

# **CUSTOMER RETENTION AND CUSTOMER SATISFACTION IN RELATION TO E-BANKING**

Ph.D. THESIS SUBMITTED IN FULFILLMENT  
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**Doctor of Philosophy**

**SUBMITTED BY**

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## DECLARATION

*I hereby declare that this thesis entitled “CUSTOMER RETENTION AND CUSTOMER SATISFACTION IN RELATION TO E-BANKING” is an original work done by me for the award of the degree of Doctor of Philosophy in Management. I also declare that this thesis or any part of it has not been submitted by me for the award of any degree, diploma, title or recognition before.*

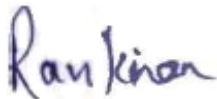
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Patiala  
October 21, 2015

NAVNEET KAUR

## ***CERTIFICATE***

*Certified that the thesis entitled 'CUSTOMER RETENTION AND CUSTOMER SATISFACTION IN RELATION TO E-BANKING' which is being submitted by Ms. Navneet Kaur, in fulfillment of the requirements for award of the Degree of Doctor of Philosophy in Management, Thapar University, Patiala, is a record of candidate's own work, carried out by her under my supervision and guidance. The matter embodied in this thesis has not been submitted in part or full to any other University or Institute for the award of any degree.*



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*Date: 21.10.2015*

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“The depth and the willingness with which we serve is a direct reflection of our gratitude.”

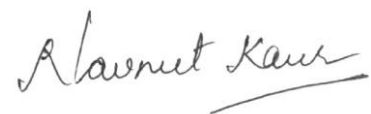
Sometimes words get limited when it comes to express deep and hearty regards for an inspirational experience of life. I feel myself lucky to come near the milestone which I desperately wanted and finalizing this research is one of those atypical beautiful moments of my life.

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(Navneet Kaur)

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## ABSTRACT

In recent years, the banking industry around the world has been undergoing a rapid transformation and the Indian financial market is also witnessing a significant change in its growth pattern. The intensification of information technology has facilitated better tracking and fulfillment of commitments and multiple delivery channels for online customers. In India too, the wave of deregulation in the early 1990s has created heightened competition and greater risks for banks and financial intermediaries. Today, customers demand higher quality services from banks which, if fulfilled, could result in significantly improved customer satisfaction levels. Customer satisfaction and customer retention have received considerable attention from banking and marketing researchers and have been studied extensively in offline banking. With the emergence of tech-savvy environment and proliferation of electronic commerce, there is both a need and opportunity to examine Customer satisfaction and Customer retention in relation to online banking. Previous banking studies on customer retention focused narrowly on customer loyalty and customer satisfaction without attempting to link them in a model to further explore or explain customer retention. If retention criteria are not well managed, customers may still leave their banks, regardless of how hard bankers try to retain them. This study empirically examines the potential constructs in customer retention and customer satisfaction. So there was a need to present a comprehensive, integrated and holistic approach for designing a structural model for enhancing customer satisfaction and customer retention. The current research uses a questionnaire-based primary data to uncover the determinants of customer satisfaction and customer retention. For conducting customers' survey, Likert scale based questionnaire was developed after review of literature and discussions with bank managers as well as academicians. The study is unique in its endeavor as it covers the attitude of users towards e-banking focusing on four factors, viz. convenience, costs, security and technology and relates this with customer satisfaction, which influences customer retention. Collected data was analyzed using statistical methods viz. descriptive statistics, ANOVA, factor analysis, regression and structural equation modeling.

The regression results confirmed that customer satisfaction is related with customer retention in the context of e-banking. There are ten determinants of customer satisfaction of e-banking. The determinants of customer retention that emerge through factor analysis are: customer loyalty (CR1), technology invasion (CR2) and security & virtual banking

(CR3). Customer loyalty (CR1) is relatively important factor influencing customer retention. The effective determinants of customer satisfaction influencing customer retention selected through regression are: Technology Adoption, Confidence, Ease of Use, Personal Services, Channel Activity and Relation among staff.

The study also tried to find the difference in the attitude of users and non-users regarding convenience, security, cost and technology. The results for ANOVA for users and non-users highlight that there is a significant difference in attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.

The structural model depicting relation among attitude of users, customer satisfaction and customer retention is a good fit model showing that there is a positive relation between customer satisfaction and customer retention. The present study suggests that there is a need to focus on security dimensions with greater impetus to enthuse customer confidence in e-banking.

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# **CHAPTER – I**

## **INTRODUCTION**

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This chapter introduces the research problem. Section 1.1 covers the introduction of the topic. Section 1.2 covers the evolution and development of e-banking. In Section 1.3, current Indian scenario of e-banking services has been highlighted. Section 1.4 presents the theoretical background for the study. Section 1.5 covers the research objectives. Section 1.6 covers the significance of the study. Section 1.7 presents the implications of the study. Section 1.8 presents the organization of the thesis.

### **1.1 Introduction**

Innovate or evaporate is the success mantra followed by banking sector to prosper in the present age of competitive market by focusing on improvements in the current banking system. With the advent of information technology, banking innovation involves paying more attention and resources towards electronic delivery channels. The use of technology by the banking sector has been a key focus area over the past two decades. E-innovations in banking sector not only enable a bank for faster penetration but also augment its capacity for unprecedented growth. Information technology in banking sector has structured itself as an important pillar on which foundations of better productivity and enhanced efficiency are stacked for improving profitability, reduction in cost and better control (Girish and Peetha 1997; Furash, 1999; Robinson, 1998). And for customers, it is the achievement of their ‘anywhere, anyway, anytime’ banking dream. This has impelled the banks to focus on the new electronic relationship with their customers. Customer satisfaction and customer retention are increasingly developing into key success factors in e-banking. Most importantly, profitable e-banking requires a strong focus not only on the acquisition of new customers but also on retention of the existing customers. It may be worth to note that the acquisition cost in online banking exceeds that of traditional off line business by around 20-40 per cent (Reibstein, 2002; Reichheld and Schefter, 2000). Consequently, establishing long-term customer relationship is important for creating positive customer value.

## **1.2 Evolution and Development of E-banking in India**

E-banking encompasses numerous electronic services. Developed countries have fully operational virtual banks that include all banking activities in e-banking. It is highlighted by International Monetary Fund (IMF, 2001) that e-banking includes providing all banking products and services through electronic delivery channels, including internet banking, telephone banking and other electronic delivery channels with its roots in the provision of services through electronic means such as ATMs and telephone transactions. While in the UK, debit cards and credit cards are used extensively for making online payments which are integral part of e-banking operations and all statements are generated automatically. Indian banking system has also undergone technological changes that comprises of Automated Teller Machines (ATM), Electronic clearing cards like Debit and Credit Cards, Internet banking, Mobile banking, Tele banking, Electronic clearing services, Electronic Fund transfer, Smart cards and some Prepaid payment instruments (Malik, 2014).

E-banking involves consumers using the Internet to access their bank account and for undertaking banking transactions anywhere in the world. At the basic level, internet banking can mean setting up of a web page by a bank to provide information about its product and services. At an advanced level, it may involve provision of facilities like accessing accounts, transfer of funds, buying of financial products or services online. This is known as ‘transactional’ online banking (Sathye, 1999).

Evolution of e-banking in India can be traced to 1996. Indian banking industry, today is in midst of an IT revolution and this has led to increasing automation in the banking sector. New private sector banks and foreign sector banks have an edge over public sector banks as far as implementation of technological advances is concerned (Vyas, 2004). However, over the past few years, the latter are also in the process of making strides in putting investment in technology. ICICI Bank and HDFC Bank have taken a lead in introducing e-banking in India. ICICI Bank was the first bank in India to introduce Internet banking for a limited range of services, such as access to account information and correspondence for the first time way back in 1996 and later started funds transfer between its branches (Rajneesh and Padmanabhan, 2002). Later on ICICI also got into e-trading, hence offering a broader range of integrated products and services to the customer. Though 1996-98 is the period of Internet banking adoption in India, its usage

gained importance in 1999 after ICICI Bank, HDFC Bank, Citibank, IndusInd Bank adopted the technology.

E-banking is subject to various laws, rules and regulations in India viz. Banking Regulations Act, 1949, the Reserve Bank of India Act, 1934, Information Technology Act, 2000, Indian Contract Act, 1872, Indian Evidence Act, 1872, Foreign Exchange Management Act, 1999, the Negotiable Instruments Act, 1881 etc. These laws and regulations are meant for safe and secure e-transactions. A study conducted by Gupta (2006) highlighted that in developed countries various data protection provisions and broad regulatory framework for e-banking exists but in India, it is in its formative stage of development.

In due course of time, considerable progress has been made in consolidating existing payment systems and in upgrading technology with a view to establish an efficient, integrated and more secure system functioning in a real-time environment. Major projects implemented have been electronic clearing, centralized funds management, structured financial messaging solutions and Indian Financial Network (INFINET). Facilities under Electronic Funds Transfer (EFT) have been upgraded and spatial reach expanded with multiple settlements possible in a day. Foreign exchange clearing has been carried out through Clearing Corporation of India Limited (CCIL). Adequate security features are being incorporated into the Electronic Funds Transfer. Real time gross settlement (RTGS) has also been functioning effectively (RBI, 2001). There is a lot of scope for banking institutions to expand their internet banking services to have a more sophisticated customer base.

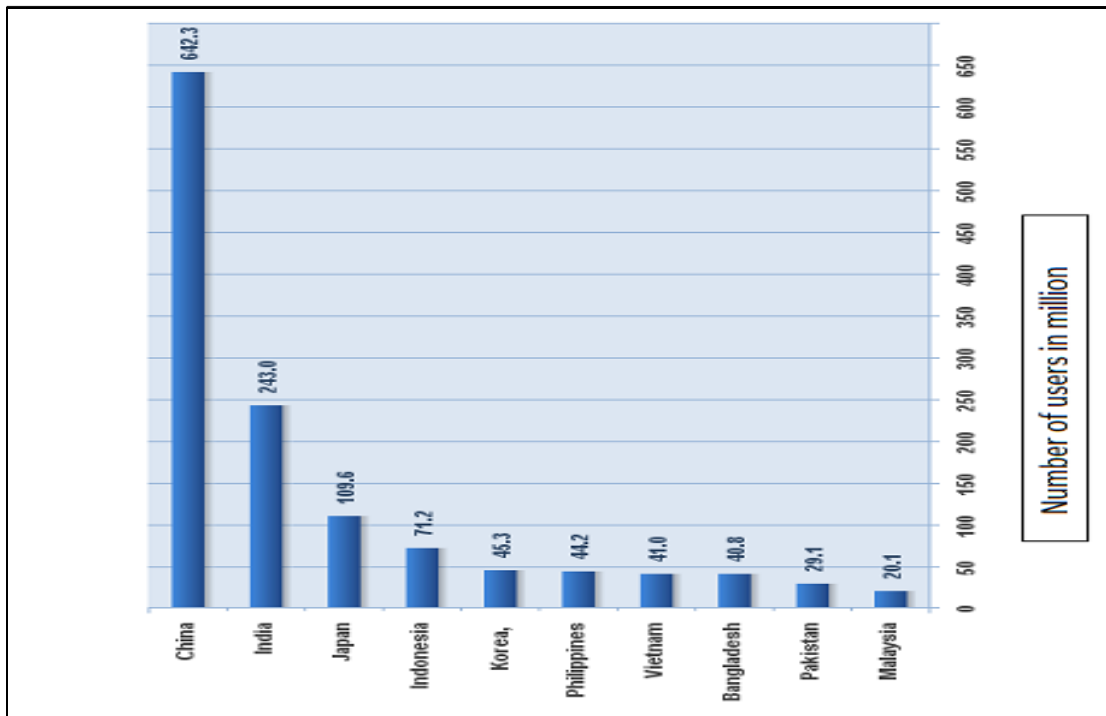
Traditionally, banks always maintained a close relationship with their customers. They know them as individuals and have generally satisfied their needs through customized or tailor made services. There has been tremendous increase in the competition within banking industry due to enormous growth of e-banking services. These days' e-banking customers are just 'a click away' from the competition. Recent trends show that most banks are shifting from a 'product-centric' model to a 'customer-centric' model as they develop their new e-banking capabilities by putting more focus on investment in information and technology. The delivery channels include direct dial-up connections, private networks; public networks etc. The devices generally include computers, ATMs, telephones, etc.(Christolov and Marianne, 2004). With the ever increasing attractiveness

of personal computers and easier access over internet, banks are increasingly using internet as a channel for receiving instructions from their customers and then delivering their services to them online. This form of banking is referred to as e-banking, though the range of services/ products offered by various banks differ extensively, both in content as well as in technology (RBI, 2001).

In India there are 26 public sector banks (State Bank of India and its 5 associates, 19 nationalized banks and IDBI Bank Ltd.), 7 new private sector banks, 13 old private sector banks and 43 foreign sector banks. Presently all branches of public sector ones are fully computerized and these branches are on CORE (Centralized online real time exchange) banking platform (RBI, 2014). While the entire banking industry is moving fast to improve the information technology infrastructure and to implement core-banking solution to integrate the entire banking operations, it is very much important to study in the Indian context how much computerization has influenced the customer satisfaction and retention level and thereby how banks are making their customers loyal and satisfied by providing them better innovative services. As IT services have exploded into the Indian banking only in the last few years, not many research works are documented in Indian context especially on customer retention and customer satisfaction in e-banking sector.

### **1.3 E-banking services in India: Current Scenario**

All the scheduled banks operating in India were fully computerized in the year 2012-2013 and all branches are now on core banking platform (RBI, 2013). Out of 1.3 billion population, 243 million customers are using Internet services by June 2014 as per Figure 1.1. It has been revealed that 10% of these customers are using e-banking services (internetworldstats.com). Mckinsey studies on Digital Banking (2014) in Asia predicted that the number of digital banking customers in India will rise to 450 million by 2020. Digital payment industry is witnessing a high growth and will be chiefly harvesting through e-commerce market. It was valued around \$16 billion in 2013 and is expected to reach \$56 billion by 2023. These estimations may keep its pace famished as around 50 % of Indian population is of working professionals and belongs to the age group of 18-35 years. This may act as a catalyst for pushing up e-commerce market in India as 90% of online shoppers are falling under this age group (Kohli, 2014).



**Figure 1.1: Top 10 Countries of Asia indicating Internet users in the respective countries**

(Source: [www.internetworldstats.com/stats3.htm](http://www.internetworldstats.com/stats3.htm))

RBI prepared Vision Document 2012-15 which aimed at promoting cash less and paper less system with greater emphasis on using electronic payment products and services, especially by the customers who are still not using these services. Banks have started sending accounts statements to the customers over e-mail and are moving towards abolishing the traditional paper statements (RBI, 2012). Gimmicks like zero surcharge offers, cash back schemes; gift coupons on Debit/Credit Cards are attracting newer customers to exercise electronic money in India. Various electronic modes available in Indian banking sector along with overall growth rate calculated are explained below:

### 1.3.1 ATM card

Automatic Teller Machine is an electronic telecommunication device that enables the banking customer to execute financial transactions like checking of balance, electronic payment withdrawal of money, asking for cheque book etc. without the need for a human being to guide him. The penetration of ATMs across the country increased in 2013-14 with the total number of ATMs estimated to be 176410 signifying a double digit growth during the year. The overall growth rate for scheduled commercial banks in case of ATM in India for the period 2007 to 2014 is 2.56. Table 1.1 is clearly indicating that public sector banks have highest number of ATMs installed in the country and overall

growth rate of public sector banks is also the highest i.e. 2.64 followed by private sector banks (2.49) and foreign sector banks having overall growth rate of 1.86.

**Table 1.1: Number of ATMs**

S. No.	Year	Public Sector Banks (a)	Private Sector Banks (b)	Foreign Sector Banks(c)	Scheduled Commercial Banks (a+b+c)
1.	2007-08	21788	11967	1034	34789
2.	2008-09	27277	15320	1054	43651
3.	2009-10	40680	18447	1026	60153
4.	2010-11	49487	23651	1367	74505
5.	2011-12	58193	36079	1414	95686
6.	2012-13	69652	43101	1261	114014
7.	2013-14	124710	50567	1133	176410
Overall Growth Rate*		2.64	2.49	1.86	2.56

(Source: RBI Annual Publications) (\* Self computed)

Non-banking Financial Corporations (NBFCs) are allowed to set up ATMs as per the recent policy initiative and operate ATMs which are termed as White Label ATMs (WLAs) and it is evident that the number of ATMs is likely to manifold in the coming years (Gupta, 2011).

### **1.3.2 Debit cards**

Debit cards are plastic payment instruments that offer access to cardholder for operating his bank transactions online. Some cards may bear a stored value with which a payment is made, while some relay a message to the cardholder's bank to withdraw funds from a payer's account. Till date, debit cards have gained more popularity than credit cards in India and public sector banks have been frontrunners in issuing debit cards.

**Table 1.2: Outstanding Number of Debit Cards**

(in millions)

S. No.	Year Ending	Public Sector Banks (a)	Private Sector Banks (b)	Foreign Sector Banks (c)	Scheduled Commercial Banks (a+b+c)
1.	2007-08	64.33	34.10	4.02	102.45
2.	2008-09	91.7	41.34	4.39	137.43
3.	2009-10	129.69	47.85	4.43	181.97
4.	2010-11	170.34	53.58	3.92	227.84
5.	2011-12	214.59	59.89	3.80	278.28
6.	2012-13	260.56	67.29	3.34	331.20
7.	2013-14	315.97	75.21	3.24	394.42
Overall Growth Rate*		1.52	1.36	2.93	1.49

(Source: RBI Annual Publications) (\* Self computed)

Table 1.2 clearly indicates that Public sector banks have issued highest number of debit cards to its customers till date and its overall growth rate is 1.52 for the period 2007 to 2014 as comparable to growth rates of private sector banks which is 1.36 and foreign banks have growth rate of 2.93. Many of the scheduled banks in India issue Visa Debit Cards, while there are certain renowned banks that issue Maestro Debit Cards like Citibank and State Bank of India etc. The transactions on these debit cards are usually routed through Visa or MasterCard networks rather than routing via the issuing bank (RBI, 2014).

### 1.3.3 Credit Cards

Credit card is also a plastic payment card issued by banks with distinct feature of providing option to the cardholder for borrowing funds, usually at the point of sale. Credit Cards are generally short-term financing tool that impose interest on the amount borrowed by the cardholder. Borrowing limits are fixed by the banker according to the customer's credit worthiness and amount of interest starts to accrue one month after a purchase is made. Credit cards carry high interest rates as compared to the ones involved in any other kind of borrowings (around 36% per year).

**Table 1.3: Outstanding Number of Credit Cards**

(in millions)

Sr. No.	Year	Public Sector Banks (a)	Private Sector Banks (b)	Foreign Sector Banks (c)	Scheduled Commercial Banks (a+b+c)
1	2007-2008	3.93	13.29	10.33	27.55
2	2008-2009	3.44	12.18	9.08	24.70
3	2009-2010	3.26	9.5	5.57	18.33
4	2010-2011	3.08	9.32	5.64	18.04
5	2011-2012	3.06	9.67	4.92	17.65
6	2012-2013	3.46	11.13	4.95	19.54
7	2013-2014	3.85	10.61	4.73	19.18
Overall Growth Rate*		2.43	1.54	1.12	1.19

(Source: RBI Annual Publications) (\* Self computed)

Table 1.3 is indicative that Private sector banks have taken a lead in issuance of credit cards in India followed by foreign sector banks and public sector banks. Public sector banks have higher growth rate for the period 2007 to 2014 as compared to private and foreign sector banks. The overall growth rate of scheduled commercial banks is 1.19.

#### 1.3.4 E-banking and Payment settlement system

Internet banking is an electronic banking system which helps banking customers to carry out various financial transactions on a website operated by the institution. Online banking is also referred as Internet banking, virtual banking or e-banking. This large adoption of plastic money and internet banking has been a driving force in the Indian digital payment industry for past few years. Improvement in usage of internet banking is evidenced by increased use of electronic modes of transaction settlements. National Electronic Funds Transfer (NEFT) and Real Time Gross Settlements (RTGS) have transformed the way funds transfers are being carried out by customers these days. RTGS transactions can be of value for more than Rs. 2 lakhs per day with maximum limit being Rs.10 lakhs per day. Getting away from 3-4 days for clearing and funds transferred, banks have moved to real-time transfers using online channels and mobile phones. For this purpose, quite recently banks in India have come up with IMPS (Instant Transfer to Other Banks) where one can save time on Sundays and other holidays when RTGS and NEFT does not work. Nearly about 90 per cent of the total settlement volumes in India have been carried through electronic modes as of August 2014 (RBI, 2014). The efforts made by the Reserve Bank in migrating to electronic payments are reflected in Table 1.4 and Table 1.5 as high volumes were witnessed under various electronic payment systems for the period

2007 to 2014. Alongside acceptance of electronic payments, the volumes processed under paper-based clearing systems, have started to show a decline in trend. Overall, payment and settlement systems registered a healthy growth at 23.2 per cent in volumes and 14.2 per cent in value during 2013-14.

**Table 1.4: Large Value Clearing and Settlement Systems**

<b>Real Time Gross Settlement System</b> (Number in Million and Amount in Rs. Billion)								
Year / Period	Customer remittance (1)		Inter-Bank remittance (2)		Inter-bank clearing settlement (3)		Total (1+2+3)	
	Number	Amount	Number	Amount	Number	Amount	Number	Amount
2007-08	4.15	161,001.73	1.69	112,181.57	0.0137	209,762.29	5.85	482,945.59
2008-09	11.23	200,041.08	2.13	122,757.73	0.0187	288,600.31	13.38	611,399.12
2009-10	30.44	295,167.77	2.80	99,365.82	0.0120	617,165.72	33.25	1,011,699.31
2010-11	45.73	361,862.93	3.53	123,009.41	0.0101	456,167.00	49.27	941,039.34
2011-12	51.02	395,244.50	4.01	144,062.97	0.0096	540,315.60	55.04	1,079,623.07
2012-13	63.99	512,997.84	4.52	163,843.20	0.009	349,509.02	68.52	1,026,350.05
2013-14	76.35	573,614.03	4.75	160,638.37	0.011	170,715.64	81.11	904,968.04
<b>Overall Growth Rate*</b>	1.38	1.47	1.33	2.22	2.68	2.97	1.37	1.27

(Source: RBI Yearly Statistical Reports, Database on Indian Economy) (\* Self computed)

Table 1.4 clearly indicated that during 2013-14, the RTGS processed around 81.11 million transactions valued at Rs. 905 trillion as against 68.52 million transactions valued at Rs. 1026 trillion during 2012-13. The number of RTGS enabled bank branches stand at 109,506 as on April 2014. The overall growth rate of transactions in volume and value through RTGS is 1.37 and 1.27 respectively.

National Electronic Funds Transfer is a countrywide payment system facilitating online funds transfer. Under this system, customers can electronically transfer funds from any branch of a bank to any customer having an account with a branch of even any other bank in country participating in the system. The minimum transaction amount starts from Re. 1 per day and maximum limit is Rs.10 lakh per day as per rules issued in February, 2015. Customer need not visit a bank physically along with cheque book to get the things done and more importantly, time taken for transaction is far less as compared to the one taken in traditional way.

**Table 1.5 Electronic Clearing Services (ECS), National Electronic Funds Transfer (NEFT/EFT)**  
(Number in million, Amount in Rs. billion)

Year/ Period	Electronic Clearing Services (ECS)				National Electronic Funds Transfer NEFT/EFT	
	ECS (Credit)		ECS (Debit)		Number	Amount
	Number	Amount	Number	Amount		
2007-08	78.37	7,822.22	127.12	489.37	13.32	1,403.26
2008-09	88.39	974.87	160.05	669.76	32.16	2,519.56
2009-10	98.13	1,176.13	149.28	695.24	66.34	4,095.07
2010-11	117.30	1,816.86	156.74	736.46	132.34	9,391.49
2011-12	121.50	1,837.84	164.74	833.55	226.11	17,903.50
2012-13	122.18	1,771.28	176.53	1,083.10	394.13	29,022.42
2013-14	152.54	2,492.19	192.91	1,267.96	661.01	43,785.52
Overall Growth Rate*	1.47	1.26	1.24	1.58	2.10	2.06

(Source: RBI Yearly Statistical Reports, Database on Indian Economy) (\* Self computed)

Table 1.5 highlights that during 2013-14, NEFT handled 661.01 million transactions valued at around Rs. 44 trillion (approx) as against 394.13 million transactions valued at around Rs. 29 trillion in 2012-13. In March 2014, NEFT processed a record volume of 82.8 million transactions. During 2013-14, the electronic clearing service (ECS) debit-handled 192.91 million transactions as against 176.53 million transactions in 2012-13. ECS credit processed 152.54 million transactions in 2013-14 which is more in comparison to 2012-13. With the increase in operation of regional electronic clearing service (RECS), volumes at many ECS centres have completely subsumed to RECS centres. The number of ECS centres now stands at 34 in addition to the 12 RECS centres and the national electronic clearing service (NECS) in Mumbai. The overall growth rate of NEFT is more as compared to ECS.

### **1.3.5 Depository services & other E-banking services:**

The trading in physical segment is full of inefficiencies due to handling of large volumes of certificates and also involves various other problems like delays in transfer, delay in settlement, loss in transit, mutilation of certificates, forgery certificates, stolen certificates, postal losses, litigation etc. To overcome these issues, a new system of trading, Depository system was introduced that facilitates the investor to hold securities in electronic form and to trade in these securities. The first depository set up in India is National Securities Depository Limited (NSDL) and is promoted by NSE, IDBI and UTI. NSDL is an Indian central securities depository based in Mumbai. It was established in 1995 as the first electronic securities depository in India with national

coverage based on a suggestion by a national institution responsible for economic development of India.

Other innovative e-banking tools used in India are prepaid instruments, Auto sweep facility etc. With an objective to deliver higher value for savings account customers, banks have designed savings accounts with an auto sweep facility. The product feature works in a way that when the balance exceeds a given threshold value, the same is converted into a fixed deposit. In case the balance falls below a present limit, fixed deposit gets automatically liquidated and the balance is automatically credited back to savings account of customer. This facility provides a greater yield for customers on ideal funds and also does help banks to retain low-cost deposits.

Prepaid instruments include smart cards, magnetic stripe cards, internet accounts, online wallets, mobile accounts, mobile wallets, paper vouchers and such instruments which can be used to access the prepaid amount. Processor type smart cards with built-in microchips offer a wide range of transactional opportunities even from remote areas. Smart cards are extensively used for transactions such as cash withdrawals from ATMs, online purchases, payment of bills etc. (RBI, 2014).

Hence it can be concluded from present scenario of e-banking services in India that there has been a rapid development in Information and Communication Technology and it is being reflected in Indian banks' business strategies, e-banking services and organizational structures. Adoption of e-banking services is in the form of internet banking, mobile banking, ATMs, phone banking etc. Also, a number of innovative developments in retail payments have emerged, which will have wider option for e-banking users in their choice of payment instruments.

#### **1.4 Theoretical background of the study**

E-Banking has been accepted with increased vigor over the past two decades across the globe and its presence is rising in India as well. Salehi and Zhila (2008) describes e-banking as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. Electronic banking can also be defined as a variety of following platforms: (i) Internet banking (or online banking), (ii) telephone banking, (iii) mobile phone banking, (iv) Mastero/cirrus, master card and visa network card services.

The frictionless banking has raised customers' expectations about e-banking services which could lead to dissatisfaction and make these customers more prone to switching to

other banks (Shankar, Urban & Sultan, 2002). It started with the introduction of personal computers and has come a long way with computerized banking, internet banking, ATMs and customer relationship management (CRM) as the latest buzz. CRM systems are implemented by banks to gain competitive edge over their competitors (Sharma and Goyal, 2011).

Customer satisfaction is defined as an overall evaluation based on the total consumption and purchase experience focusing on the perceived product or service performance as compared to pre-purchase expectations over time (Beerli, et al., 2004). Ribbink *et al.* (2004) opine that customer satisfaction is more critical in case of online banking system since it is more difficult to keep online customers loyal.

Methlie and Nysveen (1999) highlighted that it is generally harder for a competitor to acquire a satisfied customer as compared to an unsatisfied one. The study projected that the banks must work on satisfying their customer and it need to be prioritized in case of online banking also. They also suggested that the banks need to listen to needs of customer and incorporate the changes if any, as recommended by them from time to time. This study also reveals significance of customized as well as value added services.

Lewis and Soureli (2006) emphasized how online bank customers are satisfied. Their research demonstrated that ‘friendliness and competency of staff, speed of delivery, responsiveness and reliability’ are the key aspects for creating satisfied customers. Researchers have further stated that banks shall analyze the reasons for dissatisfaction among customers and suggest necessary changes for bringing the positive impact of services on customers. Excellent service and customer orientation are the fundamentals for satisfied customers (Abratt and Russel, 1999).

‘Customer retention’ is concerned with repetitive patronage, which is closely related to brand loyalty and repeat-purchasing behaviour (Jacoby and Chestnut, 1978). Customer retention according to Hennig and Klee (1997) focuses on creating marketing strategies that causes repurchase behaviour and ignores factors that influence such behavior. Methlie and Nysveen (1999) demonstrate that brand reputation and customer satisfaction are the key determinants.

E-banking has resulted in declining trend towards physical interaction in the bank office environment between the banks and their customers (Liu, 2008). This decrease in

interaction between the banks and their customers has evoked lot of interest in the subject of delivering service quality, gaining satisfaction and retaining customers.

This present study will be focused on finding the determinants of customer satisfaction and customer retention in relation to e-banking and examining the relationship between customer satisfaction and customer retention. In order to reap the benefits of long lasting relations with customers and gaining competitive advantage online, banks need to develop a thorough understanding of the antecedents of retaining customers on the internet. The importance of e-retention can be evaluated by identification of variables influencing repeat purchasing behavior, the level of technology invasion and security aspects which are the critical area of research. The widespread adoption of online banking services also calls for research investigating those factors that are responsible for keeping customers satisfied and focusing on measures to retain them.

The study will also focus on comparing the attitude of users and non-users towards e-banking with respect to a number of factors, namely; convenience, security, cost and technology. Generally the customer engagement starts with an excellent user experience. People who are not fully aware of an application are not ready to be engaged. This study will suggest ways to bankers for converting non-users of e-banking to frequent users of electronic banking services. Finally the study proposes a structural model based on relationship among users' attitude regarding convenience, security, cost and technology; customer satisfaction and customer retention.

## **1.5 Research Objectives**

The present study has been undertaken with following three broad objectives:

O1: To find out the effective determinants of customer retention and customer satisfaction in e-banking.

O2: To investigate the interrelationships between constructs-customer retention and customer satisfaction in e-banking.

O3: To compare the attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.

## **1.6 Significance of the study**

The present study focuses on investigating the determinants of customer satisfaction and customer retention. Not only this, but it also compares the attitude of e-banking users with non-users with respect to factors, namely; convenience, security, cost and technology. This study can be extensively used by banks for developing a strategy to enhance customer satisfaction and thereby retain customers. The proposed integrated structural model based on relation among users' attitude, customer satisfaction and customer retention will help to understand the strengths and weaker domains demanding more attention. The study in entirety will be useful for bankers and banking customers and will help in enhancing relationship between the two for building long lasting sustained associations.

## **1.7 Implications of the study**

The present research study will have practical implications for the retail bankers as well as for the banking customers. From the banker's perspective, they will be able to retain more number of customers with improved customer satisfaction, enhanced loyalty and, also which in turn will help in addressing security issues of customers for transacting online and thus building a firmer foundation for customer retention in the context of e-banking.

From the customers' perspective, this study will be unique in its endeavor by focusing on attitude of users and non-users towards e-banking with respect to four factors, viz. convenience, security, cost and technology and relating their attitude with customer satisfaction will help in enhancing their satisfaction level and thereby making them loyal with their prime bank.

