher with the ATM and debit card facility whereas customers are not comfortable while using internet banking services. Finally, the major problems in use of e-banking services are connectivity problem, less number of ATMs and ignorance of staff members. So, financial institutions should take initiatives for staff training and awareness related activities to increase uses of e-banking services.

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