## **1.8 Organization of the Thesis**

### **Chapter I - Introduction**

This chapter is introductory in nature and provides a brief overview of background of the research work. It sets the scene for research problem, presenting the need for the study. The chapter throws light on evolution and developments of e-banking in India. It causes the current scenario of e-banking services in India. This chapter also focuses on objectives, and significance of the study. This chapter introduces the structure of the thesis.

### **Chapter II - Review of Literature**

This chapter reviews literature from various sources for understanding the various concepts of e-banking, research findings related to the determinants of customer satisfaction and customer retention in banking industry. The review helps to know the emphasis and direction of research, time period of the study, scope and limitations of studies conducted and conclusions one can draw from these studies. Clearer insight can be gained through the objectives fulfilled and benefits reaped. The review helps to identify the gaps in the earlier studies to avoid duplication of results and thus focus emphasis in the right direction.

### **Chapter III - Research Design and Methodology**

The present chapter introduces the research design and methodology used. In this chapter, objectives of the research have been chalked out clearly along with formulation of hypothesis. It mainly focuses on the research design, sampling design, sources of collection of data, details of questionnaire, reliability and validity test and also defines the research methods used to prove the hypothesis of the study. It also presents the conceptual model of the study.

### **Chapter IV - Data Analysis and Interpretation**

This Chapter focuses on the data analysis and interpretation of responses to questions collected through the questionnaire directed to various banking customers and presents the valid outcome of such analysis. The chapter starts with the demographic analysis of the respondents. Then focuses on e-banking features and ANOVA test has been performed to know whether there exists a significant difference in the means of e-banking features on the basis of categories of banks/age groups/gender/education level/income

groups. Factor analysis has been applied to ascertain the determinants of customer retention in relation to e-banking. Regression analysis has been applied to investigate the interrelationship between the constructs-customer satisfaction and customer retention. ANOVA has been applied for comparing the attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost, and technology. Lastly, structural equation modeling has been applied for depicting the interrelationship among attitude of users, customer satisfaction and customer retention in relation to e-banking and hence propose a structural model based on the analysis.

### **Chapter V - Conclusions, Limitations and Further Study**

This chapter covers the learning, implications and conclusions of the study and also highlights the recommendations regarding the proposed model of the study. This chapter also covers the critical evaluation of the research work, revisiting the research objectives and indicative of exactness, diligence, contribution, and drawing comparison with similar work. The chapter also enlists the areas for future research.

### **Concluding Remarks**

An attempt has been made for proposing a structural research for studying the association between customer satisfaction and customer retention in relation to e-banking in India. Through this chapter a brief outline of research has been drawn, focusing on e-banking attitude, customer satisfaction and customer retention.

Review of Literature is a prerequisite for a systematic research process and hence the next chapter is focusing on the contribution of various authors in the direction of global and Indian e-banking scenario, customer satisfaction and customer retention and attitude of customers towards e-banking with respect to various factors namely; convenience, security, cost and technology.

## CHAPTER – II

### REVIEW OF LITERATURE

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Review of literature pertaining to any sort of research study is a pre-requisite as it helps the researcher to have a deep perspective on the subject and hence avoid the pitfalls and difficulties as might have been experienced by earlier ones. So planning and execution of any research study should be preceded by a complete review of literature in related fields since it:

- i) helps us to get acquainted with the work that has been done in the relevant area till now.
- ii) reduces considerably the possibility of unnecessary duplication of work.
- iii) provides important information on research techniques that could be used.

Five sections have been framed in this chapter for researching the earlier studies carried out in following areas:

- 2.1 E-banking services: Global and Indian scenario
- 2.2 E-Banking features
- 2.3 Customer Satisfaction
- 2.4 Customer Retention
- 2.5 Factors affecting the attitude of banking customers towards E-banking services namely; convenience, cost, security and technology

#### **2.1 E-banking services: Global and Indian scenario**

With the advent of e-banking services globally, there has been many studies conducted on the banks and banking customers for understanding the impact of technological innovations taking place in banking sector. Egland *et al.* (1998) conducted a study on 8983 banks of USA for comparing the performance of both internet banks and non-internet banks and came to conclusion that performance of banks is not affected by technological advancement. But a study conducted on 2,517 banks of USA by Furst *et al.* (2000 & 2002) concluded that Internet banks performed far better than non internet banks in terms of the profitability. Hassan *et al.* (2002) conducted a study on 105 banks of Italy and focused on banks that are providing e-banking services. It was concluded that e-banks

outperformed the conventional banks and also highlighted that there is highly significant relationship between offering of e-banking services and bank profitability. Another study by Carlson *et al.* (2001) on 2517 banks also concluded that e-banking is having impact on bank profitability but also highlighted that there are others factors too apart from e-banking which are affecting bank profitability.

Guru *et al.* (2000) examined the electronic channels utilized by the Malaysian banks and also accessed the consumers' reactions to these delivery channels. They concluded that the Internet banking was nearly absent over there on account of lack of adequate legal framework and security concerns. This was despite the fact that over 60 percent of respondents were having Internet facilities at home and thus represented a positive indication for PC based and Internet banking in future.

Unnithan and Swatman (2001) studied main drivers for change in evolution of banking sector and the move towards electronic banking by focusing on two economies- India and Australia. The researchers found that Australia is a country with good Internet infrastructure as far as telecommunication, PC penetration and consumers' security protocols are taken into consideration. India on the other hand, is lagging on the above mentioned parameters, and has weak infrastructure, less penetration and security protocols. Although quite a few major banks have started offering Internet banking services in India, it is difficult to achieve a decent growth until the critical mass is achieved for PC penetration, Internet connections and telephones. However, with rise of IT professionals, there has been more pressure on government to undertake new initiatives to broaden the scope of e-banking.

To avoid potential pitfalls involved in the cross border e-banking, India may start with a moderate sort of beginning. Mathew and Nitsure (2002) suggested Indian banks should seek benefits in export of some remote processing services for which they seem to have developed considerable advantage over some time. These include services like financial data processing, some back-office operations, customer call centres, transferring of shares, travel booking, processing insurance claims and few more customer services.

Sangaran (2001) conducted a study on Malaysia and focuses on the change that is needed in attitude of banks to adopt the internet banking and take it to a next level. He emphasised that in order to compete at the global level, banks should develop a sound

strategy before implementing Internet banking at their place. Another study by Suganthi *et al.* (2001) appraised Malaysian banking sites and found that while most of the public banks are present on Internet, only 4 out of top 10 banks were having transactional sites. Sites of remaining banks were online only at the informational level.

Mathew and Nitsure (2002) in their study concluded that Reserve Bank of New Zealand applies a uniform approach to regulation of Internet banking activities as well as the traditional banking activities. Banks in Japan are increasingly emphasising on online transactions with customers and internet banking being a vital part of their overall strategy. Back to India, based on experience in native countries, many foreign banks are trying their level best to capture the market. But these banks need to remodel their business strategy that would be suitable to local Indian conditions. In the current scenario, banks are in need of a radical transformation that can be achieved through change in mindset to adapt latest technology, recognizing core competency, initiative from the management to remodel the organization to outward looking and also aligning roles and value propositions with the customer segments. The suitability of technology as well as careful analysis of needs of customers is equally important.

Mattila *et al.* (2003) studied the e-banking usage by customers of Finland. A healthy 39.8% of retail banking transactions in Finland was carried through Internet in 2000. It was found that internet banking ranked third on the list of their most popular modes of payment among the elderly people. As far as analysis of demographics is concerned, it was observed that around 33% of high income group and better-educated mature males used e-banking as their primary mode of making payments. Perceived difficulty in using computers and lack of personal service factor was found to be the main hindrance in using Internet banking by most of the elder customers.

In USA, e-banking is relatively developed with a fairly decent number of transactional websites and business volumes. However, still large banks dominated as compared to smaller ones in offering internet based banking services. It has been found that e-banks are generally more profitable than the non e-banks, but this phenomenon should not be generalized. The growth in e-banking seems to be significant but certainly not sufficient. This may probably be due to lack of value added proposition that banks provide to customers. In Europe, e-banking is growing with most of the bigger banks offering these electronic services. Sweden and Finland are leaders in terms of Internet penetration along

with range and quality of the online services. Internet banking did start slowly in Australia, but now is picking up at decent pace. In New Zealand, most of the major banks offering e-banking services are operating as a division of the bank rather than as a separate legal entity (Nitsure, 2003).

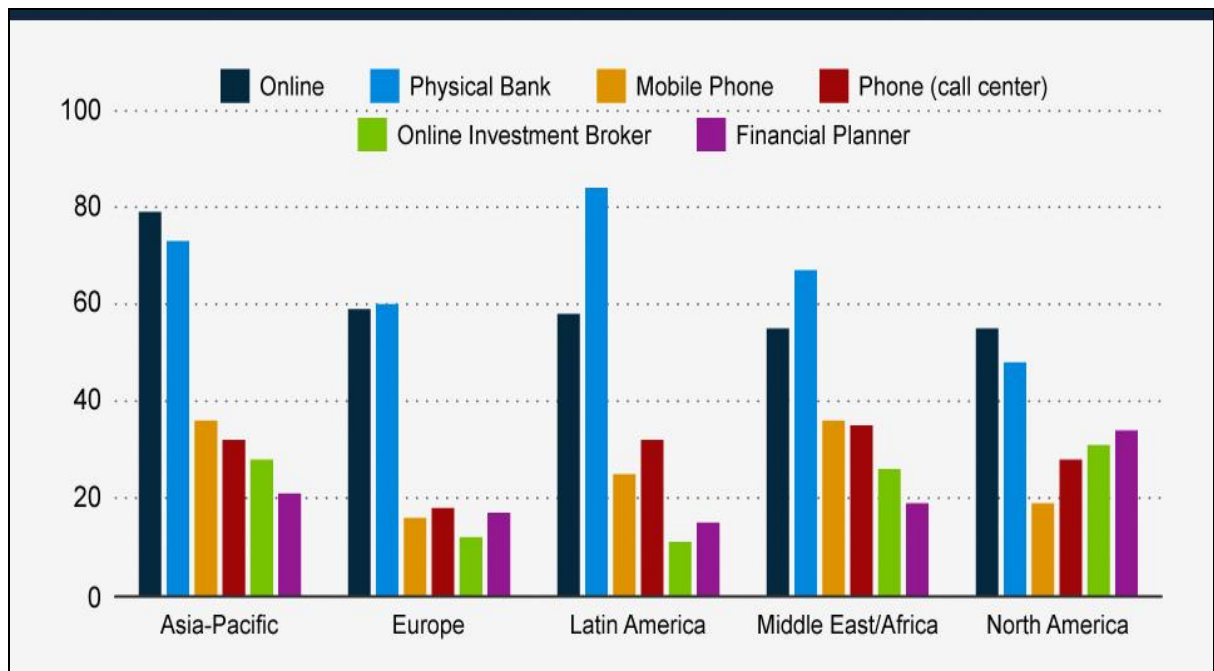
Some prominent studies conducted in other countries like European Union and Australia have astonishing results towards adoption of technology in banking sector. A study by Delgado *et al.* (2004) on 13 primarily internet banks and 335 established traditional banks in European Union. They covered time period of 1994-2004 for analysing technology adoption in banks. Their results highlight that internet banks are having lower profitability as compared to newly chartered non-internet banks. He again conducted study on 15 primarily internet banks and 335 traditional banks in 15 countries of European Union and compiled the similar results with one more interesting finding that adoption of internet banking affects profitability negatively (Delgado *et al.*, 2006). Sathye (2005) conducted study on 61 Credit Unions, Australia and highlighted that e-banking does not have significant impact on performance and risk profile of banks.

A study conducted by Nsouli and Schaechter (2002) of International Monetary Fund (IMF) shows that e-banking is widespread in countries like Korea, Austria, Scandinavia belt, Switzerland and Singapore where 75% of all banks offer such sort of services. Scandinavian area has the largest number of Internet users, with up to 33% of bank customers in Finland and Sweden using internet-banking in one form or the other. In USA, Internet banking is still concentrated in large banks. While most of the USA consumers have accounts with banks that offer Internet services, but only about 6 per cent of them avail the associated services as of today. While most of the banks have combined the new electronic delivery channels with physical branches, but very few of them offer their products only through electronic distribution channels. These 'internet only' banks do not have a branch network but may have a physical presence like ATMs or in some cases even administrative offices. USA has got about 30 such virtual banks; whereas Asia has got 2 and the European Union has several, either as altogether separately licensed entities or even as subsidiaries/branches of physical banks.

Singh and Malhotra (2004) conducted study on 85 banks in India and concluded that banks having e-banking facilities are more profitable and are more operationally efficient than non-electronic banks. Electronic banks have higher asset quality and are better managed and they witnessed lower cost of operations too.

The population of Internet banking users has increased at a healthy rate ever since it has been started in New Zealand. Number of Internet banking users increased from about approximately 310000 in the year 2000 to about 480000 by year 2001 (Taylor, 2002). Another research study showed that number of Internet banking users crossed one million mark in 2008. It has also been concluded that about 68% of Internet users accessed online banking sites in January 2008 in Newzealand (Nielsen, 2008).

Figure 2.1 shows the various channels used for investment transactions by respondents. A survey of 28,000 online consumers using investment services was conducted and the survey confirmed that around 79 percent of online respondents from Asia-Oceania region used online banking for investment transaction compared to about 73 percent who visited the bank physically to carry out the transactions.



**Figure 2.1 Survey of 28,000 online consumers using investment services**  
(Source: [www.statista.com](http://www.statista.com))

Similarly, in North America, about 55 percent used online banking, in comparison to 48 percent who visited the bank physically. Results show that there is a global upward trend in online investment transactions (statista.com. 2012).

Most of the developed countries have escalating trend towards e-banking services in year 2014. Kothari (2007) has focused that around 4.6 million Indians are using internet banking services and usage of telephone banking and mobile banking is limited in year

2007. Mobile banking is expected to pick up once the mobile companies offer 3G services.

Dhillon *et al.* (2008) opined that there are some psychological issues like security of internet transactions, lack of enthusiasm and trust that have slowed down growth of Internet banking in India. Bisht *et al.* (2002) highlighted that globalization is also having an impact on the e-commerce activities on Indian banking sector. They pointed out that despite the massive branch expansion regional and sectoral imbalance in banking facilities remained pronounced. They were of the view that existence of the healthy banking would dwell upon the survival of the fittest doctrine. Singh and Upadhyay (2010) focused on inclusive growth in rural India also and highlighted the role of banking sector to expand its arena, particularly among the rural masses.

According to a survey carried out by McKinsey & Company, personal visits to banks have declined by about 15% in 2011, whereas growth in usage of internet and mobile banking has almost trebled. Also, the use of internet banking by the customers has increased from 1% in 2007 to 7% in 2011. The survey further reports that even though 95% of the Indians appear satisfied with their banks but they are reluctant to recommend their financial institution to others indicating declining loyalty by approximately 40% in the past five years (Joglekar and Mampatta, 2011).

## **2.2 E-Banking Features**

As highlighted in earlier section that there is increased trend for adoption of e-banking amongst users all over the globe. This trend is also catching up in India. E-banking not only intensifies competition, it also enables customers to easily compare the features of the financial products or services offered by different banks (Rogerson, Foley & Jayawardhena, 1999). In India, there is difference in e-banking features offered by private, public and foreign sector banks. Study by (Khatri and Ahuja, 2010; RBI, 2001) highlight that foreign banks are providing better e-services coupled with smart use of IT adoption and have considerably achieved high operational efficiency as compared to other two categories.

Banks and financial corporations have been at the forefront of the Internet and technology adoption process. Online banking is also called E-banking or PC banking or Internet banking. Online banking refers to the automated delivery of banking products and

services directly to customers through electronic communication channels, most notably the Internet. Internet or online banking can also be defined as an internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments (Ibrahim *et al*, 2006; Bauer *et al.*, 2005; Parasuraman and Zinkhan 2002; Pikkarainen, Karjaluoto, and Pahnla 2004).

With the exception of cash withdrawals, Internet banking gives customers access to almost any type of banking transactions at the click of a mouse. The use of the Internet as a new alternative channel for the distribution of financial services has become a competitive necessity instead of just a way to achieve competitive advantage with the advent of globalization and fierce competition (Flavián, Torres, & Guinalú, 2004; Gan and Cledes, 2006). The first phase of reforms in banking sector for electronification began in 1997 as pointed by Singh & Kumar (2006) with their focus on technological up-gradation, reorganization measures, structural development and human capital development which helped them in achieving worldwide benchmarks in terms of pre-eminent practices and prudential norms.

Hugar and Vaz (2008) appraised the customer orientation in public sector banks, private sector and foreign sector banks. The study concluded that private sector banks have more ATMs at the end of March 2006 followed by SBI group where 77.5 percent branches are fully computerized and 18.2 percent are partially computerized. Business per employee and profits per employee are higher in foreign banks. SBI has received more number of complaints followed by ICICI. The study also suggests adopting customer relationship management by public sector banks to stand strong in competitive environment.

With the improvement of technology, several channels of delivery like Internet banking, telephone banking, mobile banking, ATM have started to improve in banks. Different views have been expressed about future acceptability of technology-based services. One view is that 'physical banking' would be substituted by the 'online banking'. New private sector banks with less number of branches and staff strength emphasise on creating IT-based delivery channels to compete with thousands of branches of public sector banks located in the country. Argument against use of the technology was that it shall cause 'depersonalisation' or in other words increase the distance between bank and its customers (Liu, 2008; Gill, 2008).

Jun and Cai (2001) identified 17 key service quality features of e-banking. These are reliability, competence, credibility, communication, understanding the customer, ease of use, timeliness, security, aesthetics, collaboration, responsiveness, courtesy, access, content, continuous improvement, accuracy, and convenient operating hours. They were of the view that few parameters like responsiveness, reliability and access are important for traditional as well as Internet banks. Jayawardhena (2004) developed a list of 21 items to assess service quality in online banking. By means of an Exploratory Factor Analysis (EFA) as well as Confirmatory Factor Analysis (CFA), these 21 items further are condensed into 5 quality dimensions namely, access, trust, attention, credibility, website interface.

Joseph *et al.* (1999) investigated influence of the internet on delivery of banking services. They concluded that 6 critical dimensions of e-banking service quality are: feedback and complaint management, convenience and accuracy, accessibility, efficiency, queue management and customization. Uelschy *et al.* (2000) emphasized that the customer satisfaction and service quality may also be affected by some cross-cultural differences between customers and bankers.

Bhat (2005) studied the service quality features of Indian banks and its variation across demographic variables. He conducted the study in Indian states of Jammu & Kashmir, Punjab, Haryana and Delhi and was restricted to 5 banks namely State Bank of India, Punjab National Bank, CITI Bank, Jammu & Kashmir Bank and Standard Chartered Grindlays Bank. The results suggest that foreign banks are relatively close to the expectations of their customers as compared to categories of Indian banks. The study emphasized on poor service quality among Indian banks on account of lack of tangibility and responsiveness. Hassan and Ruhul (2013) argues that the relative population growth affects nominal wages that have an impact on price levels. Hence banking sector also gets affected by factors like population growth and literacy rate of the customers.

Christolov and Marianne (2004) emphasise that the consumer satisfaction and use of e-banking technologies are related to features of both individual customers as well as the precise technology. In USA, salaries of about two-thirds of employees are transferred directly into their accounts. ATMs were introduced in USA for the first time in late 60s. The frequency of transactions at the ATMs over there has grown rapidly and an average of 902 million ATM transactions was reported per month in 2003. To add to it, nearly

two-thirds of ATMs in USA are actually Offsite ATMs. Between 1995 and 2002, number of debit card transactions grew roughly by around 42% per year and in 2003, total debit card transactions stood at around 495 million a month. As per Federal Reserve report, even though there has been a wide use of variety of e-banking technologies like ATM cards, credit cards and debit cards, phone banking and other innovative services, most of the e-banking services are used by high income, young and more educated people. Volumes of electronic payments did exceed paper cheques for the first time way back in 2003. However, generally consumers preferred personal contact in specific services involving complex transactions like in case of loans, mortgages etc.

A handful of foreign banks operating in India first offered e- banking services to their customers such as ATMs, computerised monthly statements, secure online operations, etc. The new generation of private sector banks did not possess a legacy of manual practices and, hence, were able to adapt easily to modern banking practices providing state-of-the-art facilities. However, challenges before the public sector banks are plenty and of a different kind (Nitsure, 2003). In recent years ATM installations have seen rapid growth in India as well. India is endowed with the highest proportion of young population. Convenience in the form of ATMs, credit and debit cards, Mobile banking, Internet banking, and other IT based services have brought many new customers to the banking network (Paul and Mukherjee, 2006).

Santouridis *et al.* (2009) investigated e-service quality and its impact on customer satisfaction in the banking context. It consists of 6 dimensions, namely assurance, quality of information, responsiveness, empathy, reliability and web assistance. A field research was conducted among users of e-banking in Greece that has lower internet penetration rate. The findings revealed that above average performance of service quality has been delivered by Greek banks via the internet. All quality dimensions are proved to be antecedents of overall customer satisfaction, with reliability playing the most critical role.

Banks are implementing innovative strategies to exist in the competition globally. Trend in the globalization strategies of a growing number of large-scale multinational corporations has been the decentralization, or internationalization of the research and development function (Casson & Singh, 1993; Pearce and Singh, 1992).

Dasgupta (1999), Gupta (1999), Pegu (2000), Mukherjee & Nath (2003) found that over past few years, E-banking is increasingly becoming popular in India. Though most of the banks operating in India are having their own websites but only few of them are providing transactional net banking (Mathur and Rai, 2006). Innovation is the key to success and increasing number of innovative products and services even in the rural areas would certainly broaden the scope (Saini, 2011).

Singh and Arora (2011) concluded that respondents of nationalized banks wanted improvements in few areas such as employee behaviour, ambience and e-facilities. They also wanted longer working hours. On the other hand, respondents of private and foreign banks wanted improvements in other features of e-banking such as reasonable charges, more accessibility and easy means of communication.

It can be summarised that the quality of e-banking services include ease in signing on the system, performing the transactions, excellent facilities and interacting with bank experts towards adoption of new technologies by the users (Siaw & Yu, 2004; Tan & Teo, 2000). Banks must provide accurate account information of stakeholders' financial transactions. Stakeholders expect Internet banking transactions to be accurate and free of errors. If there is an error, it should not take too long to correct the error after it is reported. Internet banking acceptance relies closely on the management of consumer relationship. Even though Internet banking is regarded as one of the most powerful delivery channels in the global financial sector, there is no point for banks to invest in Internet banking if the service is neither wanted nor accepted by their customers (Goi, 2005).

Though there is ample literature available on e-banking features but this was hardly studied with demographics of customers. This study tries to fill these gaps to throw more insight on these perspectives especially by drawing a sample from public, private and foreign banks from NCR region in India.

### **2.3 Customer Satisfaction**

Customer satisfaction may be defined as a post consumption judgement concerning a specific product or service (Gundersen, Heide and Olsson, 1996). It is a result of an evaluation that contrasts pre purchase expectations against the perceptions of performance during and after the consumption (Oliver, 1980). McQuitty *et al.* (2000) has highlighted that the most widely accepted conceptualization of customer satisfaction concept is the

expectancy disconfirmation theory. The theory was developed by Oliver, who proposed that satisfaction level is generally a result of variation between expected and perceived performance. Satisfaction (positive disconfirmation) occurs when product or service is better than what was expected. On the other hand, dissatisfaction occurs when performance comes out to be worse than expected (negative disconfirmation).

A customer entered in a bank must get maximum satisfaction from the quality of e-banking services offered by them. Service quality has been found as one of the important factor in making a difference in products and services. Maximizing customer satisfaction through quality customer service has been described as 'the ultimate weapon' by Davidow and Uttal (1989).

Quite a few studies reveal that customer satisfaction has direct and indirect impact on business results also. Luo and Homburg (2007) concluded that the customer satisfaction affects business profitability. Majority of the studies have investigated its relationship with customer behaviour patterns too. According to the findings, most of the time, customer satisfaction increases customer loyalty thus leading to repurchase intentions and hence increase in the positive word-of-mouth (Chi and Qu, 2008; Faullant *et al.*, 2008; Dimitriadis, 2006; Sharma, 2014).

Smith (2006) is of the opinion that technology was initially introduced in banks to decrease costs by dividing front and back office operations, however technology can also be targeted to enhance different functions. The dilemma though remains as how to maintain a satisfactory number of personal interactions with customers. Another study by Christolov and Marianne (2004) opined that the consumer satisfaction in case of e-banking is dependent on personal services factor also. Customers want to pay personal visits to banks for getting value of the services. Perceived value is one of most important constituents of the customer satisfaction measurement and is used to gauge actual benefits of the service. Perceived value is relation between price or charges paid for the services by customer as a sacrifice of the money and utility derived by service perception. They perceive to acquire more value if they visit personally the banking branch (Holbrook, 1994; Bolton and Drew, 1991; Cronin and Taylor, 1992).

End user experience has become an important factor in internet-based businesses because the end user often pays for the majority of new products and services. Therefore, new

product characteristics such as perceived ease of use, quality, aesthetics, appeal and value for money must be matched or exceeded with customer expectations toward the product. Therefore, assessing customer satisfaction has become very important, especially for high tech products and services. In general, customer satisfaction has been measured using questionnaire scales for which either a Likert or a semantic differential scale is used (Wilson & Sasse 2004).

Developments in technology has removed repetitive and time consuming tasks, decreased human errors and also increased access to banking related facilities for enhancing customer satisfaction in e-banking services. Generally telephone banking facilities allow most of the non-cash transactions to be carried out, which otherwise would have needed the customer to visit the branch physically. Internet banking also allows customers to carry out tasks at time and place of their choice as is convenient to them. As a result, this provides the customers a feeling of greater control and hence gaining customer satisfaction at the same time (Prendergast and Marr, 1994).

Rust & Zahorik (1993) declared that a satisfied customer exhibits greater retention and expressed significantly positive impact of customer satisfaction on the customer loyalty. Particularly, customer satisfaction and repurchase intentions are inter-related (Rust & Zahorik, 1993; Taylor & Baker, 1994; Patterson & Spreng, 1997; Bolton, 1998; Hellier *et al.*, 2003 and Fen & Lian, 2007). It is very important to identify the elements of service quality in order to gain customer satisfaction (Johnston, 1995).

Girish and Preetha (1997) opined that technology in banks would help to increase the level of productivity and customer satisfaction. To meet the challenges posed by the entry of foreign banks, Indian banks will have to invest heavily in technology to meet competition, reduce cost, improve customer service, improve productivity and offer new products/services. Customers should also embrace technology to achieve satisfaction from banking services.

Sai (1999) suggests that to overcome growing customer dissatisfaction banks should adopt two-fold strategy. Firstly, the creations of a wide range of services suitable and beneficial to the customers and secondly, prompt and efficient delivery of these services by the front line staff. To ensure quick delivery of these services, banks have to introduce revolutionary technological changes like Electronic Fund Transfer (ETF), Electronic

Clearing Service(ECS), Networking of service branches, Automatic Teller Machines (ATM), modern and up-dated communication facilities.

Daniel (1999) identified ease of use as one main factor responsible for customer acceptance of Internet banking and customer satisfaction in the United Kingdom and Ireland. Perceived ease of use has a direct effect on both perceived usefulness and technology usage (Adams, Nelson & Todd, 1992; Davis, 1989). In addition, earlier authors considered that internet banking has competitive advantage of adopting of a new retailing channel in services sector (Polatoglu and Ekin, 2001; Gerrard and Cunningham, 2003) and convenience is one of the dominating factors in transaction channel preferences and is a key determinant of consumer satisfaction (Ramsay and Smith, 1999; Wang *et al.*, 2003).

Some studies revealed that personal dealing of employees among each other in banks optimistically influence customers' intention to repurchase in the case of low customer satisfaction. There should be synchronization among employees to handle multiple queries efficiently to satisfy customers (Jones, Motherbaugh & Beatty, 2000; Bhattacharya and Bolton, 2000; Errol D'Souza, 2002; Salmen and Muir, 2003).

A study by Errol D'Souza (2002) on the comparative performance of private and private sector banks in 90s shows that though the turnover/employee ratio increased in public sector banks, the same factor in private and foreign banks doubled as compared to corresponding ratio for public sector banks. This however is not on account of presence of fairly large rural and semi-urban concentration of bank branches amongst public sector banks, but actually due to technological up gradation in the various private and foreign banks. Private and foreign banks have changed the structure of their employment towards a higher skilled workforce and also trying to reduce the number of clerical staff. They need technically qualified staff more and also bankers try to synchronise the activities of staff of varied skills so as to resolve customers' different kinds of queries about e-banking services and satisfy them fully.

Another study highlighted that combination of use of better technology and improved labour skills have posted a better turnover for these banks as they have been able to provide enhanced customer support and have been able to manage the assets in a superior way and hence improving customer satisfaction of banking customers (Bhattacharya and

Bolton, 2000). A move towards transparency is also focused in the study by Hoque and Doucouliagos (2005) highlighting that customers are willing to pay more for banks with effective corporate governance norms.

The study by Khalil and Pearson (2007) found that trust significantly affects attitude towards maintaining long term relationships with customers in internet banking. To encourage internet banking adoption, banks need to develop strategies that improve the customer's trust in the technology. The main factors include quick response, relations among staff, assurance, follow-up and empathy. Security, electronic delivery channels and privacy are other important factors in the online services that generally affect customer satisfaction. Another study indicated that the new technology-based remote services are generally different from traditional interaction based services and studies have revealed that the factors that generally influence evaluation of such e-banking services are distinctly separate from that of people-based service interactions (Sur, 2007, Dhillon *et al.* 2008).

Soma and Sarkar (2008) emphasised that in order to develop commitment, it is necessary for banks to make their technology-based remote service a 'satisfying' brand towards which customers have an overall favourable disposition. Creating and maintaining customer satisfaction through its antecedents could be an appropriate strategy. Banks should also take care about their customers technology-based remote services encounter, from the first exposure to technology through purchase to delivery and beyond, as the case may be, because customer's remote self-service experience can influence his satisfaction, which in turn could influence his commitment and hence their retention.

Another study revealed that bank charges on e-banking transactions are very high and banks need to come up with innovative products that will reduce the cost of banking operations; which can be passed down to the customer in the form of reduced charges (Gao and Owolabi, 2008; Joshua, Moli and Koshi, 2005; Luka and Frank, 2012).

Cheolho (2010) investigated the antecedents of customer satisfaction with online banking in China, and explores the effects of experience on the relationships between the antecedents and customer satisfaction. Based on prior research, 6 antecedents of customer satisfaction - ease of use, design, speed, security, information content and customer support service - are proposed, and the effects of experience on correlation between these factors and customer satisfaction are analyzed using a structural multi-group (a high-

experience group and a low experience group) model. The results showed that design, speed, security, information content and customer support service have a great influence on customer satisfaction, but on the whole, ease of use does not have a significant contribution in overall customer satisfaction. The results relating to the influence of level of customer experience reveals that the effects of design, security, speed and information content on customer satisfaction were significantly greater in the high experience group, whereas effect of customer support service on customer satisfaction was significantly greater in low experience group.

Ibok and Ikoh (2013) concluded in their study that account access, account control, account use or transaction, ease of use, confidence, privacy and security are important determinants of customer satisfaction with internet banking. However, cost and time effectiveness with negative coefficients suggest that by improving these factors, bank management may increase adoption and satisfaction among internet bank users. These also imply initiating appropriate actions to enhance basic facilities and improve privacy and security on internet banking. This in essence will improve business transaction and thus increase overall customer satisfaction.

On the basis of above review of literature on customer satisfaction, determinants of customer satisfaction has been finalised. The summarization of these determinants of customer satisfaction along with author's contribution is shown in Section 4.3.

## **2.4 Customer Retention**

Customer retention has been conceptualized as a dimension of the customer loyalty construct (Boulding *et al.* 1993; Zeithaml, Berry & Parasuraman, 1996). Indeed, the terms 'customer retention' and 'customer loyalty' are many a times used interchangeably in literature. However, customer retention and customer loyalty are not surrogates for each other as the two terms may refer to different things. Hence it is suggested that conceptualization of customer retention needs further clarification (Hennig and Klee, 1997).

'Customer retention' is concerned with repetitive patronage, which in turn is related closely to brand loyalty as well as repeat-purchasing behaviour (Jacoby and Chestnut, 1978). Methlie and Nysveen (1999) demonstrate that for any marketing strategy, focusing

on creating brand reputation as well as customer satisfaction are the key determinants of customer retention.

Customer satisfaction may be viewed as an important indicator of customer retention but it is not always an assurance of the customer retention. Retaining customers is also dependent on a number of other factors like choices, prices, income and convenience (Jones and Sasser, 1995). Loyal customers have a positive effect on customer retention, but customer loyalty does not generally mean or gets converted into customer retention. Loyalty is a valid concept only in situations where customers have various options to choose from. Bottom line is that retention should not be taken as a substitute for loyalty and this suggests that banks need to understand why their consumers choose to stay and it is advisable that they should not assume that it is a positive conscious choice (Colgate *et al.*, 1996).

Noe (1996) discovered that customers who have more than one account with a bank are more likely to remain loyal in future. Colgate and Norris (2001) found that barriers to exit include the amount of time as well as inconvenience it would take to switch banks. Amount of paperwork involved, issues with existing loans or securities, good history with their current bank also seem to be factors inhibiting complaints from the customers.

Angur *et al.* (1999) evaluated the applicability of alternative service quality measures in retail banking in India. They conducted their research on customers of two major banks in India. They concluded that all dimensions are not equally important in explaining the variance in the overall e-service quality. The result as put forth by them indicated that responsiveness and reliability seem to be the most important dimensions followed by empathy and tangible dimensions; whereas, assurance appeared to be least important of the main dimensions. These all may be true for physical banking, but internet banking feature has to focus on internet facilities, website interaction and security aspects also to retain customers in e-banking sector.

Though the major electronic delivery channel for banking today is the Internet (Karjaluoto *et al.*, 2002), this channel possesses the following characteristics that may make it difficult for firms to retain their customers: i) enhanced competition between various banks (Chatterjee and Narasimhan, 1994; Makadok, 1998;); ii) Possibly low

differentiation (Dholakia and Rego, 1998) and iii) commoditization of the market (Bakos, 1991).

Banks seek to achieve a zero defection rate of profitable customers, to minimize the customer churn; acquisition and subsequent loss of customers (Farquhar, 2004). In addition, long-term customers buy more and if satisfied, might even generate positive word-of-mouth for the banks that acts nothing short of advertisement without any further investment (Reichheld & Kenny, 1990). Also, long-term customers take less time in transactions and are less sensitive to price (Healy, 1999). They don't mind paying a little extra for getting secure transfer of their funds. As a result, retaining customers becomes a top priority for bank managers to consider the factors that may increase the customer retention rates. The average profit brought by a loyal customer is 2-5 times compared to a new customer (Anderson & Sullivan, 1993; Bhattacharjee, 2001). Internet banking competition no longer relies solely on pricing strategy (Jun, Cai and Kim, 2002).

Karjaluoto *et al.* (2002) highlighted that customers who are frequent users of e-banking are comfortable in using these services than paying visits to branches. But those who are non-users might be aware of benefits and comforts of online banking still they do not adopt it as they are less confident. Dhekra (2009) accentuated that however e-banking has many benefits and customers are fully aware of the e-banking cost and time saving aspects, many customers are still sticking to the conventional banking. There is fear of loss due to transactional errors and hackers play a vital role in pushing away Tunisian customers from online banking. They showed their willingness to pay higher price for safe online banking operations to offset risk in transacting online.

Chothani *et al.* (2004) opined that 5 percent increase in customer retention can accelerate profitability by 35 percent in banking sector, and 125 percent in the customer credit card market. Therefore, banks are now stressing on retaining customers and increasing market share.

According to Smith and Bolton (2002) customer satisfaction has a major role in retail banking which will lead to retention of customers. Thus, there is a need to focus on quality of services, timings of banks, interaction of a banker with customers. It is equally important to provide online banking system and phone banking which works 24/7 and can communicate with a banker easily to know about any information related to their

accounts. Anderson *et al.* (1976) described customer satisfaction as a mode of convenience and accessibility that make it easy for customer to do the transactions of banking. On the other side, it is the bank's ability to deliver these benefits on a regular basis to its customers and it will have an impact on customer satisfaction. Providing the best to customers is one strategy which banks have in their hands. It is the responsibility of every bank to provide quality services.

Treiblmaier *et al.* (2006) investigated the importance of antecedents of online loyalty such as trust, quality of the website, quality of the service and overall satisfaction. His study addresses the problem of how to retain customers online and loyal to a specific banker. A survey carried out among more than 2000 customers of an Austrian online bank was conducted and a structural equation modelling approach was used to gain insights into looking how customer retention in the online banking business can be ensured. Trust and satisfaction were identified as important antecedents of loyalty.

On the basis of review of literature on the customer retention, 18 key determinants of customer retention have been finalised and these are discussed in Section 4.4.

## **2.5 Factors affecting the attitude of banking customers towards E-banking services**

In survey based research, the importance of attitude has been documented in many studies (Gopi and Ramayah, 2007; Ramayah and Suki, 2006; Ramayah *et al.*, 2003). Gopi and Ramayah (2007) examined online trading system from a Malaysian perspective and found that attitude and intention to use were significantly related. This means, an increase of attitude will also lead to an increase of intention to use for that particular system. Ramayah *et al.* (2006) found that Internet banking users had positive views on ease of use of the internet as compared to the non-users of Internet banking. They have highlighted the significant effect of computer self-efficacy on behavioural intention through perceived ease of use. From the customer perspective, they will benefit from internet banking in respect to ease of use. The internet may also make it easier for them to search and compare the offerings of different firms.

Internet banking increases competition among banks, and allows banks to penetrate new markets and thus expand their geographical reach (Gao and Owolabi, 2008). The increased number of Internet banking users will widen the reach of customers and the

entry barriers in banking business will be reduced (Mols, 2000; Sathye, 1999; Davis *et al.*, 1989).

In another study by Munusamy *et al.*, (2012) the results indicate that there are significant differences between internet banking adopters and non-adopters in terms of easier to operate, convenient, no hassle, reliable, safer to use and good Internet connections. Thus, the result suggests managerial implications for retail bankers in Malaysia to encourage non adopters to change from traditional banking to internet banking. As more traditional banking customers shift to Internet banking, banks will experience lower cost of operations as paperless administration increases in various bank branches.

The four factors undertaken in the study for studying the attitude of users and non-users towards e-banking are: convenience, security, cost and technology. The various studies highlighting these factors are explained as follows:

### **2.5.1 Convenience**

Convenience has been identified by many researchers as an important adoption factor of innovation technologies (Pew, 2005; Ramsay and Smith, 1999). Copeland (1923) defined convenience goods as a class of consumer products that were intensively distributed and required minimal time and physical as well as mental efforts to purchase. Some newer definitions also focused on resources such as effort and time required by the consumer in shopping for a particular product (Brown *et al.*, 2003). Other researchers however, expanded the concept of convenience to incorporate non-shopping activities as well. It is related to the visual view of the Internet compared to the telephone banking (Black *et al.*, 2002).

Furthermore, the 24-hour service availability home access, world wide access, time savings, and wide variety of services accessible are seen as drivers of convenience in Internet banking (Gerrard and Cunningham, 2003; Liao and Cheung, 2002). Eastin (2002) found that perceived convenience was the strongest predictor for online banking usage. Subsequently, same study also indicated that the perceived convenience was the most influential variable of overall adoption of all four e-commerce activities investigated. Hence, it may be hypothesized that convenience has positive effect on consumer adoption of internet banking.

Work as carried out by Pew (2005) showed that 73% of the Americans use internet because it is convenient to use. They can have access to it whenever they want to. Accessibility which may be associated to convenience is another factor that might influence consumer to use online-banking. Only thing you have to do is sit in front of a computer, enter your login details like username and password and then one can start banking transaction in privacy. In addition to it, this prevents consumer from putting up long hours in queue at the banking branch. Few researchers also confirmed that speed of internet connections been an important element in Internet banking adoption (Sohail and Shanmugham, 2003; Li and Worthington, 2004).

Online banking helps in boosting online shopping because of convenience of making payments. Convenience of online shopping, by allowing consumers to shop at home, is one of the biggest advantages of electronic shopping. The Internet makes shopping more convenient as consumers can search and compare products and prices and place an order without visiting stores. People who prefer shopping online value the convenience of shopping anytime of the day as it takes less time to complete the purchase than shopping offline (Yannopolus, 2011; Coughlan *et al.*, 2001).

Internet banking has spread rapidly in many countries of the world due to its convenience and ease in carrying out banking activities at anytime and from anywhere (Auta, 2010). Li and Worthington (2004) emphasized that having a good understanding of the internet channel, perceived accessibility, convenience, familiarity and utility are the main factors that generally influence the adoption of electronic banking by the consumers. ATMs, credit card and debit cards, Mobile banking, Internet banking, phone banking etc., have added new customers to the banks because of convenience and easy access to e-banking services (Paul and Mukherjee, 2006).

### **2.5.2 Security**

The second factor that influences adoption of internet banking by customers is the security of online transactions and subsequently its perceived risk. Framework by Gerrard and Cunningham (2003) highlighted that customers' attitude towards internet banking is driven by a range of various factors such as security, privacy and trust issues. Several studies (Jarvenpaa *et al.* 2000; Bhatnagar *et al.* 2000; Liao and Cheung, 2002, Ruyter *et al.* 2001, Featherman and Pavlou 2003; Kolsaker *et al.* 2004; and Pavlou 2003) have

deemed consumer online perception about security to be the major obstacle to the growth of online commerce and e-services.

There are various kinds of perceived risks in online banking and the major one is that of security and privacy. It can be called to be a potential loss of control over own personal information, such as when information about the user is used by the bank without permission. Then there is the extreme case of “spoofing” wherein a criminal uses identity of the customer to carry out the fraudulent transactions (Lee and Lin, 2005). Laforet and Li (2005) mentioned that the issue of security was found to be the most important factor that motivated Chinese customers for adopting internet banking.

Hutchinson and Warren (2003) expressed that security, privacy of Internet banking transactions and confidentiality were the major factors affecting attitude of customers towards internet banking usage. Flavian and Guinaliu (2006) also highlighted that customer private data management is a major concern in usage of internet banking and confidential information should be safely delivered from bank to customer while transacting online. Further study by Munusamy *et al.* (2012) concluded that assuring the security of the internet transactions to customers might positively affect their attitude towards using internet banking.

### **2.5.3. Cost**

Reduction of cost may be a useful factor to explain adoption of internet banking by the consumer. Generally Internet banking reduces the cost as well as the time consumer takes to visit bank branch in person. Burnham *et al.* (2003) identifies 3 types of influential costs. The first one, procedural cost that consists of difficulties of accessing information which may discourage consumer from changing brand otherwise he requires lot of time and efforts which may actually act as a hindrance. The second one, financial cost consists of price of the product. The third one, Relational cost refers to the combination of time, energy and money needed in establishing and maintaining relationship. By using internet banking all these costs can be reduced to a large extent.

As per Turner (2001), progress in information technology has helped to reduce the costs of processing information. At the same time, Internet has facilitated transmission, thus facilitating change in the banking business. World over, electronic banking services, irrespective of being delivered online or via other channel, have spread quickly in recent

past. It is worth to note that impact of e-banking is not limited to industrial and advanced emerging economies only but also even in countries with underdeveloped banking systems because of its advantages of reduced cost and other huge benefits. In a study of business to business companies, it was found that most purchasing managers buy online because it lowers transaction and search costs and also it automates purchasing information for tracking inventory (Baker, Marn and Zawada, 2000).

A study by Liao *et al.* (1999) on US retail banking sector showed that the transaction costs of telephone banking are only 40 percent of those providing the same service via physical branches. Bradley and Stewart (2003) and Jaruwachirathanakul and Fink (2005) highlighted that the potential competitive advantage of the online banking is positioned in the areas of cost reduction and satisfaction of consumer needs. In relation to costs, electronic transactions are a fraction of those conducted through the branch or even telephone (Alam *et al.*, 2007). So these are cost effective services.

There are number of benefits offered by e-banking which are accessible around the world i.e. connectivity, convenience, cost efficiency etc. Internet is also used as a medium of communication. Maximum use of internet is drawn by young generation these days. This is the commonly accepted norm that young generation is adapting to technology and its applications as it is cost effective. Their presence over web has transformed the way bankers and e-retailers design their websites (Mittal *et al.* 2015).

#### **2.5.4. Technology**

Harsh (1993) studied beneficial aspects of technology and identified five major benefits of technology to a banking organization. First, the equipment could be employed in place of work force. Such substitution of equipment and computer for employees hence reduces cost of operation and increases efficiency. Second, introduction of technology may help to achieve standardization in the quality of service. Third, higher service levels could be achieved by such blending of technology. Fourth, bankers can maintain close links with their customers by hooking up in the computer networks and thereby, stay in touch. Finally, technology may be useful in directing employees' behaviour and enhancing motivation.

Salma (1998) emphasized the technological reforms in the banking sector. The emphasis on technology as the key factor for improving performance and increasing productivity in

banks has been well exemplified through illustrations. Most Indian banks, mainly private ones, are speeding up to interconnect their countrywide branches (Aishah, 1997). Technology, in particular, has been increasingly used in service organizations to enhance customer service quality as well as delivery, reduction in costs and standardize core service offerings (Bauer *et al.*, 2005; Lee and Lin, 2005).

Another factor that influences the consumer adoption of online banking is the prior experience of technology, especially computers. Thus, consumer's familiarity with technologies in general facilitates the usage and acceptance. The prior computer experience is associated with use of PC, the Internet, e-mail etc.

Karjaluoto *et al.* (2002) revealed that the prior experience with computers and technologies influence both attitudes towards online banking and actual behaviour of the consumer. This study emphasises that consumer readiness to adopt new technology depend on his prior experience and interaction such as how comfortable he is with use of internet, email, e-payment and ATM. But for those consumers who have no or very little awareness about banking technologies, for them it may be difficult to use. But it will be easy and convenient for those who already have some prior knowledge how to use it. They might invest less time and money in using online banking.

Summing up all the factors, attitude towards e-banking is driven by a range of various factors such as security, privacy and trust issues (Gerrard and Cunningham, 2000). Rogers (1995) focused on characteristics of diffusion of innovation including relative advantage and complexity. Tan and Teo (2000) focused on adoption of internet banking model comprising other factors such as demographics, consumer attitude, service quality and computer knowledge. Another study opined that knowledge serves an advantage for banks on the drivers of adoption of internet banking because it facilitates the development of successful marketing strategies in order to capture a larger internet banking market share (Kurnia, Peng and Liu, 2010). In addition, e-banking has led retail banks to improve effectiveness and efficiency of banking operations through reduction in transaction cost and increase in the speed of services (Kim *et al.*, 2008).

## **2.6 Research Gaps**

Many Indian research studies focused more on adoption of e-banking in India (Singh and Malhotra,2004; Dasgupta,1999; Vyas, 2004), customer's perception on usage of e-banking (Fozia, 2013; Dharmalingam & Kannan,2011), risks associated with internet banking (Bhatnagar, Misra & Rao, 2000). The banks need to switch over to sophisticated systems, generating consumer awareness in rural India (Singh & Upadhyay, 2010) with special reference to e-banking services. Few studies also included performance of banks with emergence of e-banking in India ( Debashish & Mishra, 2005), making comparison of private sector and public sector banks in providing varied e-banking services (Joglekar and Mampatta,2011; Khatri and Ahuja,2010; Kothari, 2007) etc. But the effective determinants of customer satisfaction and customer retention in relation to e-banking need added focus and attention. This study investigates the interrelationship of customer retention and customer satisfaction in relation to e-banking. Further a new dimension is included in this study by comparing the attitude of users and non-users towards e-banking with respect to factors namely; convenience, cost, security and technology.

There is hardly academically eminent literature available on customer retention and customer satisfaction in relation to e-banking in India. Customer preferences and satisfaction levels based on the demography, culture, affordability, IT penetration etc., generally vary from country to country. Understanding the scenario in other countries may throw some light on the intricacies of customer retention and customer satisfaction. Financial institutions of the developing countries have generally tried to follow the footsteps of their counterparts from developed nations. Indian banking system has always tried to cross the benchmarks set up by banks operating in countries like USA, Finland or other European countries and are customizing services to match the local conditions. Hence, studying developments in USA, Europe and other countries will give us deep insights into how and in what direction the Indian banking industry may head towards in the future.

There is plethora of literature on bank loyalty and retention in relation to conventional banking, but very little has been penned down on customer retention in relation to e-banking. There is a realization that a generation grown up with the Internet is now taking over and they are doing a lot of things online including sharing information in communities like Facebook, Twitter, Instagram etc. The fact that the banking system has

undergone a sea change, expansion on the amount of banks, the broad Internet usage and the discussions around an Internet generation, together with our own interest in banking, make us think about how banks are supposed to retain the customers and make them satisfied when the possibility to change the bank is just a “click” away. Especially interesting is the present Internet generation, who is habitual of doing all financial transactions online.

For banks, it is critical not only to retain its customers but to make them satisfied as well. It becomes impertinent to study the customers’ attitude towards e-banking services and factors that contribute to make them satisfied with a particular bank. Thus, there is a need for conducting research that focuses on finding out the effective determinants of customer satisfaction and customer retention in relation to e-banking and also helps in analyzing the online users’ attitude towards convenience, security, cost and technology, where inadequate literature is available. On the basis of these, a holistic picture of customer satisfaction and customer retention in relation to e-banking will emerge.

This informative research study is unique in its nature as it has gained new insights into the area of e-banking services and presented a structural model depicting the relation among attitude of users, customer satisfaction and customer retention in relation to e-banking. This research study is an endeavour for fulfilling the knowledge gap, as the earlier studies conducted so far has pointed out these crucial areas and focusing on such issues will shape transformational banking practices that may accelerate the growth of financial sector and will also strengthen the banking system as a whole.

This study will explore through this model how users’ attitude is influenced by number of factors namely; convenience, cost, security and technology which in turn affects customer satisfaction leading to customer retention in relation to e-banking. This structural model will help banks in retaining customers and enhancing customer satisfaction by bringing changes in the attitude of users and focusing more on cost, security and technological issues.

### **Concluding remarks**

Review of literature chapter throws much light on research studies carried out in the field of e-banking in India and across the globe. On the basis of review, research gaps have been identified. It has highlighted the significant changes in e-banking scenario, e-banking features and customers' attitude towards e-banking. The review has helped in the choice of determinants of customer satisfaction and customer retention. Next chapter focuses on research methodology used in the study encompassing research design and research methods used to accomplish the objectives.

## **CHAPTER-III**

### **RESEARCH DESIGN AND METHODOLOGY**

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This chapter includes phases of research to explain the complete process engaged to achieve the objectives of the research. The chapter encompasses defining objectives of the study, development of hypotheses, research design, sampling design along with methods undertaken for data collection, selection of sample and survey areas and the relevant selection of appropriate statistical methods for data analysis and its interpretation.

Section 3.1 defines the objectives of the study; Section 3.2 covers the research hypotheses; Section 3.3 presents the phases of research; Section 3.4 presents research design and research methods covering sampling design, data collection, questionnaire, reliability and validity, methods and techniques; Section 3.5 presents research framework and Section 3.6 covers conceptual research model.

#### **3.1 Objectives of the Study**

The initial phase of every research process is defining the objectives of the study. Review of literature helped in identifying the research gaps and indicates a need for research in current area. The following objectives have been defined for the present study:

- O1: To find out the effective determinants of customer retention and customer satisfaction in e-banking.
- O2: To investigate the interrelationships between constructs-customer retention and customer satisfaction in e-banking.
- O3: To compare the attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.

#### **3.2 Research Hypotheses**

Hypothesis testing generates a clear visualization of the relationship that pertains to the variables used in the study. A research study is a correlational study when the researcher demarcates the key variables linked with the study (Cavana *et al.* 2001). Hypothesis testing is based on positive philosophy.

The following hypotheses have been framed to achieve the Objectives:

*H<sub>1a</sub>: There is a significant difference in the means of private, public and foreign sector banks regarding e-banking features.*

*H<sub>1b</sub>: There is a significant difference in the means of different age groups regarding e-banking features.*

*H<sub>1c</sub>: There is a significant difference in the means of males and females regarding e-banking features.*

*H<sub>1d</sub>: There is a significant difference in the means of different education levels regarding e-banking features.*

*H<sub>1e</sub>: There is a significant difference in the means of different income groups regarding e-banking features.*

*H<sub>2a</sub>: There is a significant difference in the means of public, private and foreign sector banks regarding customer satisfaction.*

*H<sub>2b</sub>: Customer loyalty is an important factor influencing customer retention.*

*H<sub>2c</sub>: Technology is an important factor influencing customer retention.*

*H<sub>3</sub>: There is a relation between customer retention and customer satisfaction.*

*H<sub>4</sub>: There is a significant difference between the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.*

### **3.3 Phases of Research**

The entire research activity is segregated into four phases of research:

*Phase I: Deep insights into e-banking scenario in Indian Banking Industry.*

Phase I of the study explores the existing literature on current status of e-banking services available in India and research studies conducted in other countries. Observations based on review suggest that there is sparse literature available on customer satisfaction and customer retention in relation to e-banking in India. The objectives were framed after review of literature and hypotheses were set for further analysis.

*Phase II: Finding the key determinants of customer retention and customer satisfaction in relation to e-banking and then focusing on attitude of users and non-users of e-banking.*

Phase II of this research, attempts to identify key determinants of customer retention and customer satisfaction in relation to e-banking services provided in India. Also it focuses on studying the attitude of users and non-users towards e-banking services. Extensive

literature review has been undertaken to finalise the key variables of both the constructs- customer retention & customer satisfaction in relation to e-banking and also of the attitude of users and non-users towards e-banking with respect to factors namely; convenience, security, cost and technology. The complete emphasis of this phase is on drafting the questionnaire for uncovering the information related to e-banking features, customer satisfaction, customer retention and customers' attitude towards convenience, security, cost and technology.

*Phase III: Choice of suitable research methods and techniques for analysis of data*

Phase III of this research focuses on selecting the suitable research methods and techniques for the analysis of data. Descriptive statistics, ANOVA, Factor analysis, Regression and Structural Equation Modeling (SEM) techniques have been used in the study for reaching at the results which fulfil the objectives.

*Phase IV: Designing a model for studying the interrelationship between attitude of users, customer satisfaction and customer retention in relation to e-banking.*

The last phase of the study endeavours to synthesize and design a structural model through Structural Equation Modeling technique (SEM) for studying the relation among the attitude of users, customer satisfaction and customer retention in relation to e-banking services provided by the Indian banking sector.

### **3.4 Research Design and Research Methods**

This section covers research design, sampling design, sources of data collection, details of questionnaire, validity and reliability and research methods used for data analysis in the study.

#### **3.4.1 Research Design**

The present study uses descriptive research design. Descriptive research design can be conducted in three ways i.e. Observational, case study and survey based analysis. This research revolves around a clearly defined problem for studying the relationship between customer satisfaction and customer retention in the context of e-banking. The study uses a survey analysis for collecting the responses from customers to find out the determinants of customer satisfaction and customer retention in relation to e-banking in India and also analyzing the attitude of users and non-users of e-banking services in India.

### 3.4.2 Sampling Design

Population can be defined as a group of people having similar interest for which the research proposes to investigate (Cavana *et al.*, 2001). The target population of this research is the various users of e-banking services and also some non-users of e-banking services residing in Delhi NCR.

Random stratified sampling technique has been used with a sample size of 400 for users of e-banking services and 100 for non users of e-banking services. This has been done for comparing the attitude between users and non-users of e-banking services as per the third objective of the study. The sampling unit is Delhi & NCR.

The study is based on data collection from six different strata i.e Delhi, Noida, Greater Noida, Ghaziabad, Faridabad, Gurgoan.

India is a federal union of states comprising twenty-nine states and seven union territories. Delhi is the capital of India and it is the largest commercial centre in northern India. Key service industries in Delhi are information technology, telecommunications, hotels, banking, media and tourism. Construction, power, health and community services, and real estate are also important to the city's economy. Delhi has one of India's largest and fastest growing retail industries. The neighboring states/regions of Delhi are Haryana and Uttar Pradesh. Delhi National Capital Region (NCR) covers Delhi, Gurgoan, Faridabad, Noida, Greater Noida, Ghaziabad. So broadly, three UT/states of India have been covered for collection of data viz. Delhi (Union Territory), Uttar Pradesh (Noida, Greater Noida, Ghaziabad) and Haryana (Gurgoan, Faridabad). The manufacturing submarkets of the NCR region are regulated under the development norms of a few nodal authorities, which include the Department of Industries, the Delhi Development Authority (DDA), Delhi State Industrial Development Corporation (DSIDC), Haryana Urban Development Authority (HUDA), and Uttar Pradesh State Industrial Development Corporation (UPSIDC) (JLL, 2014). Delhi/ NCT has user density of 17.6% second highest after Chandigarh (18.8). Delhi has 587,935 internet users, UP 625,561 has and Haryana 250,052 (Census of India, Household Tables, 2011).

The high penetration of industries is in Delhi, Haryana and Uttar Pradesh. Numbers of ATMs are concentrated more in Delhi, Greater Noida, Noida, Ghaziabad, Gurgoan and Faridabad as these cities are industrial, technological and educational hubs of our country and falls under the vicinity of Delhi NCR, so these are included in the sample. Ghaziabad was even included in the top ten fastest-growing cities in the world and the most

preferred destination for investment (Raaj, 2006). That is why these cities from three states/UT of India are included under the sample of the study which is representing the population of northern India.

The study uses self-structured questionnaire so as to take responses from customers who are using e-banking services. Questionnaires are an efficient data-collection mechanism for measuring the variables of interest. Questionnaires can be administered personally and mailed to the respondents or electronically distributed. Among these, the return rate of mail questionnaires is lowest, with a return rate of 30 percent (Cavana et al., 2001). Electronic questionnaires are easy to design and administer with ready-made programs. The key advantages to running an Internet survey questionnaire are accuracy, convenience, speed and reduced costs. The overall response rate of filled questionnaires ranges between 50%-65% depending on the population parameters (Black, Efron, Ioannou & Rose, 2005; McMellon and Schiffman, 2001).

It has been observed in other research studies also that almost double the questionnaires are distributed so as to get the required number of valid filled questionnaires. Thus, based on above studies to get maximum filled questionnaires, 800 questionnaires were distributed for e-banking users and 200 for non-users of e-banking. With frequent reminders and visits, the requisite data collected through questionnaires. Out of 800 distributed questionnaires, 415 valid questionnaires were received. The response rate is 51.8%. Four hundred questionnaires of users of e-banking services complete in all aspects have been taken for analysis. Two hundred questionnaires were distributed to non-users of e-banking services and 105 valid questionnaires were received. Response rate of non-users is 52.5%. 100 valid filled questionnaires of non-users have been taken for analysis. ANOVA has been conducted to compare the attitude of users and non-users of e-banking. ANOVA can be applied on unequal sample size also (Fujikoshi, 1993). Ho, Jung, Kim & Shim (2004) and Li, Kuo & Russel (2006) have also used ANOVA with unequal sample size for comparing online shoppers and non-online shoppers. Further regression analysis has been done separately for users and non-users to get greater insights. Moreover, the final model designed through the structural modeling depicting relation among users, customer satisfaction and customer retention comprises of data of 400 users of e-banking only.

### **3.4.3 Data Collection**

Primary data has been collected through self structured questionnaire. The period of data collection was from January 2011 to October 2011. The study has been conducted in Delhi NCR region in India. Delhi NCR covers Delhi, Gurgaon, Faridabad, Noida, Greater Noida, Ghaziabad. So broadly, three UT/states of India have been covered for collection of data viz. Delhi (Union Territory), Uttar Pradesh (Noida, Greater Noida, Ghaziabad) and Haryana (Gurgaon, Faridabad). Secondary data has been collected through RBI annual reports and also through Indiatat and internet worldstats database etc.

Questionnaire has been drafted with the help of literature review. Revisions were incorporated in the questions which were based on interactions with bankers and academicians in the banking sector. Few questions were clubbed and others were deleted after getting inputs from academicians and managers, as the questionnaire was deemed to be too lengthy. The final draft of questionnaire contains five sections. Demographic profile has been covered in initial section. Questions pertaining to e-banking features; determinants of customer satisfaction and customer retention, attitude of customers toward e-banking have been covered in other sections. Survey based analysis has been used for collection of primary data. The information collected from respondents has been compiled in Excel sheet according to standardized manuals used in various statistical tests. Subsequently the compiled data has been analyzed through SPSS v20 and Stata /IC13.

### **3.4.4 Details of Questionnaire**

**Questionnaire comprises of 5 sections.** Section A includes the basic information of the respondents such as Name, gender, age group, education, yearly income, resident of region under Delhi NCR and category of bank chosen among public, private and foreign sector bank. Section B captures information on E-banking features rated by the respondents. Section C and Section D focus on two constructs undertaken in the study i.e. Customer satisfaction and customer retention in relation to e-banking. Section C covers determinants of customer satisfaction of e-banking services. Section D focuses on the determinants of customer retention. The last section E focuses on customers' attitude towards e-banking services with respect to factors namely; convenience, security, cost and technology for making comparison between users and non-users of e-banking

services. Following Table 3.1 shows the gist of questions along with details of response method used:

**Table 3.1: Details of Questionnaire**

Sr. No.	Gist of Questions	Response method	Basic Objective/ Purpose
<b>Section A</b>			
Demographic Profile		Please tick (✓) one option	Demographic characteristics
1.	Age	✓	
2.	Gender	✓	
3.	Education	✓	
4.	Yearly Income	✓	
5.	Place of residence	✓	
6.	Category of Bank	✓	
<b>Section B</b>			
E-banking features		Rating each factor on Likert's 5 point scale (1, 2, 3, 4, 5) by ticking (☐) on one of the five boxes (1 means least priority, 5 highest priority)	E-banking features
7.	Convenient operating hours	✓	
8.	Safety of funds transfer on net	✓	
9.	Reasonable Service charges	✓	
10.	ATM Services	✓	
11.	Internet banking Assistance	✓	
12.	Depository Services	✓	
13.	Credit card Services	✓	
14.	Debit card Services	✓	
15.	Phone banking facility	✓	
16.	Other IT based services	✓	
17.	One stop banking	✓	
18.	Innovative services	✓	

<b>Section C</b>		
	Determinants of Customer Satisfaction	Rating each factor on Likert's 5 point scale (1, 2, 3, 4, 5) by ticking (☐) on one of the five boxes.(1 means least priority, 5 highest priority)
19.	I am more inclined in getting personal services from bank.	√
20.	My bank always resolves any banking problem and provides customer care services anytime/anywhere.	√
21.	E-banking has enhanced channel activity of my bank.	√
22.	Elimination of free checks and implementation of new fees affects me.	√
23.	I am happy with the latest facilities provided by my bank.	√
24.	It is easy to use e- banking services offered by my bank.	√
25.	I am adapting to the latest technological advancements in e-banking.	√
26.	E-banking facilitates accessing account information anywhere in the world.	√
27.	I have confidence in e-banking services provided by my bank.	√
28.	I see synchronization of work and cordial relations among banking staff.	√

Factors Influencing  
Customer  
Satisfaction

<b>Section D</b>		
	Determinants of Customer Retention	Rating each factor on Likert's 5 point scale (1, 2, 3, 4, 5) by ticking (☐) on one of the five boxes.(1 means least priority, 5 highest priority)
29.	Comfort of electronic banking channels to carryout banking transactions than physically going to branch.	√
30.	Preference to choose the Internet banking service of prime bank.	√
31.	Security of availability and managing of financial information over internet.	√
32.	E-Banking has reduced the 'Gap' between the bank and the client.	√
33.	Necessity of Human contact between bank and the customer.	√
34.	Invasion of technology has improved the service level of banks.	√
35.	I-banking services are replacing physical branches.	√
36.	Inconvenience in changing bank.	√
37.	Satisfaction regarding e-banking services.	√
38.	Accuracy in reporting transactions.	√
39.	Providing updated information regarding rewards and schemes.	√
40.	Willingness to pay a higher price for using secure Internet banking service.	√
41.	Technical expertise of staff.	√
42.	Safety Measures of banks.	√

Factors Influencing Customer Retention

43.	Good relationship with staff.	√	
44.	Ability to meet consumers' changing demands.	√	
45.	24*7 Telephonic support.	√	
46.	Implementation of latest technology by banks.	√	
<b>Section E</b>			
	Customers' Attitude towards E-banking	Rating each factor on Likert's 5 point scale (1, 2, 3, 4, 5) by ticking (☐) on one of the five boxes.(1 means least priority, 5 highest priority)	
<b>EI: Convenience</b>			
47.	It is easy to navigate online services.	√	Convenience Factors
48.	Online banking facility enables to handle finances efficiently.	√	
49.	Online banking facilities are open 24/7, thus providing flexibility and accessibility to money anytime of the day and anywhere in the world.	√	
50.	E-banking provides the comfort to transact from home with just a click.	√	
51.	Online banking comprises of sophisticated tools that provide effective management of financial assets.	√	
52.	Transaction is executed at an unparalleled speed with the help of internet.	√	
53.	E-banking efficiently handles multiple bank accounts on one site.	√	
54.	First time logging of online banking may take some time.	√	

<b>EII: Security</b>			
55.	Clear & brief instructions on the web page.	√	Security Factors
56.	E-banking services provide strong commitment for security issues.	√	
57.	Using Internet for transaction is safe.	√	
58.	Banks keep customers information confidential.	√	
59.	Confidential information is safely delivered from bank to customer.	√	
60.	Awareness about cyber security certificates on banking website login page.	√	
61.	Online banking may ask for identification in the form of certain codes.	√	
<b>E III: Cost</b>			
62.	E-banking operations are costly.	√	Cost Factors
63.	Internet connection is necessary for operating e-banking services & involves heavy cost.	√	
64.	E-banking is cheaper than physical banking.	√	
65.	Transfer of funds online from one account to another is chargeable.	√	
66.	Yearly charges are applicable on some of e-banking services irrespective of service usage.	√	
<b>E IV: Technology</b>			
67.	E-banking manages banking transactions efficiently.	√	Technology
68.	E-banking is useful in conducting banking activities effortlessly.	√	
69.	It's easy to become skilled in using internet banking.	√	

Pilot study was conducted for pre-testing of questionnaire on a group of 50 respondents for ensuring its effectiveness. Valuable suggestions of academicians and bank managers were incorporated and some of questions were reframed for satisfying the research objectives. The details of the final questionnaire are provided in Appendix A. Reliability of the structured questionnaire was determined with the help of Cronbach Alpha (Cronbach, 1951).

### 3.4.5 Reliability and Validity

Validity and reliability of the questionnaire was tested. Validity is the property by which a questionnaire measures what it is supposed to measure. The questionnaire was validated by the academicians and bank managers. It possesses a good validation score (3.75 on a scale of 5). The changes suggested by experts were incorporated in the questionnaire. Some questions were deleted and at same time, some were rephrased.

Reliability applies to a measure when similar results are obtained over time and across situations. Cronbach alpha is used to determine the reliability of the scales and results. The standard of Cronbach alpha is 0.7 (Nunnally, 1978) and the higher the coefficients, the more reliable the measuring instrument (Ghauri *et al.*, 1995). The questions in the questionnaire underwent validity and reliability assessment to ensure meaningful findings. The reliability score of questionnaire has been presented in Table 3.2.

**Table 3.2: Reliability Statistics**

S.No.	Items	Factor Name	Cronbach Alpha
1.	12	E- Banking Features	0.898
2.	10	Determinants of Customer Satisfaction	0.929
3.	18	Determinants of Customer Retention	0.936
4.	23	Customers' attitude towards e-banking regarding convenience, security, cost and technology	0.848
	63	Total	0.966

In the present study, the questionnaire has an overall reliability score of 0.966. Hence the questionnaire was found to be valid and reliable to be used for the present research study.

### 3.4.6 Research Methods

Data has been analyzed with the help of SPSS (Statistical Package for Social Sciences) package version 20 and Stata /IC13. Completed questionnaires were checked and coded

before the raw data was entered for analysis. A number of statistical techniques were applied to test and interpret the results of the data analysis. These include: Descriptive Statistics, ANOVA, Factor analysis, Step-wise Regression analysis and Structured Equation Modeling to test hypotheses of the study which are briefly explained below:

#### **3.4.6.1 Descriptive Statistics**

Descriptive statistics provide summaries about the sample and about the observations that have been made. Mean and Standard Deviation has been calculated and depicted through tables and figures for the different e-banking features on the basis of categories of banks, gender, age, education and income levels of the respondents.

#### **3.4.6.2 The Analysis of Variance (ANOVA)**

Analysis of variance (ANOVA) is a technique for studying cause and effect of one or more factors (independent variables) on a single dependent variable. In the present study, One-way ANOVA has been used. ANOVA has been applied to study whether there is significant difference in the means of e-banking features on the basis of three categories of banks. ANOVA has also been so applied to determine whether there is significant difference in the means of e-banking features and other demographic variables viz. age, gender, education and income. Also it has been used to study whether there is significant difference between customer satisfaction and category of banks. ANOVA has also been conducted to visualize that whether there is a significant difference in the attitude of users and non-users towards e-banking with respect to four factors viz. convenience, security, cost and technology. ANOVA has been conducted to compare the attitude of users and non-users of e-banking with respect to factors namely, convenience, cost, security and technology. Post-hoc Tukey has been used studying for intergroup variations.

#### **3.4.6.3 Regression Analysis**

Step-wise Regression technique has been applied for studying the relationship between customer satisfaction and customer retention in relation to e-banking. It has been used to for extracting the effective determinants of customer retention. Ten determinants of customer satisfaction have been taken as independent variables. Regression technique has also been applied to study the relation between customer satisfaction and attitude of users and non-users towards convenience, security, cost and technology.

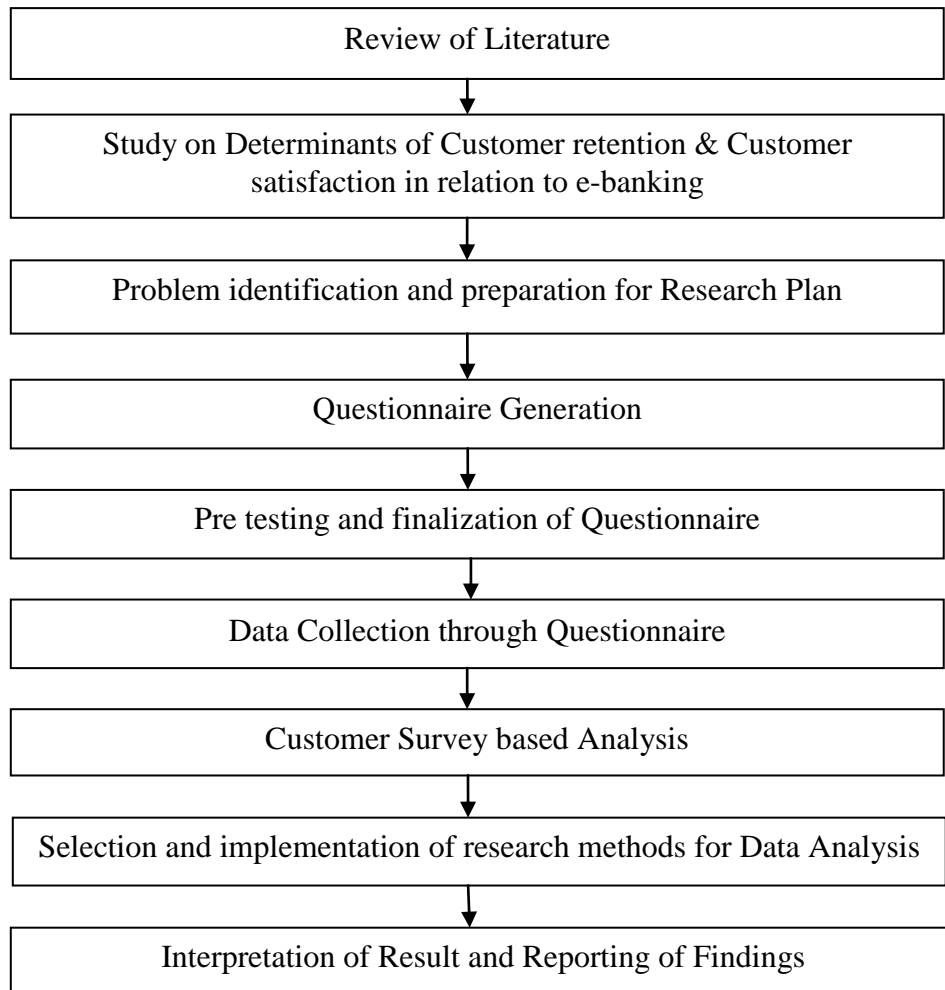
#### **3.4.6.4 Factor Analysis**

Factor analysis attempts to identify a set of dimensions that is not directly observable in a large set of variables. This analysis is used to summarize a majority of the information in a data set in terms of relatively lesser new categories, called factors (Cooper and Schindler, 2006). Factor analysis in the present study has been used for reducing the number of variables of customer retention into smaller number of factors.

#### **3.4.6.5 Structural Equation Modeling**

Structural Equation Modeling is basically a multivariate analysis technique that comprises of specified versions of a number of other analysis methods as unique cases. It is used to describe a family of statistical methods designed to test a conceptual or theoretical model. SEM has been applied in the present research to study interrelationship among the attitude of users, customer satisfaction and customer retention in relation to e-banking services. SEM was applied with the help of Stata /IC13. Goodness of fit indices have been calculated to see whether they are above the threshold levels.

### 3.5 Research Framework

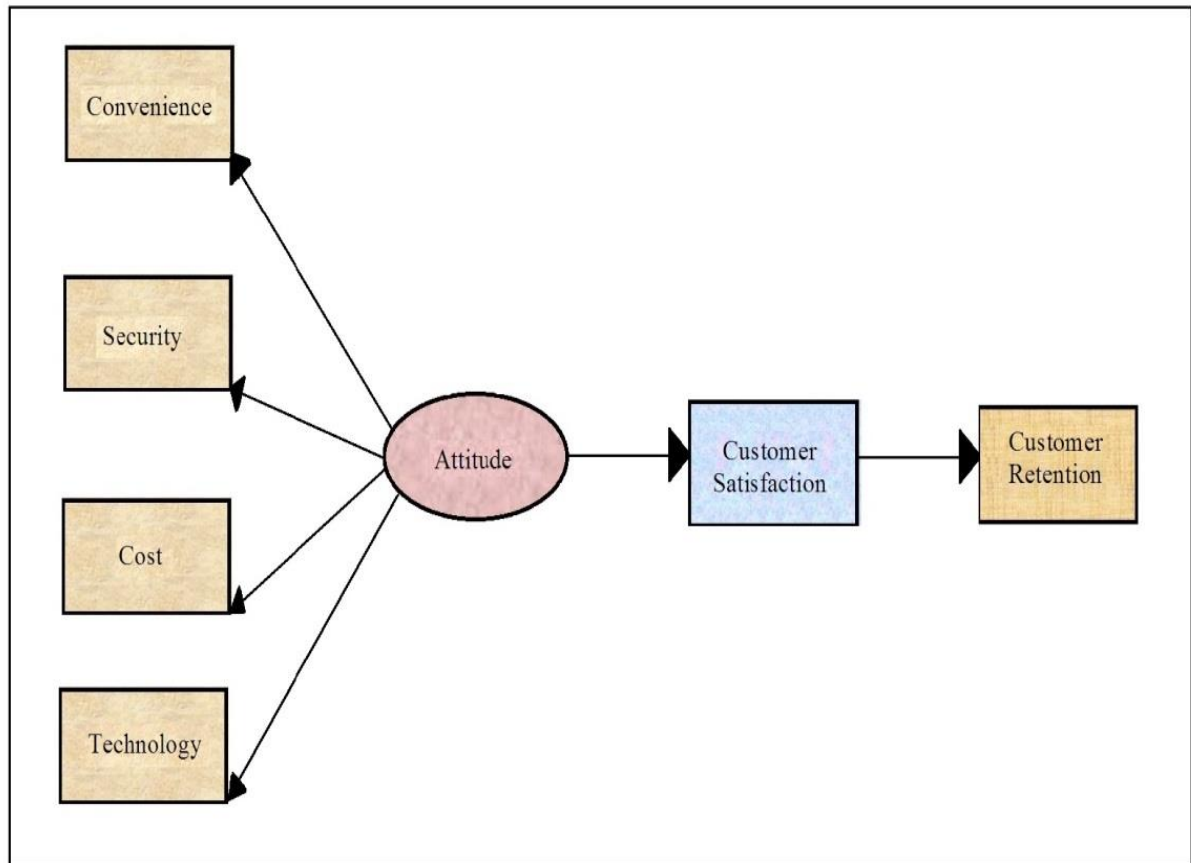


**Figure 3.1 Research Framework**

### 3.6 Conceptual Research Model

Figure 3.2 highlights the conceptual research model depicting the hypothesized relationship among the attitude of users towards e-banking with respect to factors, namely; convenience security, cost and technology, determinants of customer satisfaction and customer retention in relation to e-banking services in Indian banking industry. Earlier research studies conducted in India covered adoption of e-banking in India (Sangaran, 2001; Sathye, 1999; Singh & Malhotra, 2004), some studies focused on comparing the performance of public sector banks with private and foreign sector banks on the basis of e-banking services provided by these banks (Texak and Kaur, 2009; Soma & Sarkar, 2008; Sur 2007; Rengasamy & Gudep,2006) but attitude of users towards e-banking services with respect to factors namely; convenience, security, cost and

technology has hardly been given any consideration. Even factors affecting customer satisfaction and customer retention are emphasized in research studies, but not given due consideration. So a comprehensive conceptual model is proposed for giving direction to the research study.



**Figure 3.2 Conceptual research model depicting relation among Attitude of users, Customer Satisfaction and Customer Retention in relation to E-banking**

Figure 3.2 clearly demonstrates that the proposed conceptual model is depicting the relation among attitude of users towards e-banking with respect to factors, namely; convenience, security, cost and technology, customer satisfaction and customer retention. Customer satisfaction is regarded as the key to customer retention (Kotler, 1994) and has been taken as a fundamental determinant of long-term customer behaviour and customer retention (Oliver, 1980; Yi, 1990). Customer satisfaction construct used in our study comprises of ten variables viz. Personal services, Problem resolution and customer care, Channel activity, Fees and elimination of free checks, Facilities, Ease of use, Technology adoption, Account information, Confidence and relation among staff. Satisfaction is important to customers, because it represents a positive outcome for the money spent to fulfill their needs (Day and Landon, 1977) and also focusing on satisfying customer needs

and wants ensures repeat purchase (Kotler et al., 2002). Customer retention comprises of 18 variables which were reduced to three factors through factor analysis. This proposed model describes the affect of attitude of users with respect to factors, namely; convenience, security, cost and technology on customer satisfaction. Some factors may be positively affecting customer satisfaction and some negatively affecting customer satisfaction and need to be analyzed, and this will help bankers to improve them for bringing affirmative change in the attitude of users. Customer satisfaction in turn affects customer retention (Rust and Zahorik,1993; Kotler, 1994; Lee, Lee & Feick, 2001). The findings of these studies show that there may be a need to review the conceptual thought of the strong relationship between customer satisfaction and retention. Indeed, literature on the relationship between customers' overall satisfaction and customer retention are controversial (Oliva et al., 1992; Brown, Churchill & Peter, 1993; Oliva, Oliver & Bearden, 1995; Mitall, Rose & Baldasare, 1998).

### **Concluding Remarks**

Selection of a suitable research design and methodology is one of the most significant aspects that surface the means for targeted outcomes in the complete research process. This chapter has elaborated the details of step by step approach employed for carrying out the research activity. This chapter has presented a summary of methodology used for analyses of primary data collection. Methodology applied at different phases of this study has been explained. Finally, a brief overview of research methods used to test the hypotheses like ANOVA, Factor analysis, Regression analysis, Structural Equation Modeling has also been specified.

## **CHAPTER-IV**

### **DATA ANALYSIS AND INTERPRETATION**

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This chapter deals with analysis and discussions of the responses gathered from the respondents by conducting the survey of 400 e-banking users and 100 non-users from Delhi NCR region viz. Delhi (Union Territory and also capital of India), Gurgaon & Faridabad (from state of Haryana) and Ghaziabad, Noida and Greater Noida (from state of Uttar Pradesh). The study investigates the relationship between two constructs i.e. customer satisfaction and customer retention in relation to e-banking services in India. The study covers the attitude of e-banking users and non-users with respect to factors namely; convenience, security, cost and technology. The study moves on to designing a structural model depicting relation among attitude of users, customer satisfaction and customer retention in relation to e-banking.

Section 4.1 covers the profile of respondents; Section 4.2 covers e-banking features offered by the three categories of banks. Indian banking sector comprises of public sector, private sector and foreign sector banks. It is essential to compare the perception of sample population regarding e-banking features on the basis of services offered by public, private and foreign sector banks. This section tries to analyze the e-banking features on the basis of demographic profile of respondents, viz. age, gender, education and income. Section 4.3 deals with determinants of customer satisfaction, Section 4.4 covers determinants of customer retention and Section 4.5 covers the analysis of the interrelationships between constructs-customer retention and customer satisfaction in e-banking. Section 4.6 depicts the analysis of the comparison between the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology. Also this section covers the analysis of the relationship between attitude of users/non-users and customer satisfaction. Finally, section 4.7 deals with designing a structural model depicting the integrated picture covering relation among attitude of users, customer satisfaction and customer retention.

#### **4.1 Demographic Profile of respondents**

Demographic characteristics of respondents undertaken in the present study are age, gender, education, income, geographical area and bank category wise distribution of

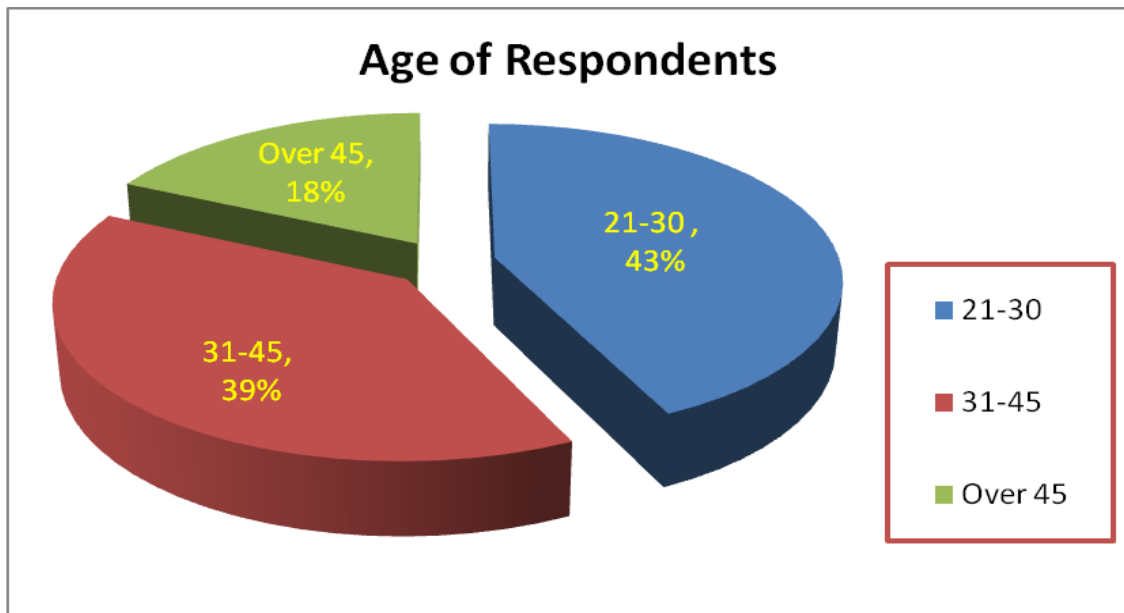
respondents. Table 4.1 represents the demographic characteristics of the respondents which are shown below:

**Table 4.1 Demographic characteristics of respondents**

Demographic characteristics	Classification	Frequency	Percentage
Age	21-30	172	43%
	31-45	156	39%
	Over 45	72	18%
Gender	Male	256	64%
	Female	144	36%
Education	Undergraduate	67	16.75%
	Graduate	141	35.25%
	Postgraduate	192	48%
Income	Low Income Group(Less than Rs.3 lakh)	136	34%
	Medium Income Group(Rs.3 lakh-Rs.5 lakh)	104	26%
	High Income Group(Greater than Rs.5 lakh)	160	40%
Area wise Distribution (Delhi NCR Users)	Delhi	238	59.5%
	Noida, Greater Noida, Ghaziabad (Uttar Pradesh)	90	22.5%
	Gurgoan, Faridabad (Haryana)	72	18%
Area wise Distribution (Delhi NCR Non-users )	Delhi	39	39%
	Noida, Greater Noida, Ghaziabad (Uttar Pradesh)	32	32%
	Gurgoan, Faridabad (Haryana)	29	29%
Category of Banks	Public Sector Bank	224	56%
	Private Sector Bank	141	35%
	Foreign Sector Bank	35	9%

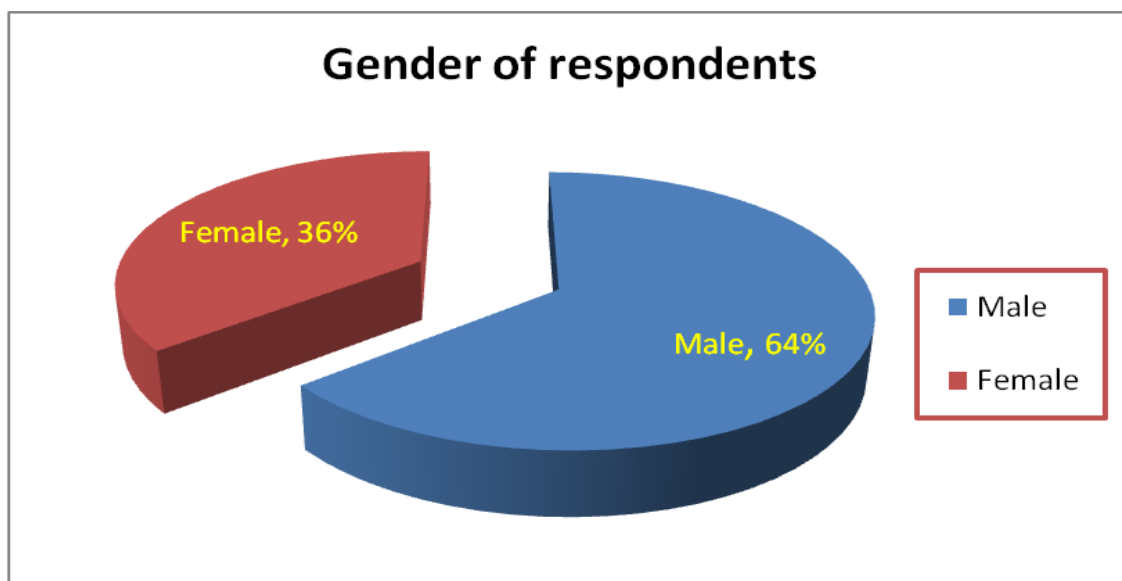
The demographic characteristics undertaken in the present study are explained separately as below:

*4.1.1 Age Group of Respondents* - The age groups of respondents undertaken in the study are: 21-30; 31-45 and over 45. As depicted through Figure 4.1, respondents falling in the age group of 21-30 years are 43%. This was followed by 39% of respondents in the age group of 31-45. 18% respondents are over 45 years. The response rate from the last category i.e. over 45, is lower than the other two other categories.



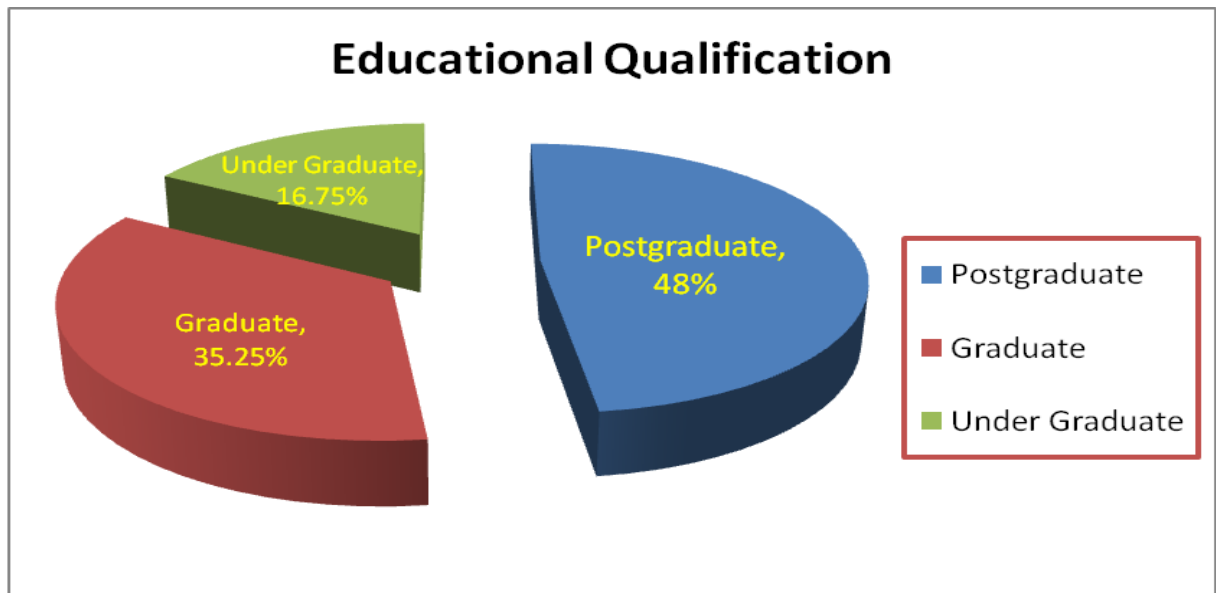
**Figure 4.1: Age of Respondents**

4.1.2 *Gender of Respondents* - The sample was dominated by males. Gender-wise analysis as shown in Figure 4.2 indicates that 64 percent respondents are males and 36 percent are females.



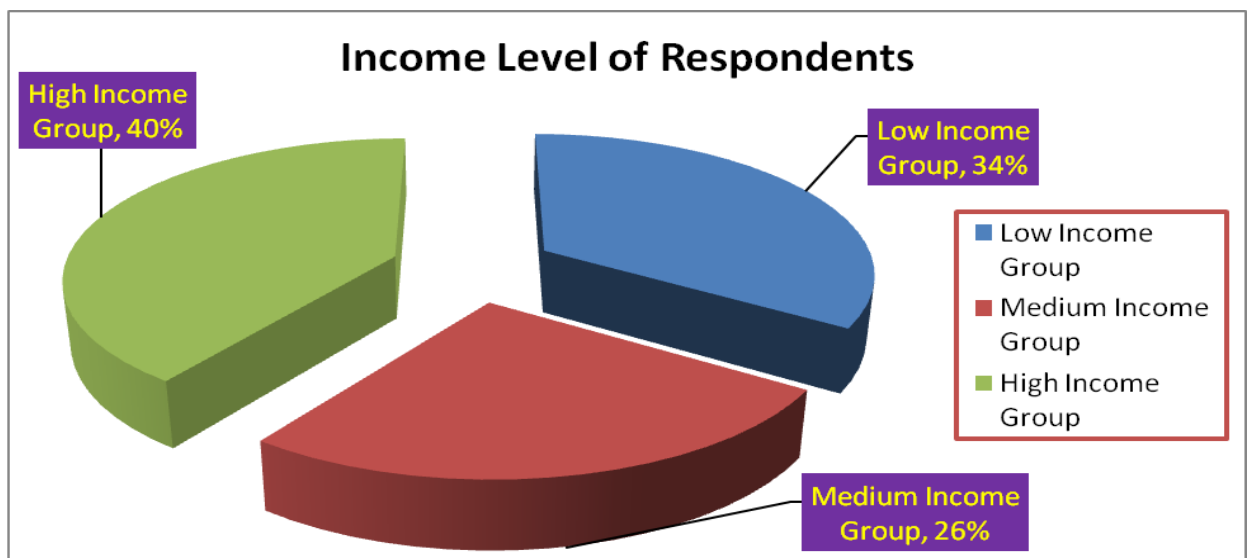
**Figure 4.2: Gender of Respondents**

4.1.3 *Educational qualification of Respondents*- Three levels of education chosen for the survey are: Undergraduate, Graduate and Postgraduate. Figure 4.3 indicates that majority of respondents are postgraduates. This group comprises 48% of the sample followed by graduates with 35.25% of the sample and only a small category comprises of undergraduates (16.75%).



**Figure 4.3: Educational Qualification of Respondents**

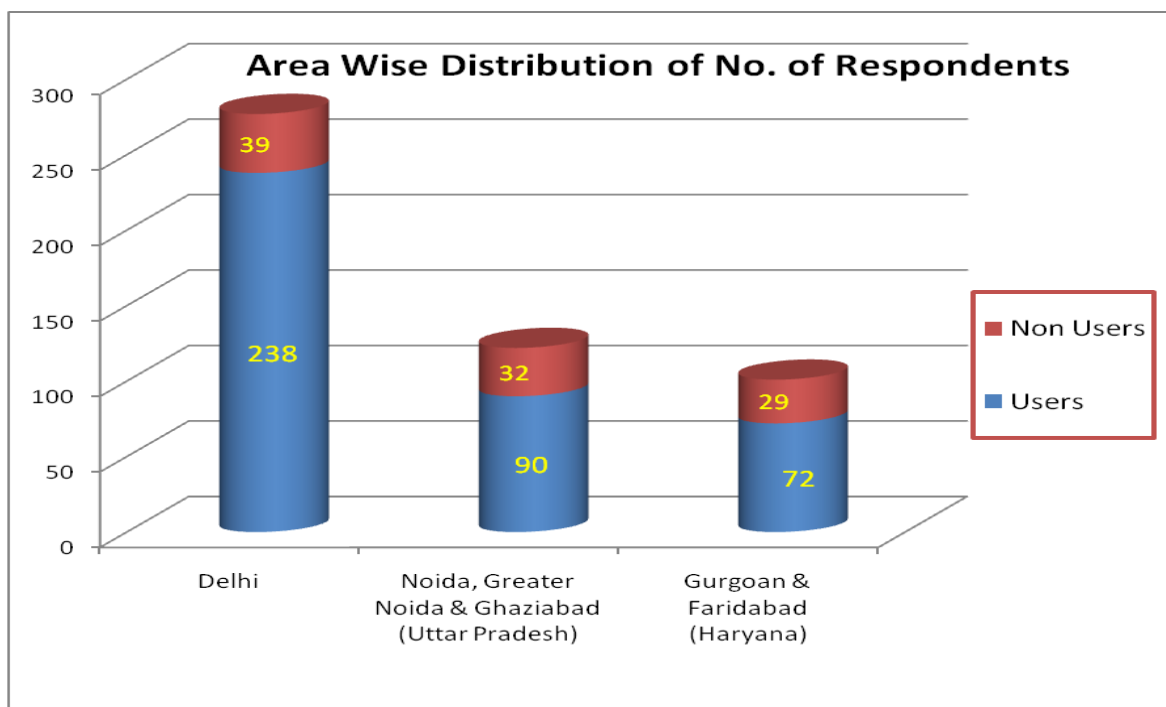
**4.1.4 Income Level of Respondents-** The level of income groups defined in the study are: High income group having yearly income more than Rs.5 lakh, Medium income group having yearly earning ranging between Rs.3 lakh-Rs.5 lakh and Low income group having yearly income less than Rs.3 lakh. Majority of respondents (40%) are falling in the high income bracket. This is followed by low income group (34%) and lowest responses have been received from respondents belonging to middle income group (26%) as shown in Figure 4.4.



**Figure 4.4: Income Level of Respondents**

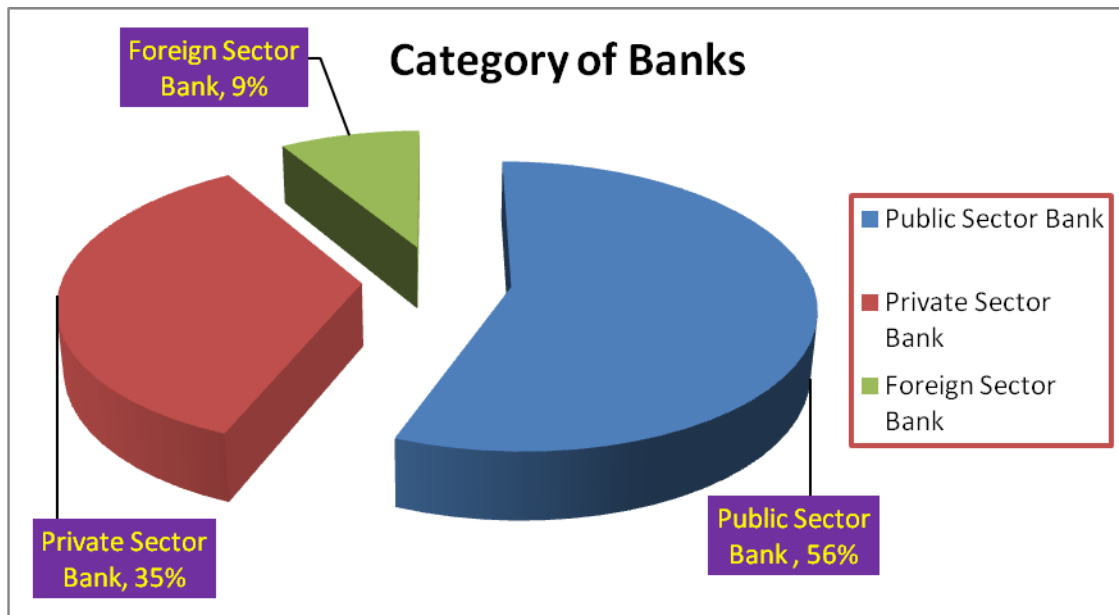
**4.1.5 Area-wise Distribution of Sample:** Data has been collected from Delhi NCR region covering areas viz. Delhi, Gurgaon, Faridabad, Noida, Greater Noida and Ghaziabad. So three states /UT have been covered for collection of data i.e. Delhi, Haryana (Gurgaon,

Faridabad) and Uttar Pradesh (Noida, Greater Noida and Ghaziabad). In all 415 questionnaires were received out of 800 physically distributed questionnaires. Four hundred questionnaires complete in all aspects have been taken for the study. This represents only e-banking users. Figure 4.5 indicates that majority of respondents belong to Delhi (238), next are from Uttar Pradesh (90) i.e. Noida and Greater Noida (58) and Ghaziabad (32) and from Haryana (72) i.e. Gurgaon (46), Faridabad (26). In addition there were 100 non-users representing 39 from Delhi, 32 from Uttar Pradesh [Noida & Greater Noida (19) and Ghaziabad (13)] and 29 from Haryana [Gurgaon (17) and Faridabad (12)].



**Figure 4.5: Area-Wise Distribution of Sample of Users And Non-Users**

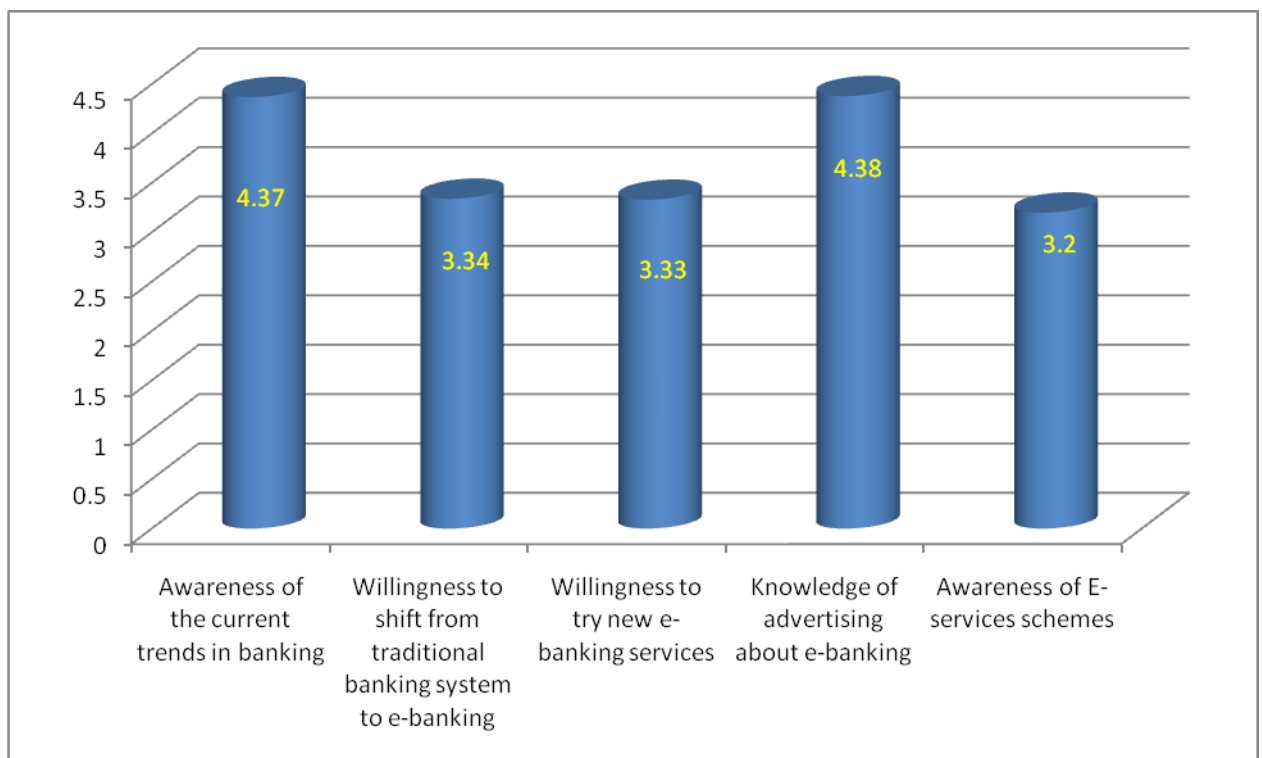
**4.1. 6 Category of Banks-** The study has covered respondents from public sector banks, private sector banks and foreign sector banks. Category of banks analysis as shown in Figure 4.6 highlight that respondents from public sector banks constitute the majority i.e. 56%, respondents from private sector banks constitute 35% and respondents from foreign banks constitute 9% of sample. Majority of users still prefer to have account with public and private sector banks as compared to foreign sector banks.



**Figure 4.6: Category of Banks**

*4.1.7. Users' Attitude towards adoption of E-Banking:*

Before covering e-banking features, customer satisfaction and customer retention, it is important to know the users' attitude towards adoption of e-banking.



**Figure 4.7: Users' Attitude towards Adoption of E-Banking**

As reflected through Figure 4.7, the respondents are reflecting readiness towards e-banking. Awareness of knowledge of advertising about e-banking, followed by current trends in banking has got the highest rating. Awareness of e-banking services has a little

lower score, but overall results reflect that sample respondents possessed requisite adoption levels to proceed further with analysis.

## **4.2. E-banking Features and Demographic Characteristics**

This section focuses on analyzing the e-banking features on the basis of demographic profile and also on the basis of category of banks. E-banking features have impact on customer loyalty and are of immense importance for customer satisfaction and customer retention (Oliver, 1980). Based on review of literature, following 12 features of e-banking are included in the present research. These are:

Convenient operating hours, Safety of funds transfer on net, Reasonable service charges, ATM services, Internet banking assistance, Depository services, Credit card services, Debit card services, Phone banking facility, Other IT based services, One stop banking and Innovative services.

Effort was made to compare e-banking features on the basis of age, gender, education, income and also on the basis of category of banks. Accordingly the following hypotheses have been framed:

*H<sub>1a</sub>: There is a significant difference in the means of private, public and foreign sector banks regarding e-banking features.*

*H<sub>1b</sub>: There is a significant difference in the means of different age groups regarding e-banking features.*

*H<sub>1c</sub>: There is a significant difference in the means of males and females regarding e-banking features.*

*H<sub>1d</sub>: There is a significant difference in the means of different education levels regarding e-banking features.*

*H<sub>1e</sub>: There is a significant difference in the means of different income groups regarding e-banking features.*

ANOVA has been used to test the hypotheses and for intergroup comparisons Post hoc Tukey has been used.

### **4.2.1. E-banking Features and Category of banks-Private, Public and Foreign Banks**

*H<sub>1a</sub>: There is a significant difference in the means of private, public and foreign banks regarding e-banking features.*

Many research studies reveal that foreign sector and private sector banks are more effective in implementation of e-banking services, whereas public sector banks are found

to have lesser degree of effectiveness in delivering e-services (Vyas, 2004; Reddy, 2001; Mishra *et al.*, 2011). Thus, this study tries to analyze whether there is a significant difference in the features of e-banking on the basis of three categories of banks i.e. public, private and foreign banks.

**Table 4.2: Bank-wise analysis of E-banking features**

Category of Bank→	Private Sector Bank		Public Sector Bank		Foreign Sector Bank		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Convenient operating hours	2.87	1.16	2.64	.89	3.74	1.42	3.08	1.16
Safety of funds transfer on net	2.62	.94	2.82	1.07	3.63	1.39	3.02	1.13
Reasonable service charges	2.06	.69	2.36	.67	2.46	.61	2.29	0.66
ATM services	4.11	.44	3.89	.31	4.49	.56	4.16	0.44
Internet Banking assistance	2.42	.75	2.43	.87	3.51	1.46	2.79	1.03
Depository services	2.40	.82	2.36	.77	3.11	.96	2.62	0.85
Credit Card Services	2.99	.57	2.93	.59	3.51	.51	3.14	0.56
Debit Card Services	2.77	.95	2.32	.71	3.23	.97	2.77	0.88
Phone banking facility	2.74	.98	2.11	.62	3.14	.97	2.66	0.86
Other IT based services	2.37	.67	2.11	.56	2.57	.56	2.35	0.60
One stop banking	3.38	1.05	3.75	.64	3.51	.95	3.55	0.88
Innovative services	2.36	.74	2.18	.54	3.51	1.46	2.68	0.91
Overall Mean	2.76		2.66		3.37		2.93	

As is clearly visible from Table 4.2 overall mean of foreign sector banks is highest, followed by private sector banks and least for public sector banks. This means that customers gave highest ratings to e-banking features of foreign sector banks except for one stop banking which is higher for public sector banks. In terms of safety of funds transfer on net, reasonable service charges, internet banking assistance and of course one stop banking, public sector banks scored a little higher than private sector banks. In case of convenient operating hours, ATM Services, Debit card services, Credit card services, Depository services and Phone banking facility, private sector outperformed the public sector banks (Rengasamy *et al.*, 2006). In case of Innovative services and other IT based services, Public sector banks have a long way to go. One thing is very obvious from

broad results that private and public sector banks need to learn more from foreign sector banks.

Next step was to find out whether there is a significant difference in the e-banking features of Private, Public and Foreign sector banks. ANOVA has been used to find out whether there is a significant difference in the means of e-banking features according to category of banks.

**Table 4.3 ANOVA Results for E-banking features and Category of Banks**

E-Banking Features/ Category of Banks		Sum of Squares	Df	Mean Square	F	Sig.
Convenient operating hours	Between Groups	37.224	2	18.612	16.877	.000***
	Within Groups	437.816	397	1.103		
	Total	475.040	399			
Safety of funds transfer on net	Between Groups	28.692	2	14.346	12.760	.000***
	Within Groups	446.348	397	1.124		
	Total	475.040	399			
Reasonable service charges	Between Groups	9.300	2	4.650	10.275	.000***
	Within Groups	179.660	397	0.453		
	Total	188.960	399			
ATM Services	Between Groups	12.264	2	6.132	40.863	.000***
	Within Groups	59.576	397	0.150		
	Total	71.840	399			
Internet Banking Assistance	Between Groups	37.928	2	18.964	23.682	.000***
	Within Groups	317.912	397	0.801		
	Total	355.840	399			
Depository services	Between Groups	17.631	2	8.816	13.622	.000***
	Within Groups	256.929	397	0.647		
	Total	274.560	399			
Credit Card Services	Between Groups	10.428	2	5.214	15.498	.000***
	Within Groups	133.572	397	0.336		
	Total	144.000	399			
Debit Card Services	Between Groups	34.794	2	17.397	25.414	.000***
	Within Groups	271.766	397	0.685		
	Total	306.560	399			
Phone banking facility	Between Groups	54.435	2	27.217	43.048	.000***

	Within Groups	251.005	397	0.632		
	Total	305.440	399			
Other IT based services	Between Groups	10.137	2	5.069	14.089	.000***
	Within Groups	142.823	397	0.360		
	Total	152.960	399			
One stop banking	Between Groups	11.938	2	5.969	8.584	.000***
	Within Groups	276.062	397	0.695		
	Total	288.000	399			
Innovative services	Between Groups	54.007	2	27.003	50.059	.000***
	Within Groups	214.153	397	0.539		
	Total	268.160	399			

\*\*\* p<.001; \*\* p<.01; \* p<.05

ANOVA results shown in Table 4.3 are clearly indicative of significant difference in e-banking features on the basis of the three categories of banks considered in the study. Thus hypothesis,  $H_{1a}$  that there is a significant difference in the means of private, public and foreign sector banks regarding e-banking features has been accepted as p-value is significant for all the features. This has been supported by earlier studies also (Khatri & Ahuja, 2010; Vyas, 2004; Singh and Arora, 2011).

After analyzing the differences, Post hoc Tukey HSD has been performed for each feature to understand where the difference is significant. The results are shown through Table 4.4.

**Table 4.4: Post hoc Test for E-banking features and Category of banks**

Multiple Comparisons							
Tukey HSD							
Dependent Variable	(I) Bank category	(J) Bank Category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Convenient operating hours	Private Sector Bank	Public sector bank	.229	.113	.106	-.04	.50
		Foreign Sector bank	-.871	.198	.000***	-1.34	-.40
	Public Sector Bank	Private sector bank	-.229	.113	.106	-.50	.04
		Foreign Sector bank	-1.100	.191	.000***	-1.55	-.65
	Foreign Sector Bank	Private sector bank	.871	.198	.000***	.40	1.34
		Public sector bank	1.100	.191	.000***	.65	1.55
Safety of funds transfer on net	Private Sector Bank	Public sector bank	-.204	.114	.173	-.47	.06
		Foreign Sector bank	-1.012	.200	.000***	-1.48	-.54

	Public Sector Bank	Private sector bank	.204	.114	.173	-.06	.47
		Foreign Sector bank	-.807	.193	.000***	-1.26	-.35
	Foreign Sector Bank	Private sector bank	1.012	.200	.000***	.54	1.48
		Public sector bank	.807	.193	.000***	.35	1.26
Reasonable service charges	Private Sector Bank	Public sector bank	-.300	.072	.000***	-.47	-.13
		Foreign Sector bank	-.400	.127	.005**	-.70	-.10
	Public Sector Bank	Private sector bank	.300	.072	.000***	.13	.47
		Foreign Sector bank	-.100	.122	.692	-.39	.19
	Foreign Sector Bank	Private sector bank	.400	.127	.005**	.10	.70
		Public sector bank	.100	.122	.692	-.19	.39
ATM Services	Private Sector Bank	Public sector bank	.214	.042	.000***	.12	.31
		Foreign Sector bank	-.379	.073	.000***	-.55	-.21
	Public Sector Bank	Private sector bank	-.214	.042	.000***	-.31	-.12
		Foreign Sector bank	-.593	.070	.000***	-.76	-.43
	Foreign Sector Bank	Private sector bank	.379	.073	.000***	.21	.55
		Public sector bank	.593	.070	.000***	.43	.76
Internet Banking Assistance	Private Sector Bank	Public sector bank	-.010	.096	.994	-.24	.22
		Foreign Sector bank	-1.096	.169	.000***	-1.49	-.70
	Public Sector Bank	Private sector bank	.010	.096	.994	-.22	.24
		Foreign Sector bank	-1.086	.163	.000***	-1.47	-.70
	Foreign Sector Bank	Private sector bank	1.096	.169	.000***	.70	1.49
		Public sector bank	1.086	.163	.000***	.70	1.47
Depository services	Private Sector Bank	Public sector bank	.047	.086	.849	-.16	.25
		Foreign Sector bank	-.710	.152	.000***	-1.07	-.35
	Public Sector Bank	Private sector bank	-.047	.086	.849	-.25	.16
		Foreign Sector bank	-.757	.146	.000***	-1.10	-.41
	Foreign Sector Bank	Private sector bank	.710	.152	.000***	.35	1.07
		Public sector bank	.757	.146	.000***	.41	1.10
Credit card services	Private Sector Bank	Public sector bank	.057	.062	.629	-.09	.20
		Foreign Sector bank	-.528	.110	.000***	-.79	-.27
	Public Sector Bank	Private sector bank	-.057	.062	.629	-.20	.09
		Foreign Sector bank	-.586	.105	.000***	-.83	-.34
	Foreign Sector Bank	Private sector bank	.528	.110	.000***	.27	.79
		Public sector bank	.586	.105	.000***	.34	.83
Debit card Services	Private Sector Bank	Public sector bank	.452	.089	.000***	.24	.66
		Foreign Sector bank	-.456	.156	.010**	-.82	-.09
	Public	Private sector bank	-.452	.089	.000***	-.66	-.24

	Sector Bank	Foreign Sector bank	-.907	.150	.000***	-1.26	-.55
	Foreign Sector Bank	Private sector bank	.456	.156	.010**	.09	.82
		Public sector bank	.907	.150	.000***	.55	1.26
Phone banking facility	Private Sector Bank	Public sector bank	.630	.085	.000***	.43	.83
		Foreign Sector bank	-.405	.150	.020*	-.76	-.05
	Public Sector Bank	Private sector bank	-.630	.085	.000***	-.83	-.43
		Foreign Sector bank	-1.036	.145	.000***	-1.38	-.70
	Foreign Sector Bank	Private sector bank	.405	.150	.020*	.05	.76
		Public sector bank	1.036	.145	.000***	.70	1.38
Other IT based Services	Private Sector Bank	Public sector bank	.262	.064	.000***	.11	.41
		Foreign Sector bank	-.203	.113	.175	-.47	.06
	Public Sector Bank	Private sector bank	-.262	.064	.000***	-.41	-.11
		Foreign Sector bank	-.464	.109	.000***	-.72	-.21
	Foreign Sector Bank	Private sector bank	.203	.113	.175	-.06	.47
		Public sector bank	.464	.109	.000***	.21	.72
One stop banking	Private Sector Bank	Public sector bank	-.367	.090	.000***	-.58	-.16
		Foreign Sector bank	-.131	.157	.682	-.50	.24
	Public Sector Bank	Private sector bank	.367	.090	.000***	.16	.58
		Foreign Sector bank	.236	.152	.266	-.12	.59
	Foreign Sector Bank	Private sector bank	.131	.157	.682	-.24	.50
		Public sector bank	-.236	.152	.266	-.59	.12
Innovative services	Private Sector Bank	Public sector bank	.183	.079	.054	.00	.37
		Foreign Sector bank	-1.153	.139	.000***	-1.48	-.83
	Public Sector Bank	Private sector bank	-.183	.079	.054	-.37	.00
		Foreign Sector bank	-1.336	.133	.000***	-1.65	-1.02
	Foreign Sector Bank	Private sector bank	1.153	.139	.000***	.83	1.48
		Public sector bank	1.336	.133	.000***	1.02	1.65
*** p<.001; ** p<.01; * p<.05							

For Convenient operating hours and Safety of funds transfer on net, Post hoc Tukey HSD results as shown in Table 4.4 highlight that there is a significant difference between foreign sector bank and public sector bank and between foreign sector bank and private sector bank. In case of Internet banking assistance, Depository services, Credit card services and Innovative services again the results are similar i.e. there is a significant difference between foreign sector bank and public sector bank and between foreign sector bank and private sector bank. For reasonable service charges, there is significant

difference between private sector bank and public sector bank and also between private sector bank and foreign sector bank. For other IT based services, there is significant difference between public sector bank and private sector bank and also between public sector bank and foreign sector bank. For ATM services, Debit card services and Phone banking facility, there is a significant difference between all the categories. The results are varied in case of One stop banking and shows that there is a significant difference between public and private sector banks only. Thus Post hoc test throw more light on the differences of e-banking features on the basis of the bank category.

#### 4.2.2 E-banking features and Age of respondents

Mean score and standard deviation for all the three age groups of respondents have been calculated on different 12 e-banking features which are shown below in Table 4.5.

**Table 4.5: Age-wise analysis of E-banking features**

Age of Respondents (in years) →	21-30		31-45		Over 45		Total	
E-banking features ↓	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Convenient operating hours	2.55	0.82	3.13	1.24	2.78	1.14	2.82	1.07
Safety of funds transfer on net	2.67	1.10	3.00	1.13	2.78	0.92	2.82	1.05
Reasonable service charges	2.21	0.62	2.38	0.71	2.11	0.74	2.23	0.69
ATM Services	3.91	0.28	4.10	0.55	4.11	0.32	4.04	0.38
Internet Banking Assistance	2.34	0.80	2.80	1.12	2.33	0.67	2.49	0.86
Depository services	2.13	0.69	2.72	0.85	2.56	0.84	2.47	0.79
Credit Card Services	2.83	0.68	3.13	0.57	3.11	0.32	3.02	0.52
Debit Card Services	2.35	0.71	2.79	1.00	2.56	0.84	2.57	0.85
Phone banking facility	2.24	0.84	2.61	0.89	2.44	0.84	2.43	0.86
Other IT based services	2.10	0.39	2.29	0.67	2.44	0.84	2.28	0.63
One stop banking	3.45	1.01	3.58	0.80	4.00	0.01	3.68	0.61
Innovative services	2.09	0.38	2.62	1.05	2.44	0.84	2.38	0.76
Overall Mean	2.57		2.93		2.81		2.77	

Table 4.5 clearly highlights that overall mean score is highest for 31-45 age group, followed by over 45 and is slightly lower for 21-30 age group. Analysis of age groups indicates that respondents falling under age group of 31-45years have given higher preference for all e-banking features, except for ATM Services, other IT based services and One stop banking. For age group of over 45 years old, interestingly higher preferences have been accorded to ATM services, One stop banking and Credit card services. Respondents falling in the age group 21-30 have given highest priority to ATM

services. This was followed by One stop banking and credit card services. The most preferred features for all age groups are: ATM services, Credit card services and One stop banking.

Further ANOVA has been used to find out whether there is a significant difference in the means of different age groups regarding e-banking features.

**Table 4.6: ANOVA Results for E-banking features and Different Age Groups**

E-banking Features/ Different Age groups		Sum of Squares	Df	Mean Square	F	Sig.
Convenient operating hours	Between Groups	27.893	2	13.947	12.383	.000***
	Within Groups	447.147	397	1.126		
	Total	475.040	399			
Safety of funds transfer on net	Between Groups	8.828	2	4.414	3.759	.024*
	Within Groups	466.212	397	1.174		
	Total	475.040	399			
Reasonable service charges	Between Groups	4.461	2	2.230	4.799	.009**
	Within Groups	184.499	397	.465		
	Total	188.960	399			
ATM Services	Between Groups	3.479	2	1.740	10.103	.000***
	Within Groups	68.361	397	.172		
	Total	71.840	399			
Internet Banking Assistance	Between Groups	20.239	2	10.119	11.971	.000***
	Within Groups	335.601	397	.845		
	Total	355.840	399			
Depository services	Between Groups	29.710	2	14.855	24.086	.000***
	Within Groups	244.850	397	.617		
	Total	274.560	399			
Credit Card Services	Between Groups	8.605	2	4.303	12.616	.000***
	Within Groups	135.395	397	.341		
	Total	144.000	399			
Debit Card Services	Between Groups	15.397	2	7.698	10.497	.000***
	Within Groups	291.163	397	.733		
	Total	306.560	399			
Phone banking facility	Between Groups	11.288	2	5.644	7.617	.001***
	Within Groups	294.152	397	.741		
	Total	305.440	399			
Other IT based services	Between Groups	6.630	2	3.315	8.994	.000***
	Within Groups	146.330	397	.369		
	Total	152.960	399			
One stop banking	Between Groups	15.295	2	7.648	11.133	.000***
	Within Groups	272.705	397	.687		
	Total	288.000	399			
Innovative services	Between Groups	22.948	2	11.474	18.576	.000***
	Within Groups	245.212	397	.618		
	Total	268.160	399			

\*\*\* p<.001; \*\* p<.01; \* p<.05

ANOVA results shown in Table 4.6 are clearly indicative of the difference in e-banking features of three different age groups of respondents. Thus hypothesis  $H_{1b}$ : *There is a significant difference in the means of different e-banking features on the basis of different age groups* has been accepted as p-value is significant for all the features.

After analyzing e-banking features and different age groups, Post hoc Tukey HSD has been performed for each feature to study intergroup comparisons. The results are shown through Table 4.7.

**Table 4.7: Post hoc Test for E-banking features and Different Age Groups**

Multiple Comparisons							
Tukey HSD							
Dependent Variable	(I)Age of Respondents (years)	(J)Age of Respondents (years)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Convenient operating hours	21-30	31-45	-.582	.117	.000***	-.86	-.31
		Over 45	-.225	.149	.286	-.58	.13
	31-45	21-30	.582	.117	.000***	.31	.86
		Over 45	.357	.151	.049*	.00	.71
	Over 45	21-30	.225	.149	.286	-.13	.58
		31-45	-.357	.151	.049*	-.71	.00
Safety of funds transfer on net	21-30	31-45	-.326	.120	.019*	-.61	-.04
		Over 45	-.103	.152	.776	-.46	.25
	31-45	21-30	.326	.120	.019*	.04	.61
		Over 45	.222	.154	.322	-.14	.59
	Over 45	21-30	.103	.152	.776	-.25	.46
		31-45	-.222	.154	.322	-.59	.14
Reasonable service charges	21-30	31-45	-.175	.075	.053	-.35	.00
		Over 45	.098	.096	.561	-.13	.32
	31-45	21-30	.175	.075	.053	.00	.35
		Over 45	.274	.097	.014*	.05	.50
	Over 45	21-30	-.098	.096	.561	-.32	.13
		31-45	-.274	.097	.014*	-.50	-.05
ATM Services	21-30	31-45	-.183	.046	.000***	-.29	-.08
		Over 45	-.198	.058	.002**	-.34	-.06
	31-45	21-30	.183	.046	.000***	.08	.29
		Over 45	-.015	.059	.965	-.15	.12
	Over 45	21-30	.198	.058	.002**	.06	.34
		31-45	.015	.059	.965	-.12	.15
Internet Banking Assistance	21-30	31-45	-.458	.102	.000***	-.70	-.22
		Over 45	.010	.129	.997	-.29	.31
	31-45	21-30	.458	.102	.000***	.22	.70
		Over 45	.468	.131	.001***	.16	.78

	Over 45	21-30	-.010	.129	.997	-.31	.29
		31-45	-.468	.131	.001***	-.78	-.16
Depository services	21-30	31-45	-.591	.087	.000***	-.79	-.39
		Over 45	-.422	.110	.000***	-.68	-.16
	31-45	21-30	.591	.087	.000***	.39	.79
		Over 45	.169	.112	.288	-.09	.43
	Over 45	21-30	.422	.110	.000***	.16	.68
		31-45	-.169	.112	.288	-.43	.09
Credit Card Services	21-30	31-45	-.303	.065	.000***	-.46	-.15
		Over 45	-.280	.082	.002**	-.47	-.09
	31-45	21-30	.303	.065	.000***	.15	.46
		Over 45	.024	.083	.957	-.17	.22
	Over 45	21-30	.280	.082	.002**	.09	.47
		31-45	-.024	.083	.957	-.22	.17
Debit Card Services	21-30	31-45	-.434	.095	.000***	-.66	-.21
		Over 45	-.201	.120	.218	-.48	.08
	31-45	21-30	.434	.095	.000***	.21	.66
		Over 45	.233	.122	.137	-.05	.52
	Over 45	21-30	.201	.120	.218	-.08	.48
		31-45	-.233	.122	.137	-.52	.05
Phone banking facility	21-30	31-45	-.371	.095	.000***	-.59	-.15
		Over 45	-.206	.121	.204	-.49	.08
	31-45	21-30	.371	.095	.000***	.15	.59
		Over 45	.165	.123	.373	-.12	.45
	Over 45	21-30	.206	.121	.204	-.08	.49
		31-45	-.165	.123	.373	-.45	.12
Other IT based services	21-30	31-45	-.190	.067	.013*	-.35	-.03
		Over 45	-.340	.085	.000***	-.54	-.14
	31-45	21-30	.190	.067	.013*	.03	.35
		Over 45	-.150	.086	.196	-.35	.05
	Over 45	21-30	.340	.085	.000***	.14	.54
		31-45	.150	.086	.196	-.05	.35
One stop banking	21-30	31-45	-.123	.092	.370	-.34	.09
		Over 45	-.547	.116	.000***	-.82	-.27
	31-45	21-30	.123	.092	.370	-.09	.34
		Over 45	-.423	.118	.001***	-.70	-.15
	Over 45	21-30	.547	.116	.000***	.27	.82
		31-45	.423	.118	.001***	.15	.70
Innovative services	21-30	31-45	-.522	.087	.000***	-.73	-.32
		Over 45	-.351	.110	.004**	-.61	-.09
	31-45	21-30	.522	.087	.000***	.32	.73
		Over 45	.171	.112	.280	-.09	.43
	Over 45	21-30	.351	.110	.004**	.09	.61
		31-45	-.171	.112	.280	-.43	.09
*** p<.001; ** p<.01; * p<.05							

For Convenient operating hours and Internet banking assistance, Post hoc Tukey HSD results as shown in Table 4.7 highlight that there is significant difference between 21-30 and 31-45 age groups. Also it is significant for over 45 and 31-45 age groups. For reasonable service charges, there is a significant difference between 31-45 and over 45 age groups only. In case of Safety of funds transfer on net, Debit card services and Phone banking facility, there exists significant difference between 21-30 and 31-45 age groups only. In case of ATM services, Credit card services, Depository services, Innovative services and other IT based services, it shows significant difference in the age groups of 21-30 and 31-45 and also between 21-30 and over 45 age groups. For One stop banking, there is significant difference between 21-30 and over 45 and also between 31-45 and over 45 age groups. Thus Post hoc test have clearly indicated the differences of e-banking features on the basis of different age categories of respondents.

#### 4.2.3 Gender-wise analysis of E-banking Features

Gender-wise mean score on different e-banking features have been shown in Table 4.8.

**Table 4.8: Gender wise analysis of E-banking Features**

Gender of respondents →	Female		Male		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
E-banking Features↓						
Convenient operating hours	2.78	0.92	2.84	1.18	2.81	1.05
Safety of funds transfer on net	2.67	0.88	2.91	1.18	2.79	1.03
Reasonable service charges	2.33	0.67	2.22	0.70	2.27	0.69
ATM Services	4.00	0.00	4.03	0.53	4.02	0.27
Internet Banking Assistance	2.56	1.02	2.50	0.90	2.53	0.96
Depository services	2.39	0.89	2.47	0.79	2.43	0.84
Credit Card Services	2.78	0.71	3.13	0.49	2.95	0.60
Debit Card Services	2.44	0.83	2.63	0.89	2.53	0.86
Phone banking facility	2.22	0.92	2.53	0.83	2.37	0.88
Other IT based services	2.17	0.50	2.28	0.67	2.23	0.59
One stop banking	3.89	0.46	3.44	0.97	3.67	0.72
Innovative services	2.11	0.46	2.50	0.94	2.31	0.70
<b>Overall Mean</b>	2.69		2.79		2.74	

It is clearly indicative from Table 4.8 that overall mean score of e-banking features of females is less than that for males. Males have given highest ratings to all e-banking features except for Reasonable service charges, Internet banking assistance and One stop banking. The results reflect that females are more inclined than men towards these three e-banking features, viz. Reasonable service charges, Internet banking and One stop banking.

ANOVA has been conducted for analyzing the difference in the means of males and females regarding e-banking features.

**Table 4.9: ANOVA Results for E-banking features and Gender of Respondents**

E-banking Features/ Gender of Respondents		Sum of Squares	Df	Mean Square	F	Sig.
Convenient operating hours	Between Groups	.401	1	.401	.336	.562
	Within Groups	474.639	398	1.193		
	Total	475.040	399			
Safety of funds transfer on net	Between Groups	5.290	1	5.290	4.482	.035*
	Within Groups	469.750	398	1.180		
	Total	475.040	399			
Reasonable service charges	Between Groups	1.210	1	1.210	2.565	.110
	Within Groups	187.750	398	.472		
	Total	188.960	399			
ATM Services	Between Groups	.090	1	.090	.499	.480
	Within Groups	71.750	398	.180		
	Total	71.840	399			
Internet Banking Assistance	Between Groups	.284	1	.284	.318	.573
	Within Groups	355.556	398	.893		
	Total	355.840	399			
Depository services	Between Groups	.588	1	.588	.854	.356
	Within Groups	273.972	398	.688		
	Total	274.560	399			
Credit Card Services	Between Groups	11.111	1	11.111	33.278	.000***
	Within Groups	132.889	398	.334		
	Total	144.000	399			
Debit Card Services	Between Groups	3.004	1	3.004	3.939	.048*
	Within Groups	303.556	398	.763		
	Total	306.560	399			
Phone banking facility	Between Groups	8.801	1	8.801	11.808	.001***
	Within Groups	296.639	398	.745		
	Total	305.440	399			
Other IT based services	Between Groups	1.210	1	1.210	3.174	.076
	Within Groups	151.750	398	.381		
	Total	152.960	399			
One stop banking	Between Groups	18.778	1	18.778	27.760	.000***
	Within Groups	269.222	398	.676		
	Total	288.000	399			
Innovative services	Between Groups	13.938	1	13.938	21.820	.000***
	Within Groups	254.222	398	.639		
	Total	268.160	399			

\*\*\* p<.001; \*\* p<.01; \* p<.05

ANOVA results shown in Table 4.9 highlight that there is a significant difference in the means of males and females regarding six e-banking features, viz. Safety of funds transfer on net; Debit card services; Credit card services; Phone banking facility; One stop banking, and Innovative services. ANOVA results highlight that there is no significant difference in other e-banking features i.e. Convenient operating hours, Reasonable service charges, ATM services, Internet banking assistance, Depository services and other IT based services. Thus hypothesis  $H_{1c}$ : *There is a significant difference in the means of males and females' regarding e-banking features has been partially accepted.*

#### 4.2.4 Education-wise analysis of E-banking features

E-banking features have been analyzed for different education levels. Three different education levels included in the present study are: Undergraduate, Graduate and Postgraduate.

**Table 4.10: Education-wise analysis of E-banking features**

Education levels→	Undergraduate		Graduate		Postgraduate		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
E-banking Features↓								
Convenient operating hours	3.07	1.10	3.01	1.192	2.59	.96	2.89	1.08
Safety of funds transfer on net	2.96	1.04	3.23	1.211	2.47	.88	2.89	1.05
Reasonable service charges	2.03	.49	2.48	.672	2.18	.72	2.23	0.63
ATM Services	3.93	.47	4.11	.474	3.99	.35	4.01	0.43
Internet Banking Assistance	2.18	.42	2.94	1.202	2.33	.73	2.48	0.79
Depository services	2.52	.64	2.59	.972	2.30	.75	2.47	0.79
Credit Card Services	3.06	.46	3.07	.808	2.93	.44	3.02	0.57
Debit Card Services	2.6	.65	2.66	1.020	2.47	.83	2.58	0.83
Phone banking facility	2.31	.63	2.48	1.011	2.41	.84	2.40	0.83
Other IT based services	2.15	.56	2.33	.615	2.21	.64	2.23	0.60
One stop banking	3.66	.66	3.93	.371	3.34	1.05	3.64	0.70
Innovative services	2.18	.55	2.60	1.088	2.24	.60	2.34	0.75
Overall Mean	2.72		2.95		2.62		2.76	

The results shown in Table 4.10 reflect that mean score of users for all e-banking features is highest for the graduate group except for one feature, i.e. Convenient operating hours which is higher for undergraduate group. Overall mean is also highest for graduate qualified group. Further ANOVA has been used to test whether there is a significant difference in the means of different education levels regarding e-banking features.

**Table 4.11: ANOVA Results for E-banking Features and Education level**

E-banking Features / Education Level		Sum of Squares	Df	Mean Square	F	Sig.
Convenient operating hours	Between Groups	19.108	2	9.554	8.319	.000***
	Within Groups	455.932	397	1.148		
	Total	475.040	399			
Safety of funds transfer on net	Between Groups	49.085	2	24.543	22.874	.000***
	Within Groups	425.955	397	1.073		
	Total	475.040	399			
Reasonable service charges	Between Groups	11.835	2	5.917	13.263	.000***
	Within Groups	177.125	397	0.446		
	Total	188.960	399			
ATM Services	Between Groups	1.830	2	0.915	5.188	.006**
	Within Groups	70.010	397	0.176		
	Total	71.840	399			
Internet Banking Assistance	Between Groups	38.897	2	19.449	24.361	.000***
	Within Groups	316.943	397	0.798		
	Total	355.840	399			
Depository services	Between Groups	7.223	2	3.611	5.363	.005**
	Within Groups	267.337	397	0.673		
	Total	274.560	399			
Credit Card Services	Between Groups	1.969	2	0.984	2.752	.065
	Within Groups	142.031	397	0.358		
	Total	144.000	399			
Debit Card Services	Between Groups	2.911	2	1.456	1.903	.150
	Within Groups	303.649	397	0.765		
	Total	306.560	399			
Phone banking facility	Between Groups	1.322	2	0.661	0.863	.423
	Within Groups	304.118	397	0.766		
	Total	305.440	399			
Other IT based services	Between Groups	1.793	2	0.896	2.354	.096
	Within Groups	151.167	397	0.381		
	Total	152.960	399			
One stop banking	Between Groups	28.610	2	14.305	21.894	.000***
	Within Groups	259.390	397	0.653		
	Total	288.000	399			
Innovative services	Between Groups	13.056	2	6.528	10.159	.000***
	Within Groups	255.104	397	0.643		
	Total	268.160	399			

\*\*\* p<.001; \*\* p<.01; \* p<.05

ANOVA results shown in Table 4.11 highlight that there is a significant difference in the education level of respondents regarding eight e-banking features, viz. Convenient operating hours, Safety of funds transfer on net, Reasonable service charges, ATM services, Internet banking assistance, Depository services, One stop banking, and

Innovative services. Thus hypothesis  $H_{1d}$ : *There is a significant difference in the means of different education levels regarding e-banking features has been partially accepted.* ANOVA results highlight that there is no significant difference in other four e-banking features i.e. Debit card services; Credit card services, Phone banking facility and other IT based services.

After analyzing e-banking features and different education levels, Post hoc Tukey HSD was performed for each feature to study intergroup comparisons. The results are shown through Table 4.12.

**Table 4.12: Post hoc Test for E-banking features and Education level**

Multiple Comparisons							
Tukey HSD							
Dependent Variable			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Convenient operating hours	Undergraduate	Graduate	.068	.159	.905	-.31	.44
		Postgraduate	.481	.152	.005**	.12	.84
	Graduate	Undergraduate	-.068	.159	.905	-.44	.31
		Postgraduate	.413	.119	.002**	.13	.69
	Postgraduate	Undergraduate	-.481	.152	.005**	-.84	-.12
		Graduate	-.413	.119	.002**	-.69	-.13
Safety of funds transfer on net	Undergraduate	Graduate	-.279	.154	.166	-.64	.08
		Postgraduate	.486	.147	.003**	.14	.83
	Graduate	Undergraduate	.279	.154	.166	-.08	.64
		Postgraduate	.765*	.115	.000***	.50	1.04
	Postgraduate	Undergraduate	-.486	.147	.003**	-.83	-.14
		Graduate	-.765	.115	.000***	-1.04	-.50
Reasonable service charges	Undergraduate	Graduate	-.452	.099	.000***	-.69	-.22
		Postgraduate	-.147	.095	.267	-.37	.08
	Graduate	Undergraduate	.452	.099	.000***	.22	.69
		Postgraduate	.305	.074	.000***	.13	.48
	Postgraduate	Undergraduate	.147	.095	.267	-.08	.37
		Graduate	-.305	.074	.000***	-.48	-.13
ATM Services	Undergraduate	Graduate	-.181	.062	.011*	-.33	-.03
		Postgraduate	-.064	.060	.529	-.20	.08
	Graduate	Undergraduate	.181	.062	.011*	.03	.33
		Postgraduate	.117	.047	.033*	.01	.23
	Postgraduate	Undergraduate	.064	.060	.529	-.08	.20
		Graduate	-.117	.047	.033*	-.23	-.01
Internet Banking Assistance	Undergraduate	Graduate	-.757	.133	.000***	-1.07	-.45
		Postgraduate	-.154	.127	.444	-.45	.14
	Graduate	Undergraduate	.757	.133	.000***	.45	1.07
		Postgraduate	.603	.099	.000***	.37	.84

	Postgraduate	Undergraduate	.154	.127	.444	-.14	.45
		Graduate	-.603	.099	.000***	-.84	-.37
Depository services	Undergraduate	Graduate	-.066	.122	.849	-.35	.22
		Postgraduate	.220	.116	.142	-.05	.49
	Graduate	Undergraduate	.066	.122	.849	-.22	.35
		Postgraduate	.287	.091	.005**	.07	.50
	Postgraduate	Undergraduate	-.220	.116	.142	-.49	.05
		Graduate	-.287	.091	.005**	-.50	-.07
Credit Card Services	Undergraduate	Graduate	-.011	.089	.991	-.22	.20
		Postgraduate	.133	.085	.263	-.07	.33
	Graduate	Undergraduate	.011	.089	.991	-.20	.22
		Postgraduate	.144	.066	.078	-.01	.30
	Postgraduate	Undergraduate	-.133	.085	.263	-.33	.07
		Graduate	-.144	.066	.078	-.30	.01
Debit Card Services	Undergraduate	Graduate	-.063	.130	.880	-.37	.24
		Postgraduate	.123	.124	.583	-.17	.41
	Graduate	Undergraduate	.063	.130	.880	-.24	.37
		Postgraduate	.186	.097	.136	-.04	.41
	Postgraduate	Undergraduate	-.123	.124	.583	-.41	.17
		Graduate	-.186	.097	.136	-.41	.04
Phone banking facility	Undergraduate	Graduate	-.169	.130	.396	-.47	.14
		Postgraduate	-.098	.124	.710	-.39	.19
	Graduate	Undergraduate	.169	.130	.396	-.14	.47
		Postgraduate	.071	.097	.746	-.16	.30
	Postgraduate	Undergraduate	.098	.124	.710	-.19	.39
		Graduate	-.071	.097	.746	-.30	.16
Other IT based services	Undergraduate	Graduate	-.177	.092	.131	-.39	.04
		Postgraduate	-.059	.088	.778	-.27	.15
	Graduate	Undergraduate	.177	.092	.131	-.04	.39
		Postgraduate	.118	.068	.198	-.04	.28
	Postgraduate	Undergraduate	.059	.088	.778	-.15	.27
		Graduate	-.118	.068	.198	-.28	.04
One stop banking	Undergraduate	Graduate	-.272	.120	.061	-.55	.01
		Postgraduate	.318	.115	.016*	.05	.59
	Graduate	Undergraduate	.272	.120	.061	-.01	.55
		Postgraduate	.591	.090	.000***	.38	.80
	Postgraduate	Undergraduate	-.318	.115	.016*	-.59	-.05
		Graduate	-.591	.090	.000***	-.80	-.38
Innovative services	Undergraduate	Graduate	-.424	.119	.001***	-.70	-.14
		Postgraduate	-.066	.114	.832	-.33	.20
	Graduate	Undergraduate	.424	.119	.001***	.14	.70
		Postgraduate	.358	.089	.000***	.15	.57
	Postgraduate	Undergraduate	.066	.114	.832	-.20	.33
		Graduate	-.358	.089	.000***	-.57	-.15

\*\*\* p<.001; \*\* p<.01; \* p<.05

For Convenient operating hours, Safety of funds transfer on net and One stop banking, Post hoc Tukey HSD results as shown in Table 4.12 highlight that there is a significant difference between postgraduates and graduates and also between postgraduates and undergraduates. In case of reasonable service charges, ATM services, Internet banking assistance and Innovative services, there is a significant difference between graduates and postgraduates and also between graduates and undergraduates. The results are varied for Depository services and shows that there is a significant difference between postgraduates and graduates only. There are no significant difference for Credit card services, Debit card services, Phone banking facility and other IT based services.

#### 4.2.5 Income-wise analysis of E-banking features

E-banking features have been analyzed for different income groups. Three different income groups included in the present study are: Low income group, Middle income group, High income group.

**Table 4.13: Income-wise analysis of E-banking features**

Income Group→	Low income group		Middle income group		High income group		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
E-banking Features↓								
Convenient operating hours	3.00	0.97	2.31	0.61	3.00	1.31	2.77	2.89
Safety of funds transfer on net	2.41	0.91	3.00	1.11	3.05	1.12	2.82	2.89
Reasonable service charges	2.24	0.65	2.15	0.66	2.35	0.73	2.25	2.23
ATM Services	3.88	0.32	3.92	0.27	4.20	0.51	4.00	4.01
Internet Banking Assistance	2.35	0.97	2.31	0.61	2.80	1.03	2.49	2.48
Depository services	2.35	0.77	2.08	0.62	2.75	0.89	2.39	2.47
Credit Card Services	3.12	0.32	2.62	0.74	3.15	0.57	2.96	3.02
Debit Card Services	2.47	0.78	2.23	0.58	2.85	1.02	2.52	2.58
Phone banking facility	2.24	0.55	2.23	0.98	2.70	0.96	2.39	2.40
Other IT based services	2.06	0.54	2.08	0.27	2.50	0.74	2.21	2.23
One stop banking	3.71	0.67	3.69	0.73	3.45	1.03	3.62	3.64
Innovative services	2.18	0.51	2.08	0.27	2.70	1.10	2.32	2.89
Overall Mean	2.67		2.56		2.96		2.73	

The results shown in Table 4.13 are clearly indicative of the fact that mean score of users for all e-banking features is highest for the high income group except for one feature, i.e. One stop banking which is higher for low income group. Overall mean score for high income group is 2.96 and is highest as comparable to other income groups.

Further ANOVA has been used to test whether there is a significant difference in the means of different income groups regarding e-banking features.

**Table 4.14: ANOVA Results for E-banking Features and Income Groups**

E-banking Features/ Income Groups		Sum of Squares	Df	Mean Square	F	Sig.
Convenient operating hours	Between Groups	36.886	2	18.443	16.711	.000***
	Within Groups	438.154	397	1.104		
	Total	475.040	399			
Safety of funds transfer on net	Between Groups	34.499	2	17.249	15.545	.000***
	Within Groups	440.541	397	1.110		
	Total	475.040	399			
Reasonable service charges	Between Groups	2.551	2	1.275	2.716	.067
	Within Groups	186.409	397	.470		
	Total	188.960	399			
ATM Services	Between Groups	8.738	2	4.369	27.486	.000***
	Within Groups	63.102	397	.159		
	Total	71.840	399			
Internet Banking Assistance	Between Groups	21.027	2	10.514	12.466	.000***
	Within Groups	334.813	397	.843		
	Total	355.840	399			
Depository services	Between Groups	30.117	2	15.058	24.456	.000***
	Within Groups	244.443	397	.616		
	Total	274.560	399			
Credit Card Services	Between Groups	20.867	2	10.433	33.639	.000***
	Within Groups	123.133	397	.310		
	Total	144.000	399			
Debit Card Services	Between Groups	25.816	2	12.908	18.253	.000***
	Within Groups	280.744	397	.707		
	Total	306.560	399			
Phone banking Facility	Between Groups	20.908	2	10.454	14.586	.000***
	Within Groups	284.532	397	.717		
	Total	305.440	399			
Other IT based services	Between Groups	18.046	2	9.023	26.551	.000***
	Within Groups	134.914	397	.340		
	Total	152.960	399			
One stop banking	Between Groups	6.011	2	3.005	4.231	.015*
	Within Groups	281.989	397	.710		
	Total	288.000	399			
Innovative services	Between Groups	31.411	2	15.705	26.336	.000***
	Within Groups	236.749	397	.596		
	Total	268.160	399			

\*\*\* p<.001; \*\* p<.01; \* p<.05

ANOVA results as shown in Table 4.14 are clearly highlighting that there exists significant difference in the three income groups of respondents regarding all the e-banking features except for one feature, i.e. Reasonable service charges. Thus this hypothesis  $H_{1e}$ : *There is a significant difference in the means of different income groups regarding e-banking features* has been accepted as p-values are significant for all except one feature, i.e. Reasonable service charges. After ANOVA, Post hoc Tukey HSD was performed for each feature to understand the inter-level income differences. The results are shown through Table 4.15.

**Table 4.15: Post hoc Test for E-banking features and Income groups**

Multiple Comparisons							
Tukey HSD							
Dependent Variable	Income Group(I)	Income Group(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Convenient operating hours	Low income group	Middle income group	.692	.137	.000***	.37	1.01
		High income group	.000	.123	1.000	-.29	.29
	Middle income group	Low income group	-.692	.137	.000***	-1.01	-.37
		High income group	-.692	.132	.000***	-1.00	-.38
	High income group	Low income group	.000	.123	1.000	-.29	.29
		Middle income group	.692	.132	.000***	.38	1.00
Safety of funds transfer on net	Low income group	Middle income group	-.588	.137	.000***	-.91	-.27
		High income group	-.638	.123	.000***	-.93	-.35
	Middle income group	Low income group	.588	.137	.000***	.27	.91
		High income group	-.050	.133	.925	-.36	.26
	High income group	Low income group	.638	.123	.000***	.35	.93
		Middle income group	.050	.133	.925	-.26	.36
Reasonable service charges	Low income group	Middle income group	.081	.089	.633	-.13	.29
		High income group	-.115	.080	.324	-.30	.07
	Middle income group	Low income group	-.081	.089	.633	-.29	.13
		High income group	-.196	.086	.061	-.40	.01
	High income group	Low income group	.115	.080	.324	-.07	.30
		Middle income group	.196	.086	.061	-.01	.40
ATM Services	Low income group	Middle income group	-.041	.052	.713	-.16	.08
		High income group	-.318	.046	.000***	-.43	-.21
	Middle income group	Low income group	.041	.052	.713	-.08	.16
		High income group	-.277	.050	.000***	-.40	-.16
	High income group	Low income group	.318	.046	.000***	.21	.43
		Middle income group	.277	.050	.000***	.16	.40
Internet Banking assistance	Low income group	Middle income group	.045	.120	.924	-.24	.33
		High income group	-.447	.107	.000***	-.70	-.20
	Middle income	Low income group	-.045	.120	.924	-.33	.24

	group	High income group	-.492	.116	.000***	-.76	-.22
	High income group	Low income group	.447	.107	.000***	.20	.70
		Middle income group	.492	.116	.000***	.22	.76
Depository services	Low income group	Middle income group	.276	.102	.020*	.04	.52
		High income group	-.392	.092	.000***	-.61	-.18
	Middle income group	Low income group	-.276	.102	.020*	-.52	-.04
		High income group	-.673	.099	.000***	-.91	-.44
	High income group	Low income group	.397	.092	.000***	.18	.61
		Middle income group	.673	.099	.000***	.44	.91
Credit Card Services	Low income group	Middle income group	.502	.073	.000***	.33	.67
		High income group	-.032	.065	.872	-.19	.12
	Middle income group	Low income group	-.502	.073	.000***	-.67	-.33
		High income group	-.535	.070	.000***	-.70	-.37
	High income group	Low income group	.032	.065	.872	-.12	.19
		Middle income group	.535	.070	.000***	.37	.70
Debit Card Services	Low income group	Middle income group	.240	.110	.074	-.02	.50
		High income group	-.379	.098	.000***	-.61	-.15
	Middle income group	Low income group	-.240	.110	.074	-.50	.02
		High income group	-.619	.106	.000***	-.87	-.37
	High income group	Low income group	.379	.098	.000***	.15	.61
		Middle income group	.619	.106	.000***	.37	.87
Phone banking facility	Low income group	Middle income group	.005	.110	.999	-.25	.26
		High income group	-.465	.099	.000***	-.70	-.23
	Middle income group	Low income group	-.005	.110	.999	-.26	.25
		High income group	-.469	.107	.000***	-.72	-.22
	High income group	Low income group	.465	.099	.000***	.23	.70
		Middle income group	.469	.107	.000***	.22	.72
Other IT based services	Low income group	Middle income group	-.018	.076	.969	-.20	.16
		High income group	-.441	.068	.000***	-.60	-.28
	Middle income group	Low income group	.018	.076	.969	-.16	.20
		High income group	-.423	.073	.000***	-.60	-.25
	High income group	Low income group	.441	.068	.000***	.28	.60
		Middle income group	.423	.073	.000***	.25	.60
One stop banking	Low income group	Middle income group	.014	.110	.992	-.24	.27
		High income group	.256	.098	.026*	.02	.49
	Middle income group	Low income group	-.014	.110	.992	-.27	.24
		High income group	.242	.106	.059	-.01	.49
	High income group	Low income group	-.256	.098	.026*	-.49	-.02
		Middle income group	-.242	.106	.059	-.49	.01
Innovative services	Low income group	Middle income group	.100	.101	.584	-.14	.34
		High income group	-.524	.090	.000***	-.74	-.31
	Middle income group	Low income group	-.100	.101	.584	-.34	.14
		High income group	-.623	.097	.000***	-.85	-.39
	High income group	Low income group	.524	.090	.000***	.31	.74
		Middle income group	.623	.097	.000***	.39	.85
*** p<.001; ** p<.01; * p<.05							

Post hoc Tukey HSD results as shown in Table 4.15 highlight that for features of Convenient operating hours and Credit card services, there is significant difference between low income and middle income group and also between high income and middle income group. For Safety of funds transfer on net, there is a significant difference between low income and middle income group and also for low income and high income group. In case of ATM services, Debit card, Phone banking facility, Internet banking assistance, other IT based services and Innovative services, the results are similar i.e. there is a significant difference between the high income group and low income group and also between the high income and middle income group. For Depository services, there is a significant difference between all the income groups. The results are varied in case of One stop banking and there is a significant difference between low income and high income group. Lastly, for Reasonable service services, the results are insignificant for all three income groups. Thus, Post hoc test indicate the differences of e-banking features on the basis of different income groups.

After analyzing e-banking features on the basis of age, gender, education, income and category of banks, the next step of research was to find out the determinants of customer satisfaction and customer retention in relation to e-banking. This has been covered in the next section.

### **4.3 Determinants of Customer Satisfaction**

*01: To find out the effective determinants of customer retention and customer satisfaction in e-banking.*

Customer satisfaction construct used in the present study has been based on ten variables. A conceptualization and determinants for measuring the customer satisfaction construct were developed, drawing on prior research. These are:

- i. **Personal Services:** Banking customers appreciate visiting the branch for carrying out banking transactions, but aren't such customer visits to banks declining due to penetration of online banking, ATM, telephone banking and mobile banking? This needs to be analyzed (Harsh, 1993; Jones, Mothersbaugh and Beatty, 2000; Durkin and O' Donnel, 2005; Herington and Weaven, 2007).
- ii. **Problem Resolution and Customer Care:** Every customer is important for bank. Many banks lay additional efforts towards resolving customers' problems and satisfying them to the great extent. They have separate customer care division for listening to customers'

query and thereby improving satisfaction. Here, customer may not mind paying a little extra for such services (Brislin, 1980; Siaw and Yu, 2004; Kumbhar, 2011).

- iii. **Channel Activity:** Online banking presents banks with an opportunity to deepen relationship with customers to enhance channel activity. The service quality of alternate channels will be important for engaging their valuable customer in the future. Branch based banking is simply too much time consuming for mature professionals, who would prefer a more expedient way to fulfill their banking transactions (Mattila *et al.*, 2003; Prendergast and Marr, 1994; Kim *et al.* 2008, Mols, 2000; Stamoulis *et al.*2002, Karjaluoto *et al.*, 2002).
- iv. **Fees & Elimination of Free checks:** Rules and regulations of banks keep on revising with time. Whenever bank imposes fees on transactions which were earlier free, it affects customer satisfaction negatively. Also the amount the bank charges on e-banking transaction is very high and banks need to come up with innovative products that will reduce the cost of banking operations; which can be passed down to the customer in the form of reduced charges (Gao and Owolabi, 2008; Joshua, Moli and Koshi, 2005; Luka and Frank, 2012).
- v. **Facilities:** Customer satisfaction may gear up with prologue of latest facilities provided by banks (Al-Somali, *et al*, 2008; Casalo et-al 2008). Developments in technology has generally removed repetitive and time consuming tasks, decreased human errors and also increased access to banking related facilities. Generally Technology also provides customer information that would be more expensive to provide on an individual basis to the customers. Generally telephone banking facilities allow most of the non-cash transactions to be carried out, which otherwise would have needed the customer to visit the branch physically (Prendergast and Marr, 1994; Ibok and Ikoh, 2013).
- vi. **Ease of Use:** Ease of use measures accessibility and quality of service. The advent of more sophisticated technologies have increased customer convenience in conducting transactions, customers have become even more demanding, as they expect better quality at lower cost (Sharma and Patterson, 2000, Liao and Cheung,2002; Ramayah *et al.* 2002; Ibok and Ikoh, 2013).
- vii. **Technology Adoption:** In the banking sector, it is necessary to increase adoption of technology to better meet customer requirements, improve efficiencies, reduce costs and ensure customer delight. It was the private sector and foreign banks which pioneered the technological revolution in Indian banking sector and considering the fact that in the new economy, mind share leads to market share and mind share is influenced not only by the

promotions and advertisements but more importantly on favorable customer perception which in turn is based on satisfaction with regard to products, services and interaction (Chau and Lai, 2003; Christolov and Marianne, 2004; Brige, 2006; Eriksson, Kerem and Nilsson, 2008; Sayar and Wolfe, 2007).

- viii. **Account information:** Providing transaction details and statement regularly is another step to enhance customer satisfaction through e-banking (Suganthi *et al.*, 2001, Harsh, 1993).
- ix. **Confidence:** Successful banks have to ensure customer confidence. They do not have to push customers out of the branch, but rather have to provide tools to make it easier to conduct their banking business when and where it is convenient for them (Colgate and Lang, 2001; Liao and Cheung, 2002; Ibok and Ikoh, 2013).
- x. **Relation among staff:** Relationship among banking staff is important for satisfaction of customers dealing with the bank. Synchronization among staff is important for handling customers as they may want expertise of varied e-banking services. So banking staff with varied skills can interact with each other and better resolve the customers' issues about e-banking services. In banking, it is very important to have cordial relations within employees so as to deal varied customers for enhancing customer satisfaction (Jones, Motherbaugh & Beatty, 2000; Bhattacharya and Bolton, 2000; Errol D' Souza, 2002).

**Confirmatory Factor Analysis** has been conducted to check the Composite Reliability and Average variance explained (AVE) for the determinants of customer satisfaction to ascertain whether these can be taken for further analysis. Confirmatory Factor analysis has been conducted to check whether or not these factors are correlated and which items / measures load onto and reflect which factors (Thompson, 2004).

**Table 4.16: Confirmatory Factor Analysis of Customer Satisfaction**

Customer satisfaction	Item Loadings	Std. error	Critical ratio	Composite Reliability	AVE
1. I am more inclined towards getting personal services from my bank.	.929	0.071	13.085	0.95	0.66
2. My bank always resolves any banking problem and provides customer care services anytime/ anywhere.	.514	0.486	1.058		
3. E-banking has enhanced channel activity of my bank.	.831	0.169	4.917		
4. Elimination of free checks and implementation of new fees affects me.	.833	0.167	4.988		
5. I am happy with the latest facilities provided by my bank.	.708	0.292	2.425		
6. It is easy to use e-banking services offered by my bank.	.768	0.232	3.310		
7. I am adapting to the latest technological advancements in e-banking services.	.620	0.380	1.632		
8. E-banking facilitates accessing account information anywhere in the world.	.575	0.425	1.353		
9. I have confidence in e-banking services provided by my bank.	.823	0.177	4.650		
10. I see synchronization of work and cordial relations among banking staff.	.652	0.348	1.874		

Table 4.16 shows the CFA details of customer satisfaction. The results indicate composite reliability is more than 0.95 and AVE is also greater than 0.50 for all the factors. Hence, all the items have been retained for further analysis.

Further an attempt has been made to study customer satisfaction vis-à-vis public, private and foreign sector banks. This will help in getting deeper insight about different categories of banks that are performing better and understanding customer's needs and satisfying them. Section 4.3.1 covers this aspect. The related hypothesis is:

H<sub>2a</sub>: There is a significant difference in the means of public, private and foreign sector banks regarding customer satisfaction.

### 4.3.1 Customer satisfaction and Category of Banks

An initial attempt is made to study customer satisfaction vis-a- vis public sector, private sector and foreign sector banks. Fen & Lian (2007) opined that customer satisfaction and e-banking services are the basis for re-patronage in banking sector. Moreover, their study concluded that customer satisfaction is a stronger predictor for maintaining long term relations with the bank. These all may be true for physical banking, but for delivering e-banking services effectively by different kinds of banks, they have to focus on e-facilities, website interaction and security, so there is a stiff competition among different categories of bank. Table 4.17 highlights the mean score of customer satisfaction in public, private and foreign sector banks.

**Table 4.17: Customer Satisfaction and Category of Banks**

Category of Banks →	Private sector bank		Public sector bank		Foreign Sector bank		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Personal Services	2.31	.728	2.11	.489	2.11	.471	2.18	.590
Problem Resolution & Customer care	2.82	.988	2.36	.719	2.80	.719	2.56	.853
Channel Activity	2.78	1.196	2.21	.620	3.20	1.079	2.50	.966
Fees & Elimination of Free Checks	2.88	1.328	2.25	.740	3.26	1.146	2.56	1.081
Facilities	3.11	.432	3.00	.379	3.46	.611	3.08	.441
Ease Of Use	3.06	.232	2.93	.372	3.46	.505	3.02	.374
Technology Adoption	3.27	.533	3.04	.326	3.51	.612	3.16	.464
Account Information	2.33	1.118	1.61	.941	2.51	.853	1.94	1.067
Confidence	2.13	1.383	1.50	.984	2.40	1.143	1.80	1.202
Relation among staff	1.85	1.325	1.32	.806	2.37	1.114	1.60	1.097
Overall Mean	2.65		2.23		2.91		2.44	

As is clearly evident from Table 4.17 that foreign sector banks maintain supremacy among all the variables of customer satisfaction except for Personal services and Problem resolution & customer care for which it is higher for private sector banks. In case of all the variables of customer satisfaction, private sector bank scored a little higher than public sector bank. Overall mean is highest for foreign sector banks, followed by private sector and least for public sector bank. Again it is evident from broad results that private and public sector banks need to learn more from foreign sector banks (Texak and Kaur, 2009; Debashish and Mishra, 2005).

ANOVA has been performed for analysing the difference in the means of three categories of banks regarding customer satisfaction which is shown in Table 4.18. Ten variables of Customer satisfaction are : Personal services, Problem resolution and customer care, Channel activity, Fees and elimination of free checks, Facilities, Ease of use, Technology adoption, Account information, Confidence, Relation among staff.

**Table 4.18: ANOVA Results for Customer satisfaction and Category of Banks**

Customer Satisfaction/ Category of Banks		Sum of Squares	Df	Mean Square	F	Sig.
Personal services	Between Groups	3.799	2	1.900	5.576	.004**
	Within Groups	135.241	397	.341		
	Total	139.040	399			
Problem resolution & customer care	Between Groups	20.964	2	10.482	15.436	.000***
	Within Groups	269.596	397	.679		
	Total	290.560	399			
Channel activity	Between Groups	46.501	2	23.251	28.358	.000***
	Within Groups	325.499	397	.820		
	Total	372.000	399			
Fees & Elimination of free checks	Between Groups	52.924	2	26.462	25.398	.000***
	Within Groups	413.636	397	1.042		
	Total	466.560	399			
Facilities	Between Groups	6.570	2	3.285	18.402	.000***
	Within Groups	70.870	397	.179		
	Total	77.440	399			
Ease Of Use	Between Groups	8.751	2	4.376	36.889	.000***
	Within Groups	47.089	397	.119		
	Total	55.840	399			
Technology Adoption	Between Groups	9.544	2	4.772	24.857	.000***
	Within Groups	76.216	397	.192		
	Total	85.760	399			
Account Information	Between Groups	57.396	2	28.698	28.686	.000***
	Within Groups	397.164	397	1.000		
	Total	454.560	399			
Confidence	Between Groups	47.898	2	23.949	18.004	.000***
	Within Groups	528.102	397	1.330		
	Total	576.000	399			
Relation among staff	Between Groups	47.099	2	23.550	21.597	.000***
	Within Groups	432.901	397	1.090		
	Total	480.000	399			

\*\*\* p<.001; \*\* p<.01; \* p<.05

The results of ANOVA as depicted through Table 4.18 highlight that there is a significant difference in customer satisfaction in all three categories of banks viz. Public sector, private sector and foreign sector banks. *Thus, the hypothesis H<sub>2a</sub>: There is a significant difference in the means of public, private and foreign sector banks regarding customer satisfaction has been accepted, as p-values are significant for all determinants of customer satisfaction.*

After ANOVA, Post hoc Tukey HSD has been performed for each variable of customer satisfaction to understand where the difference is significant. The results are shown through Table 4.19.

**Table 4.19: Post hoc Test for Customer Satisfaction and Category of Banks**

Multiple Comparisons							
Tukey HSD							
Dependent Variable	(I) Category of Banks	(J) Category of Banks	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Personal Services	Private sector bank	Public sector bank	.205	.063	.003**	.06	.35
		Foreign Sector bank	.198	.110	.173	-.06	.46
	Public sector bank	Private sector bank	-.205	.063	.003**	-.35	-.06
		Foreign Sector bank	-.007	.106	.998	-.26	.24
	Foreign Sector bank	Private sector bank	-.198	.110	.173	-.46	.06
		Public sector bank	.007	.106	.998	-.24	.26
Problem Resolution & customer care	Private sector bank	Public sector bank	.466	.089	.000***	.26	.67
		Foreign Sector bank	.023	.156	.988	-.34	.39
	Public sector bank	Private sector bank	-.466	.089	.000***	-.67	-.26
		Foreign Sector bank	-.443	.150	.009**	-.80	-.09
	Foreign Sector bank	Private sector bank	-.023	.156	.988	-.39	.34
		Public sector bank	.443	.150	.009**	.09	.80
Channel Activity	Private sector bank	Public sector bank	.566	.097	.000***	.34	.79
		Foreign Sector bank	-.420	.171	.038*	-.82	-.02
	Public sector bank	Private sector bank	-.566	.097	.000***	-.79	-.34
		Foreign Sector bank	-.986	.165	.000***	-1.37	-.60
	Foreign Sector bank	Private sector bank	.420	.171	.038*	.02	.82
		Public sector bank	.986	.165	.000***	.60	1.37
Fees & Elimination Of Free Checks	Private sector bank	Public sector bank	.629	.110	.000***	.37	.89
		Foreign Sector bank	-.378	.193	.124	-.83	.08
	Public sector bank	Private sector bank	-.629	.110	.000***	-.89	-.37
		Foreign Sector bank	-1.007	.186	.000***	-1.44	-.57
	Foreign Sector bank	Private sector bank	.378	.193	.124	-.08	.83
		Public sector bank	1.007	.186	.000***	.57	1.44
Facilities	Private sector bank	Public sector bank	.113	.045	.034*	.01	.22
		Foreign Sector bank	-.344	.080	.000***	-.53	-.16
	Public sector bank	Private sector bank	-.113	.045	.034*	-.22	-.01
		Foreign Sector bank	-.457	.077	.000***	-.64	-.28
	Foreign Sector bank	Private sector bank	.344	.080	.000***	.16	.53
		Public sector bank	.457	.077	.000***	.28	.64
Ease Of Use	Private sector bank	Public sector bank	.128	.037	.002**	.04	.22
		Foreign Sector bank	-.400	.065	.000***	-.55	-.25
	Public sector bank	Private sector bank	-.128	.037	.002**	-.22	-.04
		Foreign Sector bank	-.529	.063	.000***	-.68	-.38
	Foreign Sector bank	Private sector bank	.400	.065	.000***	.25	.55
		Public sector bank	.529	.063	.000***	.38	.68

Technology Adoption	Private sector bank	Public sector bank	.234	.047	.000***	.12	.34
		Foreign Sector bank	-.245	.083	.009**	-.44	-.05
	Public sector bank	Private sector bank	-.234	.047	.000***	-.34	-.12
		Foreign Sector bank	-.479	.080	.000***	-.67	-.29
	Foreign Sector bank	Private sector bank	.245	.083	.009**	.05	.44
		Public sector bank	.479	.080	.000***	.29	.67
Account Information	Private sector bank	Public sector bank	.719	.108	.000***	.47	.97
		Foreign Sector bank	-.188	.189	.580	-.63	.26
	Public sector bank	Private sector bank	-.719	.108	.000***	-.97	-.47
		Foreign Sector bank	-.907	.182	.000***	-1.33	-.48
	Foreign Sector bank	Private sector bank	.188	.189	.580	-.26	.63
		Public sector bank	.907	.182	.000***	.48	1.33
Confidence	Private sector bank	Public sector bank	.628	.124	.000***	.34	.92
		Foreign Sector bank	-.272	.218	.424	-.78	.24
	Public sector bank	Private sector bank	-.628	.124	.000***	-.92	-.34
		Foreign Sector bank	-.900	.210	.000***	-1.39	-.41
	Foreign Sector bank	Private sector bank	.272	.218	.424	-.24	.78
		Public sector bank	.900	.210	.000***	.41	1.39
Relation among staff	Private sector bank	Public sector bank	.530	.112	.000***	.27	.79
		Foreign Sector bank	-.520	.197	.023	-.98	-.06
	Public sector bank	Private sector bank	-.530	.112	.000***	-.79	-.27
		Foreign Sector bank	-1.050	.190	.000***	-1.50	-.60
	Foreign Sector bank	Private sector bank	.520	.197	.023	.06	.98
		Public sector bank	1.050	.190	.000***	.60	1.50
*** p<.001; ** p<.01; * p<.05							

For Personal services, Post hoc Tukey HSD results as shown in Table 4.19 are significant between private sector banks and public sector banks. Regarding Problem resolution & customer care, Fees and elimination of free checks, Account information and Confidence variables of customer satisfaction, there is significant difference between private sector banks and public sector banks and between public sector banks and foreign sector banks. For Channel activity, Facilities, Ease of use, Technology adoption and Relation among staff, there is significant difference between all the categories of banks.

After finding out variables of construct-customer satisfaction in e-banking and analyzing customer satisfaction on the basis of different categories of banks, the next phase of research relates to focus on the determinants of customer retention. This has been covered in section 4.4.

#### 4.4 Determinants of Customer Retention

Customer retention construct used in the present study covers 18 variables selected through review of literature. Here factor analysis has been conducted on these 18

variables to reduce them to smaller number of factors to facilitate analysis in further stages. Three factors of customer retention emerged from factor analysis, namely; Customer loyalty, Technology invasion; and Security & Virtual Banking.

**Table 4.20: Determinants of Customer Retention in relation to E-banking**

Factor Name	Items of Customer Retention	Item Loadings	Std Error	Critical Ratio	Composite Reliability	AVE
Customer Loyalty Eigen value:7.825 % of Variation: 43.473	i. E-Banking has reduced the 'Gap' between the bank and the client.	0.943	0.057	16.544	0.984	0.873
	ii. Satisfaction regarding e-banking services.	0.941	0.059	15.949		
	iii. Comfort of electronic banking channels to carryout banking transactions than physically going to branch	0.936	0.064	14.625		
	iv. Preference to choose the Internet banking service of prime bank.	0.912	0.088	10.364		
	v. Inconvenience in changing bank.	0.900	0.100	9.000		
	vi. Accuracy in reporting transactions.	0.878	0.122	7.197		
	vii. Good relationship with staff.	0.867	0.133	6.519		
	viii. Ability to meet consumer's changing demands.	0.813	0.187	4.348		
	ix. Providing updated information regarding rewards and schemes.	0.783	0.217	3.608		
Technology Invasion Eigen value:3.847 % of Variation: 21.374	i. Technical expertise of staff.	0.800	0.200	4.000	0.924	0.912
	ii. Invasion of technology has improved the service level of banks.	0.770	0.230	3.348		
	iii. 24*7 – telephonic support.	0.768	0.232	3.310		
	iv. Implementation of latest technology by banks.	0.749	0.251	2.984		
	v. Necessity of human contact between bank and the customer.	0.719	0.281	2.559		
Security and Virtual Banking Eigen value:2.207 % of Variation: 12.260	i. Safety measures of banks.	0.865	0.135	6.407	0.862	0.610
	ii. Security of availability and managing of financial information over internet.	0.686	0.314	2.185		
	iii. Willingness to pay a higher price for using secure Internet banking service.	0.619	0.381	1.625		
	iv. I-Banking is replacing physical branches.	0.603	0.397	1.519		

Results as shown in Table 4.20 highlights that Customer Loyalty factor has highest Eigen value and is explaining 43.473 % of variation. In this factor, higher ratings have been given to: i) e-banking has reduced the 'Gap' between the bank and the client; ii) Satisfaction regarding e-banking services; iii) Comfort of electronic banking channels to carryout banking transactions than physically going to branch; and iv) Preference to

choose the Internet banking service of prime bank. There is ample evidence from earlier literature that customers tend to stay loyal with their service providers if they have excellent relationship with clients, provide better e-banking services, have ability to change as per changing customers needs (Abratt and Russell, 1999; Ennew and Binks, 1996). There is other evidence also available in literature which supports strong relation between customer retention and customer loyalty (Boulding *et al.* 1993; Zeithaml, Berry & Parasuraman, 1996). As all items in this factor have high item loadings, thus *Hypothesis H<sub>2b</sub>: Customer loyalty is an important factor influencing Customer retention has been accepted.* Respondents still feel that there is a need in providing updated information regarding rewards and schemes. Thus, there is scope for improving retention by focusing on these.

Technology Invasion factor has Eigen value of 3.847. In this factor, Technical expertise of staff and Invasion of technology in banks has improved the service level of banks, got higher loadings. This was followed by 24\*7— telephonic support. Hence, the second hypothesis, H<sub>2c</sub>: Technology is an important factor influencing customer *retention has been accepted.* This is supported by earlier literature (Dangwal *et al.*, 2010; Wise and Ali, 2009; Williamson and Lichtenstein, 2006). However Roboff and Charles (1998) opine that customers' confidence in bank is strong yet their confidence in the technology is little weak and it needs improvement.

The third factor, viz. Security & Virtual Banking has lower Eigen value of 2.207 and there is still scope for improvement as the e-banking users have rated only safety measures of banks with 0.865. Other variables like security of availability and managing of financial information over internet is having lower ratings, so the banks have to put more focus on security aspects. Online consumers are increasingly concerned about security and privacy issues (Howcroft, Hamilton and Hewer, 2002). This is a cause of concern and until it is improved, satisfaction and retention cannot be enhanced.

**Confirmatory Factor Analysis** was performed but the factor loadings of few indicator items of security & virtual banking were marginally below the threshold value of 0.7 (Fornell and Larcker, 1981). However the study by Tabachnick and Fidell (2001) suggested the value of 0.50 or more as desirable and it also indicates a solid factor. Thus based on support from available literature and on researcher's call these variables have been retained for further analysis. Moreover the study used each factor's composite

reliability (CR) and average variance extracted (AVE) (Barclay, Thompson & Higgins, 1995; Chin, 1998). Composite reliability is computed by squaring the sum of loadings and then dividing it by the sum of squared loadings plus the sum of error terms (Werts, Joreskog and Linn, 1974). The average variance extracted (AVE) is greater than 0.50 in all the cases and greater than the square of the correlations, thus suggesting acceptable discriminant validity (Fornell and Larcker, 1981).

After finding out the determinants of customer retention and customer satisfaction in e-banking, the next step pertains to investigating the interrelationships between constructs- customer retention and customer satisfaction in e-banking. This has been covered in section 4.5.

#### 4.5 Interrelationships between constructs- customer retention and customer satisfaction in e-banking.

The next objective of research is:

*O2: To investigate the interrelationships between constructs-customer retention and customer satisfaction in e-banking.*

To achieve this objective, regression analysis has been used. Customer retention is used as dependent variable and Customer satisfaction items are taken as independent variables.

**Table 4.21: Relation between Customer Satisfaction and Customer Retention**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
a	.829 <sup>a</sup>	.688	.687	.35147	
b	.871 <sup>b</sup>	.759	.758	.30883	
c	.879 <sup>c</sup>	.773	.771	.30057	
d	.882 <sup>d</sup>	.778	.776	.29727	
e	.885 <sup>e</sup>	.783	.780	.29453	
f	.888 <sup>f</sup>	.789	.785	.29093	1.899
a. Predictors: (Constant), Technology Adoption.					
b. Predictors: (Constant), Technology Adoption, Channel Activity					
c. Predictors: (Constant), Technology Adoption, Channel Activity, Ease of Use					
d. Predictors: (Constant), Technology Adoption, Channel Activity, Ease of Use, Personal Services					
e. Predictors: (Constant), Technology Adoption, Channel Activity, Ease of Use, Personal Services, Confidence					
f. Predictors: (Constant), Technology Adoption, Channel Activity, Ease of Use, Personal Services, Confidence, Relation among staff					
g. Dependent Variable: CR Customer Retention					
■Details attached in Appendix II					

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
a	Regression	108.080	1	108.080	875.509	.000***
	Residual	49.132	398	.123		
	Total	157.212	399			
b	Regression	119.312	2	59.656	624.896	.000***
	Residual	37.900	397	.095		
	Total	157.212	399			
c	Regression	121.373	3	40.458	447.032	.000***
	Residual	35.839	396	.091		
	Total	157.212	399			
d	Regression	122.268	4	30.567	345.522	.000***
	Residual	34.944	395	.088		
	Total	157.212	399			
e	Regression	122.975	5	24.595	283.043	.000***
	Residual	34.237	394	.087		
	Total	157.212	399			
f	Regression	123.851	6	20.642	243.169	.000***
	Residual	33.361	393	.085		
	Total	157.212	399			
Coefficients						
Model (f)	Un-standardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
(Constant)	-.551	.163		-3.389	.001***	
Technology Adoption	.569	.058	.420	9.758	.000***	
Channel Activity	.221	.022	.422	10.051	.000***	
Ease of Use	.337	.050	.201	6.757	.000***	
Personal Services	.099	.034	.093	2.874	.004**	
Confidence	-.138	.032	-.212	-4.257	.000***	
Relation among staff	.093	.028	.162	3.290	.001***	

\*\*\* p<.001; \*\* p<.01; \* p<.05

Results of step-wise regression (Table 4.21) highlight that the model has chosen six effective determinants of customer satisfaction influencing customer retention. These are Technology Adoption, Channel Activity, Ease of Use, Personal Services, Confidence and Relation among staff and these six factors explain 78.5 percent of variation. All variables except confidence are positively related with customer retention. With the introduction of these six factors, adjusted  $R^2$  improved from 0.687 to 0.785. This model explains 78.5% of variation. Hence customer retention is influenced by customer satisfaction. The result confirmed that customer satisfaction has a positive impact on customer retention in the context of e-banking. Thus, the next hypothesis  $H_3$ : *There is relation between customer*

*retention and customer satisfaction has been accepted.* These results have been corroborated by earlier researchers (Cronin and Taylor, 1992; Rust and Zahorik, 1993; Patterson, Johnson and Spreng., 1997; Kotler, Armstrong & Cunningham, 2002)

The earlier section covered analysis with respect to e-banking users. The next objective of research is to compare the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology. The study has 400 e-banking users and 100 e-banking non-users. The reason is to find out whether there is a difference in attitude of e-banking users and non-users, which will help in determining the steps to be initiated by banks for enhancing e-banking facilities. There are studies focusing upon the factors considered in earlier literature highlighting difference on the basis of convenience, security, cost and technology. Consequently in the present study, these four factors were used for users and non-users.

#### **4.6 Comparison between the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.**

*O3: To compare the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.*

For achieving this objective, ANOVA has been used to find the difference in the attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology. ANOVA can be applied on unequal sample size also (Fujikoshi, 1993). Ho, Jung, Kim & Shim (2004) and Li, Kuo & Russel (2006) have also used ANOVA with unequal sample size for comparing online shoppers and non-online shoppers.

**Table 4.22: ANOVA Results for Users and Non-users of E-banking**

Attitude Factors / Users & Non-users of E-banking		Sum of Squares	Df	Mean Square	F	Sig.
Convenience	Between Groups	22.324	1	22.324	88.293	.000***
	Within Groups	125.913	498	.253		
	Total	148.237	499			
Security	Between Groups	3.679	1	3.679	42.720	.000***
	Within Groups	42.889	498	.086		
	Total	46.568	499			
Cost	Between Groups	41.460	1	41.460	98.303	.000***
	Within Groups	210.038	498	.422		
	Total	251.498	499			
Technology	Between Groups	54.886	1	54.886	275.669	.000***
	Within Groups	99.153	498	.199		
	Total	154.039	499			

\*\*\* p<.001; \*\* p<.01; \* p<.05

The results for ANOVA (Table 4.22) for users and non-users are significant for all four factors, namely; convenience, security, cost and technology. This highlights that there is a significant difference in attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology as p values are significant for all four factors. So this supports the next hypothesis  $H_4$ : *there is a significant difference between the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology has been accepted* (Munusamy *et al.*, 2012). This was further analysed through regression analysis for users and non-users using customer satisfaction as dependent variable and using attitude towards convenience, security, cost and technology as independent variables. The results are depicted through Table 4.23 for users of e-banking and Table 4.24 for non-users.

**Table 4.23: Regression Results for Users**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	User (Selected)			
a	.795 <sup>a</sup>	.632	.631	.25797
b	.951 <sup>b</sup>	.904	.904	.13195
c	.991 <sup>c</sup>	.982	.982	.05668
d	.991 <sup>d</sup>	.983	.983	.05618

a. Predictors: (Constant), Technology; b. Predictors: (Constant), Technology, Cost; c. Predictors: (Constant), Technology, Cost, Security, d. Predictors: (Constant), Technology, Cost, Security, Convenience

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
a	Regression	45.559	1	45.559	684.578	.000***
	Residual	26.487	398	.067		
	Total	72.046	399			
b	Regression	65.134	2	32.567	1870.454	.000***
	Residual	6.912	397	.017		
	Total	72.046	399			
c	Regression	70.774	3	23.591	7343.207	.000***
	Residual	1.272	396	.003		
	Total	72.046	399			
d	Regression	70.800	4	17.700	5607.628	.000***
	Residual	1.247	395	.003		
	Total	72.046	399			

Dependent Variable: Customer Satisfaction

Selecting only cases for which User/Non-User = 1.00 [User = 1; Non-user =2]

a. Predictors: (Constant), Technology  
b. Predictors: (Constant), Technology, Cost  
c. Predictors: (Constant), Technology, Cost, Security  
d. Predictors: (Constant), Technology, Cost, Security, Convenience

Coefficients						
Model		Un-standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
a	(Constant)	-.892	.158		-5.653	.000***
	Technology	1.264	.048	.795	26.164	.000***
b	(Constant)	-2.099	.088		-23.755	.000***
	Technology	2.278	.039	1.433	58.327	.000***
	Cost	-.663	.020	-.824	-33.530	.000***
c	(Constant)	-.451	.055		-8.242	.000***
	Technology	2.892	.022	1.820	129.797	.000***
	Cost	-.942	.011	-1.171	-87.271	.000***
	Security	-.820	.020	-.375	-41.899	.000***
d	(Constant)	-.488	.056		-8.753	.000***
	Technology	2.883	.022	1.814	129.193	.000***
	Cost	-.958	.012	-1.191	-78.955	.000***
	Security	-.806	.020	-.368	-40.194	.000***
	Convenience	.026	.009	.032	2.839	.005**

a. Dependent Variable: Customer Satisfaction

b. Selecting only cases for which User/Non-User = 1.00 [User = 1; Non-user =2]

\*\*\* p<.001; \*\* p<.01; \* p<.05

Regression model for users has chosen convenience, security, cost and technology as important predictors of customer satisfaction. Convenience emerges with low B-value. Further technology emerges as the most important predictor with highest B-value. These four predictors explain 98.3 percent of total variation.

**Table 4.24: Regression Results for Non-users**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	User/Non-User = 2.00 (Selected)			
a	.281 <sup>a</sup>	.079	.069	.46212

a Predictors: (Constant), Convenience

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
a	Regression	1.792	1	1.792	8.391	.005**
	Residual	20.929	98	.214		
	Total	22.721	99			

Dependent Variable: Customer Satisfaction

Selecting only cases for which User/Non-User = 2.00 [User/Non-User = 1.00 [User = 1; Non-user =2]

a. Predictors: (Constant), Convenience

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
a	(Constant)	2.331	.250		9.338	.000***
	Convenience	.281	.097	.281	2.897	.005**

\*\*\* p<.001; \*\* p<.01; \* p<.05

Regression model for non-users as shown in Table 4.24 has used convenience, security, cost and technology as factors of customer satisfaction. From these, only convenience emerges as the predictor of customer satisfaction. This explains 0.069 percent of variation. *Thus the hypothesis H<sub>4</sub> that there is a significant difference between the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology has been accepted.*

Summing up, it can be inferred from regression results for users that Technology factor has emerged with highest B-value. This indicates that users with technical skills are having affirmative attitude towards using e-banking services as they consider e-banking helps them in managing their banking transactions more efficiently and effortlessly. This also highlights that cost and security are negatively related with customer satisfaction (Flavian and Guinaliu, 2006). So there is a need for reduction in cost for providing e-banking services and security issues needs to be strengthened by banks for improving customer satisfaction.

The last phase of research was to design a structural model depicting integrated picture regarding relation among Attitude of users, Customer Satisfaction and Customer Retention in relation to e-banking. This has been covered in Section 4.7.

#### **4.7 Structural model depicting relation among Attitude of users, Customer Satisfaction and Customer Retention**

Further Structural Equation Modeling (SEM) analysis has been employed to find the interrelations among attitude of users, customer satisfaction and customer retention.

Table 4.25 highlights the CFA details of attitude factors: convenience, security, cost and technology.

**Table 4.25: Confirmatory Factor Analysis of Attitude factors: Convenience, Security, Cost and Technology**

<b>Convenience</b>					
	Item Loadings	Std. Error	Critical Ratio	Composite Reliability	AVE
1. It is easy to navigate online services.	.611	0.389	1.571	0.96	0.76
2. Online banking facility enables to handle finances efficiently.	.723	0.277	2.610		
3. Online banking facilities are open 24/7, thus providing flexibility and accessibility to money anytime of the day and anywhere in the world.	.924	0.076	12.158		
4. E-banking provides the comfort to transact from home with just a click.	.865	0.135	6.407		
5. Online banking comprises of sophisticated tools that provide effective management of financial assets.	.951	0.049	19.408		
6. Transaction is executed at an unparalleled speed with the help of internet.	.850	0.15	5.667		
7. E-banking efficiently handles multiple bank accounts on one site.	.795	0.205	3.878		
8. First time logging of online banking may take some time.	.689	0.311	2.215		
<b>Security</b>					
1. Clear & brief instructions on the web page.	.698	0.302	2.311	0.88	0.53
2. E-banking services provide strong commitment for security issues.	.724	0.276	2.623		
3. Using Internet for transaction is safe.	.240	0.760	0.316		
4. Banks keep customers information confidential.	.788	0.212	3.717		
5. Confidential information is safely delivered from bank to customer.	.642	0.358	1.793		
6. Awareness about cyber security certificates on banking website login page.	.782	0.218	3.587		
7. Online bank may ask for identification in the form of certain codes.	.529	0.471	1.123		
<b>Cost</b>					
1. E-banking operations are costly.	.627	0.373	1.681	0.92	0.71
2. Internet connection is necessary for operating e-services & involves heavy cost.	.912	0.088	10.364		
3. E-banking is cheaper than physical banking.	.850	0.15	5.667		
4. Transfer of funds online from one account to another is chargeable.	.615	0.385	1.597		
5. Yearly charges are applicable on some of e-banking services irrespective of service usage.	.854	0.146	5.849		
<b>Technology</b>					
1. E-banking manages banking transactions more efficiently.	.580	0.420	1.380	0.88	0.71
2. E-banking is useful in conducting banking activities effortlessly.	.875	0.125	7.000		
3. It's easy to become skilled in using internet banking.	.861	0.139	6.194		

The results indicate composite reliability is more than 0.70 for all attitude factors. AVE is also greater than 0.50 for all the factors. Hence, the condition of reliability and AVE is satisfied to proceed with SEM analysis. Hence, all the items have been retained for further analysis. CFA details of Customer satisfaction and Customer retention have already been shown in Table 4.16 and Table 4.20.

Proceeding further with analysis, it is essential to determine correlation and Discriminant validity. This has been shown through Table 4.26. As highlighted through results, the Discriminant validity is above 0.70 and the range is 0.72 to 0.95 for the constructs used in the study. This helped to proceed to design a structural model depicting relation among Attitude of users, Customer Satisfaction and Customer Retention.

**Table 4.26: Correlation Matrix and Discriminant validity**

	CR1: Customer Loyalty	CR:2 Technology Invasion	CR3: Security & Virtual Banking	Customer Satisfaction	Convenience	Security	Cost	Technology
CR1:Customer Loyalty	<b><i>0.93</i></b>							
CR:2 Technology Invasion	0.571	<b><i>0.95</i></b>						
CR3: Security & Virtual Banking	0.368	0.435	<b><i>0.78</i></b>					
Customer Satisfaction	0.903	0.580	0.482	<b><i>0.81</i></b>				
Convenience	0.726	0.500	0.251	0.698	<b><i>0.87</i></b>			
Security	0.020	0.215	0.354	0.066	-0.258	<b><i>0.72</i></b>		
Cost	0.218	0.595	0.526	0.360	0.278	0.354	<b><i>0.84</i></b>	
Technology	0.512	0.628	0.226	0.441	0.470	0.175	0.34 0	<b><i>0.84</i></b>

\* Figures in bold and italics on the diagonal are square root of AVE

The results of the structural model are shown through Figure 4.8 and Table 4.27.

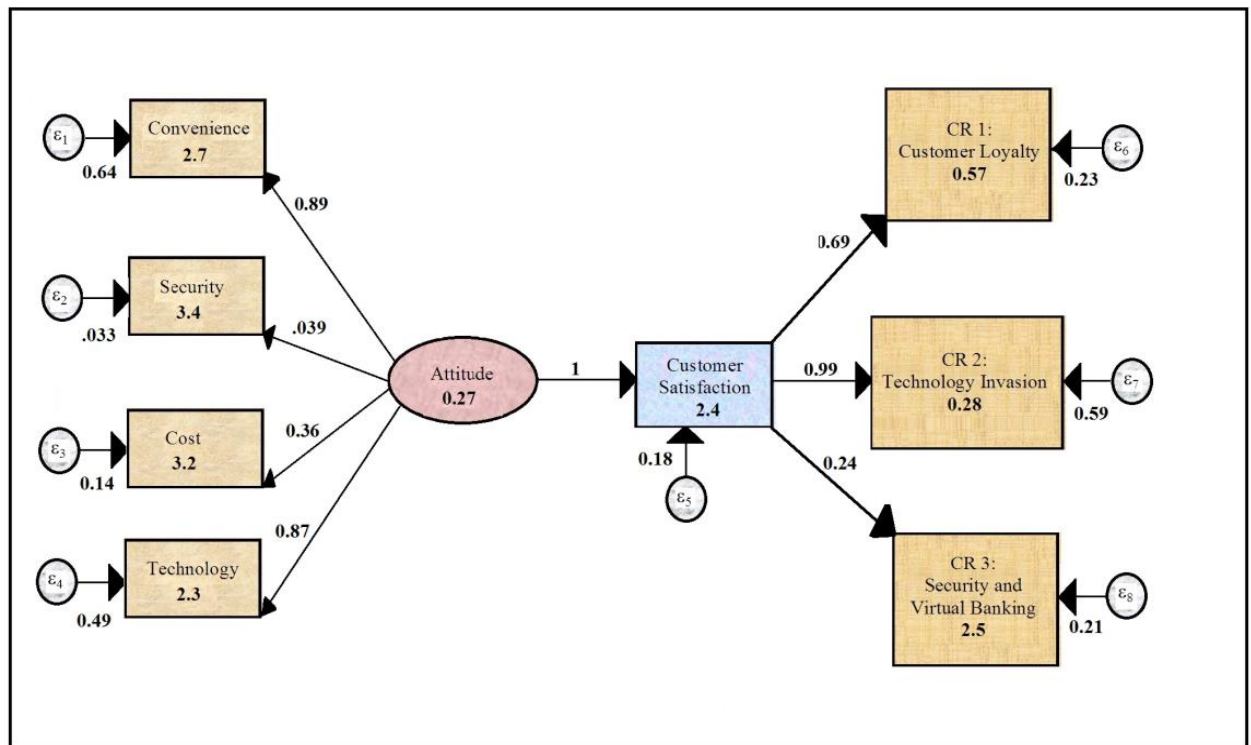


Figure 4.8: Structural model depicting relation among Attitude of users, Customer Satisfaction and Customer Retention

Table 4.27: Structural Model depicting relation among Attitude of users, Customer Satisfaction and Customer Retention

	Estimate	S.E.	P
Customer satisfaction			
Attitude	1(constrained)		
Customer Loyalty (CR1)	0.69	0.08	0.000***
Technology Invasion (CR2)	0.99	0.07	0.000***
Security and Virtual Banking (CR3)	0.23	0.04	0.000***
<b>Measurement Model</b>			
Convenience	0.89	0.07	0.000***
Security	0.04	0.01	0.028*
Cost	0.36	0.05	0.000***
Technology	0.87	0.08	0.000***
<b>Goodness of Fit Indices</b>			
	<b>Actual Value</b>	<b>Recommended Value/range</b>	<b>Reference</b>
Chi-square(5)	9.855 (p: 0.079)	p> .05	Barrett (2007)
Chi-square/df	1.971	≤ 3	Kline (2005)
RMSEA	0.049	≤ .05	Browne & Cudeck (1993)
CFI	0.99	≥ .95	Hu & Bentler (1999)
TLI	0.98	≥ .95	Hu & Bentler (1999)
SRMR	0.03	≤ .05	Browne & Cudeck (1993)

\*\*\* p<.001; \*\* p<.01; \* p<.05

As highlighted through Table 4.27, the model is good fit. The fit indices of the research model are acceptable CFI=0.99; TLI=0.98; SRMR =0.03; RMSEA=0.049. These results have been compiled after applying suggested modification indices. The model fit statistics indicate that Chi-square is insignificant. So the model is a good fit. A “good fit model” indicates that the model is plausible. The Chi-square test indicates the difference between observed and expected covariance matrices. Values closer to zero indicate a better fit, in this model the value of Chi Square is 9.855 (df:5). Although there is no consensus regarding an acceptable ratio for this statistic, recommendations range from as high as 5.0 (Wheaton et al, 1977) to as low as 2.0 (Tabachnick and Fidell, 2007). Good model fit would provide an insignificant result at a 0.05 threshold (Barrett, 2007), thus the Chi-Square statistic is often referred to as either a ‘badness of fit’ (Kline, 2005) or a ‘lack of fit’ (Mulaik et al, 1989) measure. The recommended range for Chi-square/df is  $\leq 3$  (Kline, 2005). The model has the value 1.971 and so is in recommended range and is good fit.

The root mean square error of approximation (RMSEA) avoids issues of sample size by analyzing the discrepancy between the hypothesized model, with optimally chosen parameter estimates, and the population covariance matrix. The RMSEA ranges from 0 to 1, with smaller values indicating better model fit. A value of .05 or less is indicative of acceptable model fit (Browne & Cudeck, 1993). In this model the value of RMSEA is 0.049. Thus the model fits on RMSEA statistics as well.

The comparative fit index (CFI) analyzes the model fit by examining the discrepancy between the data and the hypothesized model, while adjusting for the issues of sample size inherent in the chi-squared test of model fit and the normed fit index. CFI values range from 0 to 1, with larger values indicating better fit; a CFI value of .95 or larger is generally considered indicating acceptable model fit (Hu & Bentler, 1999). In the present study the CFI value is 0.99, and hence is greater than the recommended value. Thus, the model is good fit. The non-normed fit index (NNFI), also known as the Tucker-Lewis index, resolves some of the issues of negative bias, though NNFI values may sometimes fall beyond the 0 to 1 range (Tucker & Lewis, 1973). Tucker-Lewis index in the model is 0.98 and is acceptable.

Standardized root mean square residual (SRMR) is the square root of the discrepancy between the sample covariance matrix and the model covariance matrix. The standardized

root mean square residual removes this difficulty in interpretation, and ranges from 0 to 1, with a value of .05 or less being indicative of an acceptable model (Browne & Cudeck, 1993). The value of SRMR is 0.03 in the model. Consequently the results suggest that the model is a good fit model as it satisfies the fit indices.

Users' attitude is influenced by convenience (Yannopolus, 2011), followed by technology (Saga & Zmud, 1994; Ramayah *et al.*, 2002); Security has lower value. Customer satisfaction is positively related with CR1, viz. Customer loyalty, CR2, viz. Technology invasion and CR3, viz. Security & Virtual Banking. CR2: Technology invasion emerges with higher B-value and is followed by CR1: Customer loyalty. Again this highlights the importance of these in customer retention. Moreover the results highlight that customer satisfaction is positively related with customer retention. This further lends support to the hypothesis *H<sub>3</sub>: There is a relation between customer retention and customer satisfaction.*

### **Concluding Remarks**

The present study analyzes e-banking features on the basis of age, gender, education, income and category of banks moves on further to find out the effective determinants of customer satisfaction and customer retention in relation to e-banking. There are ten determinants of customer satisfaction of e-banking. The effective determinants of customer retention that emerge through factor analysis are: customer loyalty (CR1), technology invasion (CR2) and security & virtual banking (CR3). Customer loyalty (CR1) is relatively important and has a higher Eigen value explaining 43.473% of variation. The regression result confirmed that customer satisfaction is related with customer retention in the context of e-banking. The effective determinants of customer satisfaction influencing customer retention selected through regression are: Technology Adoption, Confidence, Ease of Use, Personal Services, Channel Activity and Relation among staff. The results for ANOVA for users and non-users highlight that there is a significant difference in attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology. The structural model depicting relation among attitude of users, customer satisfaction and customer retention in relation to e-banking is a good fit model showing that there is a positive relation between customer satisfaction and customer retention. The present study suggests that there is a need to focus on security dimensions with greater impetus to enthruse customer confidence in e-banking.

## **CHAPTER – V**

### **CONCLUSION, LIMITATIONS AND FURTHER STUDY**

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Innovations in banking sector must lead to affordability, usability and cheaper rates to the customers or else it will not be serving the needs of the society. E-banking is big success round the world as it is employed profitably and proves to be cost effective for all its features both for the bank as well as for the customer. It resulted in changing the customer's attitude towards e-banking services and thereby enhancing customer retention by focusing more on variables of customer satisfaction covering technology adoption by customers, ease of usability of e-services, gaining customer's confidence, using all available electronic channels extensively and maintaining sound relations with banking staff for resolving online transacting problems. Moreover the cost of delivery of e-services has escalated post-adoption of technology and bankers are contemplating levying charges on their own customers for using their ATMs, transferring funds through NEFT/RTGS and other e-banking services which are highly debatable. In the light of these technological changes, this chapter briefly sums up the results and inferences drawn from the research in the area of customer retention and customer satisfaction in relation to e-banking in India.

Section 5.1 of this chapter wraps up the major findings of the research study. Section 5.2 covers the revisiting of the objectives to find out whether the objectives have been achieved successfully by the research. Section 5.3 indicates the limitations of the study; Section 5.4 covers Significance and Implications of the study. The final section 5.5 explains the future scope of the study.

#### **5.1 Major Findings of the Study**

The major findings of the study are:

- The initial part of the study focussed on analysing E-banking features on the basis of rating accorded by sample respondents on quality parameters for public sector, private sector and foreign sector banks. Overall mean score is highest for foreign sector banks, followed by private sector banks and is lowest for public sector banks. Consumers have accorded highest ratings to all e-banking features of foreign sector banks except for one stop banking. In terms of safety of funds transfer on net, reasonable service charges, Internet banking assistance and One stop banking, public sector banks scored a little

higher than private sector banks. In case of convenient operating hours, ATM Services, Debit card services, Credit card services, Depository services, Phone banking facility, Innovative services and other IT based services, private sector banks performed better than the public sector banks. So on the basis of mean score; the results indicate better performance of foreign sector banks in comparison to public and private sector banks.

- ANOVA was performed for analysing the difference in the means of category of banks regarding e-banking features. ANOVA results clearly point towards a significant difference in the means of public sector, private sector and foreign sector banks regarding e-banking features.
- Analysis of age groups indicates that overall mean score is highest for 31-45 age group followed by over 45 age group and is slightly lower for 21-30 age group. Respondents falling in the age group of 31-45 have given higher preference for all e-banking features, except for ATM services, other IT based services and for One stop banking. In these three e-banking features, age group of over 45 has higher mean score. The most preferred features emerging from results for all age groups are: ATM services, credit card services and one stop banking.
- ANOVA was performed for analysing the difference in the means of different age groups regarding e-banking features. ANOVA results reveal that there is a significant difference in the mean score of three different age groups of respondents regarding e-banking features.
- Gender-wise analysis indicates that overall mean score of e-banking features for females is less than that of males. Higher prioritised e-banking features for females include: Reasonable service charges, Internet banking assistance and One stop banking.
- ANOVA was also performed for analysing the difference in the means of male and female regarding e-banking features. The results highlight that there is a significant difference in the male and female group of respondents regarding six e-banking features, viz. Safety of funds transfer on net, Debit card services, Credit card services, Phone banking facility, One stop banking and Innovative services. The results indicate that there is no significant difference in other e-banking features i.e. Convenient operating hours, Reasonable service charges, ATM services, Internet banking assistance, Depository services and other IT based services on the basis of gender of respondents.
- Education-wise analysis highlight that mean score of users for all e-banking features is highest for the graduate group except for one feature, i.e. Convenient operating hours,

which is higher for undergraduate group. Overall mean is also highest for graduates followed by undergraduate and postgraduate groups.

- ANOVA results highlight that there is a significant difference in the education level of respondents regarding eight e-banking features, viz. Convenient operating hours, Safety of funds transfer on net, Reasonable service charges, ATM services, Internet banking assistance, Depository services, One stop banking and Innovative services.
- The results of income analysis are clearly indicative of the fact that mean score of users for all e-banking features is highest for the high income group except for one feature, i.e. One stop banking which is higher for low income group. Overall mean score for high income group is 2.96 and is highest followed by low income group and least for middle income group.
- Further ANOVA has been conducted to test the significant difference in the means of different income groups regarding e-banking features. It shows that there exists significant difference between income groups and e-banking features except for one feature, i.e. Reasonable service charges.
- Customer satisfaction construct used in the present study has been based on ten variables. The ten variables chosen from literature review are: Personal services, Problem resolution and customer care, Channel activity, Fees and elimination of free checks, Facilities, Ease of use, Technology adoption, Account information, Confidence, Relation among staff. Confirmatory Factor Analysis was also conducted to check the composite reliability and Average variance explained (AVE) for the variables of customer satisfaction to ascertain whether these can be taken for further analysis. Table 4.16 shows the CFA details of customer satisfaction. The results indicate that composite reliability is greater than 0.70 and AVE is also greater than 0.50 for all the factors. Hence, all the items have been retained for further analysis.
- Category of bank and customer satisfaction analysis highlights that overall mean is highest for foreign sector banks followed by private sector and is lowest for public sector bank. Foreign sector banks maintain supremacy among all the variables of customer satisfaction except for Personal services and Problem resolution & customer care for which it is higher for private sector banks. In case of all the variables of customer satisfaction, private sector bank scored a little higher than public sector bank.

- ANOVA was also performed for analysing the difference in the means of three categories of banks regarding customer satisfaction. The results underline that there is a significant difference in the customer satisfaction in all three categories of banks viz. public sector, private sector and foreign sector banks.
- Customer retention construct used in the present study has 18 variables selected through review of literature. Factor analysis has been conducted on these variables to reduce them to smaller number of factors. Three factors of customer retention emerged from factor analysis, namely; Customer loyalty, Technology invasion and Security & Virtual Banking and these factors explain 77.106% of variation. The study also used confirmatory factor analysis and results as shown through Table 4.20 are indicative of composite reliability and AVE which are above the threshold level.
- For studying the interrelationship between the constructs-customer satisfaction and customer retention in e-banking, regression analysis has been undertaken wherein customer retention is used as dependent variable and determinants of customer satisfaction are taken as independent variables.
- Results of regression highlight that the model has chosen six effective determinants of customer satisfaction. These are: Technology Adoption, Channel Activity, Ease of Use, Personal Services, Confidence and Relation among staff. These six determinants explain 78.5 percent of variation in customer retention. All variables except confidence are positively related with customer retention. With the introduction of these six determinants, adjusted  $R^2$  improved from 0.687 to 0.785. Hence, it can be concluded that customer retention is influenced by customer satisfaction.
- ANOVA has been used to find the difference in the attitude of users and non-users towards e-banking. The results highlight that there is a significant difference in attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.
- Regression model for users has chosen technology, security, costs and convenience as important predictors of customer satisfaction. Technology emerges as the most important predictor with highest B-value and Convenience has lowest B-value. These four predictors explain 98.3 percent of total variation.

- Regression model for non-users has used technology, security, convenience, and costs as factors of customer satisfaction. From these, only convenience emerges as the predictor of customer satisfaction. This explains only 0.069 percent of variation. This highlights that there is a need to create awareness regarding other three attitude factors to change non-users to users of e-banking.
- Further Structural Equation Modeling (SEM) has been employed to find the interrelations among attitude of users, customer satisfaction and customer retention. SEM results highlight that the model is good fit. The fit indices of the research model are acceptable CFI=0.99; TLI=0.98; SRMR =0.03; RMSEA=0.049. Users' attitude is influenced by convenience followed by technology. Security has lower value. Customer Satisfaction is positively related with CR1, viz. Customer loyalty, CR2, viz. Technology invasion and CR3, viz. Security & Virtual Banking.

- **5.2 Revisiting the Objectives**

It is necessary to revisit the research objectives to see whether the study has been able to accomplish the same.

D) The first objective of the present research has been: To find out the effective determinants of customer retention and customer satisfaction in e-banking.

- i. Customer satisfaction construct used in the present study has been based on ten variables. These ten variables have been chosen from literature review. These are: Personal services, Problem resolution and customer care, Channel activity, Fees and elimination of free checks, Facilities, Ease of use, Technology adoption, Account information, Confidence, Relation among staff. These have been corroborated by earlier literature. The same were validated using CFA as highlighted through Table 4.16.
- ii. Customer retention construct used in the present study covers 18 variables selected through review of literature. Factor analysis has been conducted on these 18 variables to reduce them to smaller number of factors to facilitate analysis in further stages. Three determinants of customer retention are: a) Customer loyalty, b) Technology invasion; and c) Security & Virtual Banking. Again CFA was performed to analyse whether to proceed further with analysis. Results confirmed that the factors can be retained. These three determinants are explained as below:

a) Results of factor analysis as shown in Table 4.20 highlights that Customer Loyalty factor has the highest Eigen value and is explaining 43.473 % of variation. In this factor, higher ratings have been accorded to: i) E-Banking has reduced the 'Gap' between the bank and the client; ii) Satisfaction regarding e-banking services; iii) Comfort of electronic banking channels to carry out banking transactions than physically going to branch; and iv) Preference to choose the Internet banking service of prime bank. There is evidence from earlier literature that customers tend to stay loyal with their service providers if they have excellent relationship with clients, provide better e-banking services, have ability to change as per changing customers needs (Abratt and Russell, 1999; Ennew and Binks, 1996). There is supportive evidence available in literature on strong relation between customer retention and customer loyalty (Boulding, Kalbra, Staeling & Zeithaml, 1993; Zeithaml, Berry & Parasuraman, 1996). As all items of Customer loyalty have high item loadings, thus *Hypothesis H<sub>2b</sub>: Customer loyalty is an important factor influencing customer retention has been accepted*. Respondents still feel that there is a need in providing updated information regarding rewards and schemes. Thus, there is scope for improving loyalty and retention by focusing on these.

b) Technology Invasion factor has Eigen value of 3.847. In this factor, Technical expertise of staff and Invasion of technology in banks has improved the service level of banks, got higher loadings. This was followed by 24\*7 – telephonic support. Thus, the next hypothesis, *H<sub>2c</sub>: Technology is an important factor influencing Customer retention has been accepted*. It has been corroborated by earlier studies (Wise and Ali, 2009; Dangwal *et al.*, 2010). However Roboff and Charles (1998) opine that customers' confidence in bank is strong yet their confidence in the technology is little weak and needs improvement.

c) The third factor, viz. Security & Virtual Banking has lower Eigen value of 2.207 and there is still scope for improvement as the e-banking users have rated only safety measures of banks with 0.865. Other variables like security of availability and managing of financial information over internet is having lower ratings, so the banks have to put added impetus on security aspects. Online consumers are increasingly concerned about security and privacy issues (Howcroft, Hamilton and Hewer, 2002). This is key concern area and needs to be improved for enhancing customer satisfaction and customer retention.

II) The second objective of the present research has been: To investigate the interrelationships between constructs-customer retention and customer satisfaction in e-banking.

To achieve second objective, step-wise regression method has been employed to investigate the interrelationship between customer satisfaction and customer retention. Regression model (Table 4.21) has chosen six effective determinants of customer satisfaction influencing customer retention, viz. Technology Adoption, Channel Activity, Ease of Use, Personal Services, Confidence and Relation among staff. These six factors explain 78.5 percent of variation indicating relation between customer satisfaction and customer relation. The results confirmed that customer satisfaction has a positive impact on customer retention in context of e-banking. Thus, the hypothesis  $H_{2c}$ : *There is relation between customer retention and customer satisfaction has been accepted.* The results achieved are corroborated by earlier researchers (Rust and Zahorik, 1993; Cronin and Taylor, 1992; Patterson, Johnson and Spreng., 1997; Kotler, Armstrong & Cunningham, 2002).

III) The third objective of the present research has been: To compare the attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.

For achieving this objective, ANOVA and regression analysis has been used to find the difference in the attitude of users and non-users.

The results for ANOVA (Table 4.22) for Users and Non-users are significant for all four factors, viz. Convenience, Security, Cost and Technology. This highlights that there is a significant difference in attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology. So this supports the next hypothesis  $H_4$ : *there is a significant difference between the attitudes of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology has been accepted.*

- i. This was further analysed through regression analysis for users and non-users using customer satisfaction as dependent variable and using attitude towards convenience, security, cost and technology as independent variables. The results are depicted through Table 4.23 for users and Table 4.24 for non-users.

- ii. Convenience, security, costs and technology emerge as important predictors of customer satisfaction in the model for e-banking users. Technology emerges as the most important predictor and convenience is the least prioritised factor. All these four predictors explain 98.3 percent of total variation.
- iii. Regression model for non-users has used technology, security, convenience, and costs as factors of customer satisfaction and the model has chosen only convenience as the predictor of customer satisfaction and the explanatory power is very low, i.e. .069 percent. *Thus, the related hypothesis H<sub>4</sub>: there is a significant difference between the attitude of users and non-users towards e-banking with respect to convenience, security, costs and technology has been accepted. This has been supported by earlier research conducted by Munuswamy et al.(2012)*

Summing up, it can be inferred from regression results for users that Technology factor has emerged with highest B-value. This indicates that users with technical skills are having affirmative attitude towards using e-banking services as they consider e-banking helps them in managing their banking transactions more efficiently and effortlessly. This also highlights that cost and security are negatively related with customer satisfaction. So there is a need for reduction in cost for providing e-banking services and security issues needs to be strengthened by banks for improving customer satisfaction.

IV) The last phase of research is to present a structural model depicting integrated picture regarding relation among Attitude of e- banking users towards Convenience, security, cost and technology; Customer Satisfaction; and Customer Retention. The results of SEM measurement model as depicted through Table 4.27 highlights that the model is good fit as the indices of the research model are above the threshold levels and are acceptable CFI=0.99; TLI=0.98; SRMR=0.03; RMSEA=0.049.

Users' attitude is influenced by convenience followed by technology. Security has lower value. Customer satisfaction is positively related with CR1, viz. Customer loyalty, CR2, viz. Technology invasion and CR3, viz. Security & Virtual Banking. This further supports the hypothesis *H<sub>3</sub>: There is a relation between customer retention and customer satisfaction.*

Thus the present study has designed a structural model from e-banking users' perspective for enhancing customer satisfaction and customer retention in relation to e-banking. This

will facilitate the bank managers to strengthen relations with customers, hence enhancing customer satisfaction and thereby retaining valuable customers.

The results reflect a demand for public sector banks to learn from private sector banks and foreign sector banks regarding improving various e-banking features and thereby escalating customer satisfaction. The results will assist bankers to take remedial steps in areas where they are lagging behind. Investing on those areas will assist in encashing the benefits to survive in the competitive and electronic banking environment. Thus, the suggested structural model provides an appropriate direction to the Indian banks to have a holistic approach to e-banking.

A complete view of research has been depicted through figure 5.1.

## Customer Retention and Customer Satisfaction in relation to E-Banking

- 1) Evolution and development of E-banking
- 2) Current Indian Scenario of E-banking services in India
- 3) Conceptual framework of Customer Satisfaction and Customer Retention in relation to E-banking

### Objectives of the Study:

- O1: To find out the effective determinants of customer retention and customer satisfaction in e-banking.
- O2: To investigate the interrelationships between constructs- customer retention and customer satisfaction in e-banking.
- O3: To compare the attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology

**Preparation of Structured Questionnaire**

- Validity and Reliability
- Content Validity and Cornbach Alpha

**Methods – Mean, Standard Deviation, ANOVA, Factor Analysis, Regression, Structural Equation Modeling**

**Result 1:** Customer Satisfaction scale has 10 items and Customer Retention scale has 18 items selected from review of literature. Through Factor Analysis, customer retention scale has been condensed to 3 factors viz: Customer Loyalty, Technology Invasion and Security & Virtual Banking.

**Result 2:** Results of regression model proves that customer retention is influenced by customer satisfaction. The model has chosen six effective determinants of customer satisfaction such as Technology Adoption, Channel Activity, Ease of Use, Personal Services, Confidence and Relation among staff and these six determinants explain 78.5% of variation in customer retention.

**Result 3:** ANOVA results highlight that there is a significant difference in attitude of users and non-users towards e-banking with respect to factors, namely; convenience, security, cost and technology.

**Result 4:** Structural Equation Modeling (SEM) analysis shows that Users' attitude is influenced by convenience followed by technology. Security has lower value. Satisfaction is positively related with three variables of Customer retention i.e. Customer loyalty, Technology invasion and Security & Virtual Banking.

**Figure 5.1 : A Complete View of Research**

### **5.3 Limitations of the study**

Perfection is hard to achieve but efforts have been made for gaining meaningful results through this piece of research on customer satisfaction and customer retention in relation to E-banking in India. This research study has certain limitations. However, these limitations may focus on opportunities for future areas of research too.

A major limitation of this study is that it has used cross sectional survey method for the collection of data which means data was collected once but customers' satisfaction levels and perception may vary from time to time. So, longitudinal research could be used for confirming the causal association among the selected factors in the study.

Another limitation of the study is that the majority of factors identified are either from literature covered in the developed countries, because of the limited academically eminent literature on customer satisfaction and customer retention in e-banking in developing countries including India. There is a need for extensive study for validating the suggested model through case studies of public/private/foreign sector banks for gaining more insights into customer satisfaction and retaining valuable customers.

### **5.4 Significance and Implications of the study**

This research study is significant and unique in its endeavour as it covers the attitude of users towards e-banking by focusing on four factors, viz. convenience, security, cost and technology and relating it with customer satisfaction. The results of the study highlight that banks need to focus on security where the value of coefficient is very low. The study links attitude, customer satisfaction and customer retention where satisfaction leads to customer loyalty, technology invasion, security and virtual banking, unlike the earlier researchers who have either focused on customer satisfaction (Texak and Kaur, 2009; Vyas, 2004; Taylor & Baker, 2004; Santrouridis *et al.*, 2009; Soma & Sarkar, 2008; Sur 2007; Rengasamy & Gudep, 2006) or on customer retention (Treiblamaier *et al.*, 2006; Ribbink *et al.*, 2004). There are other studies which focused on attitude of customers towards adoption of e-banking (Sangaran, 2001; Sathye, 1999; Singh & Malhotra, 2004; Ruyter *et al.*, 2001; Ramayah *et al.*, 2003; Unnithan & Swatman, 2001) but have not linked it with customer satisfaction or customer retention in relation to e-banking.

The present research is highly significant for banking customers and for bankers too. The study clearly highlights that customers can be benefitted by adopting technology in banking sector which will result in convenience, reduced cost of banking operations and moreover ease of use of e-banking services. They can learn the latest developments in e-

banking and adopting these will result in greater satisfaction. Customers should learn more about the security aspects so as to do away with hackers and phishing activities. It will indeed make their life easy and frequent user of online banking services in India. Convenience, ease of use, cost efficiency and adapting to radically changing technology will also change their life for betterment. Customers should keep themselves upgraded about the latest developments and bankers can help transmitting information to customer to facilitate e-transactions.

The study has implication for Indian Industry for increasing customer retention and bolstering customer satisfaction.

#### **5.4.1. Implications for Indian Industry in terms of increasing customer retention:**

- a) As the study highlights that customer loyalty is the most important factor influencing customer retention. So Indian bank managers should focus on loyalty programs and educating customers about the recent developments in e-banking sector so that the gap between bank and customer can be narrowed.
- b) This study also concluded that security aspects regarding e-banking transactions need to be addressed for retaining customers in the bank. Indian bankers should focus more on security facet as customers transact online, use ATM services, debit card and credit card services for shopping and payment purposes, but there is always a fear of larceny of the password by the hackers and also trepidation of theft of e-cards. So some strong steps should be initiated by bankers to resolve security issues so that even non-users of e-banking can be converted into frequent users of e-banking.
- c) In addition, bank employees should also be knowledgeable about their roles and responsibilities in the successful execution of these services, as improper understanding of secrecy of access credentials and safe keeping of cards, have resulted in losses that could be averted. This will help in enhancing retention by stimulating the culture of extensive usage of e-banking services among the customers.
- d) Another finding of the study is that e-banking users still feel that there is a need for providing updated information regarding rewards' and schemes by banks. Bank customers need to be properly educated about the benefits and risks of e-banking; especially security hazards and usage do's and don'ts.
- e) This study also highlights confidence in e-banking is low which needs improvement otherwise virtual banking cannot be enthused in the customer. Virtual banks will replace

physical branches and cut down the cost so banks should boost confidence of customers in virtual banking.

#### **5.4.2. Implications for Indian Industry for bolstering customer satisfaction:**

a) The study concluded that banks are not that good at resolving e-banking problems promptly and efficiently. So banks should take initiatives in training their customer care employees about the latest developments in e-banking sector and apart from that, proper training of internet functions, mobile functions etc. should be imparted to them from time to time so that they may be updated with the latest technological changes occurring in the industry.

b) Banks should also focus on conducting training programmes of their office employees also as they are sometimes very slow while operating computers and customers get irritated while standing in a queue waiting for long which negatively affects customer satisfaction.

c) This study has also highlighted that customer satisfaction is affected by high transaction cost. Online transactions cost are very high in India as compared to other countries. So banks should encourage free usage of ATM transaction India as they are reducing the time of bank employees in attending the customers at the bank premises. Other countries are giving incentives to e-banking users and these need to be provided to Indian customers to improve satisfaction.

d) This study also concluded that bankers should focus on ease of use measures for better accessibility, but at the same time maintaining high level of service quality for gaining customer satisfaction. Customers want better quality at low cost. So banks should take initiatives in making their website, ATM and other e-banking channels as highly user friendly and also focus on reducing cost per transaction to enhance customer satisfaction.

e) Bankers must ensure customer confidence and trust in e-banking services as a whole which in turn will enhance customer satisfaction. Their marketing programmes should foster positive experiences with customers over time to mitigate the concern of trust using the internet for banking.

f) This study also concluded that there is need of synchronisation among the banking staff as customers may want expertise of varied e-banking services. So from time to time, group work and job rotation should be encouraged in banks so that they maintain cordial

relations within themselves so as to create synergy in the bank which in turn will boost customer satisfaction.

Satisfied and delighted customer will be retained for longer time and hence this will improve efficiency and performance. Thus, it will be win-win situation for both i.e. for bankers and for customers too.

This research has implications for customers too. The study clearly highlights that customers can be benefitted by adopting technology in banking sector which will result in convenience, reduced cost of banking operations and moreover ease of use of e-banking services. They should learn the latest developments in e-banking and adopting these will result in greater satisfaction. For any queries and difficulties faced by customers, they can contact customer care services which are available round the clock and are free of cost. Customers should learn more about the security aspects so as to do away with hackers and phishing activities. It will indeed make their life easy and use online banking extensively.

Another implication that emerges from results of the study is a need by banks to focus more on winning customer's confidence by educating them regarding the schemes and e-developments in banking sector including security aspects for maintaining long term relations with customers and thus retaining them. Focussing on these will help customers reap the greater benefits of e-banking services. They should keep themselves upgraded about the latest developments and start paying all sorts of bills and payments through e-transactions.

### **5.5 Further Scope of Research:**

There may be ample opportunities for further extension of this study. Case study analysis can be used for determining the factors contributing to customer satisfaction and customer retention in relation to e-banking in India by taking two most profitable banks from each of three categories of banks viz. public sector banks private sector banks and foreign sector banks.

Moreover, since this research was carried out in India, the data collected represents only India. Duplicating this research in other Asian cities could test the truth of the findings when applied to other regions. Similarly, researching and conducting similar research in

major cities of UK and USA, where the financial services and products are more advanced, could then be compared with the Indian situation. This may contribute towards better understanding of relation among attitude of users, customer satisfaction and customer retention in the context of e-banking.

## REFERENCES

1. Abratt, R. & Russel, J. (1999). Relationship marketing in private banking in South Africa. *International Journal of Bank Marketing*, 17 (1), 5-19.
2. Adams, D.A., Nelson, R.R., & Todd, P.A. (1992). Perceived Usefulness, Ease of Use, and Usage of Information Technology, A Replication. *MIS Quarterly* 16(2), 227-247.
3. Aishah, S. (1997). The Key to Success. *Chartered Financial Analyst*, 53(3), 70-73.
4. Alam, S. S., Khatibi, A., Santhapparaj, A. S. & Talha. (2007). Development and prospects of internet banking in Bangladesh. *Competitiveness Review*, 17(1/2), 56-66.
5. Al-Somali, S. A., Gholami, R. & Clegg, B. (2008). Internet banking acceptance in the context of developing countries, an extension of the technology acceptance model. *Journal of Marketing*, 4(2), 116-125.
6. Anderson, E.W. & Sullivan, M.W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(2), 125-143.
7. Anderson, Eugene, W., Fornell, C. & Donald, R. L. (1994). Customer satisfaction, market share, and profitability, findings from Sweden. *Journal of Marketing*, 58, 53- 66.
8. Angur, M. G., Natarajan, R., & Jahera, J. S. (1999). Service Quality in the banking industry, an assessment in a developing economy. *International Journal of Bank Marketing*, 17(3), 116-123.
9. Auta, E. M. (2010). E-banking in developing economy, Empirical evidence from Nigeria. *Journal of Applied Quantitative Methods*, 5(2), 212-222.
10. Baker, W., Marn, M. & Zawada, C. (2000). Pricing smarter on the net. *Harvard Business Review*. 78(1), 122-127.
11. Bakos, J. Y. (1991). A strategic analysis of electronic marketplaces. *MIS Quarterly*, 9, 295-310.
12. Barclay, D., Thompson, R., & Higgins, C. (1995). The partial least squares (PLS) approach to causal modeling, personal computer adoption and use an illustration. *Technology Studies*, 2(2), 285-309.
13. Barrett, J.L. (2007). Keeping science in cognitive science of religion: Needs of the field. In J. Bulbulia, R. Sosis, E. Harris et al. (Eds.) *The evolution of religion: Studies, theories, and critiques*. Santa Margarita, CA: Collins Foundation Press.

14. Bauer, H. H., Hammerschmidt & M., Falk, T. (2005). Measuring the quality of e-banking portals. *International Journal of Bank Marketing*, 23 (2), 153-175.
15. Beerli, A., Martin, J. D. & Quintana, A. (2004). A model of customer loyalty in the retail banking market. *European Journal of Marketing*, 38 (1), 253-275.
16. Bhat, M. (2005). A correlates of service quality in banks control online banking. *Journal of Services Research*, 5, 77-99.
17. Bhatnagar, A., Misra, S. & Rao, H. R. (2000). Risk, convenience, and internet shopping behavior. *Communications of the ACM*, 43(11), 98-105.
18. Bhattacharya, C. B. & Bolton R. N. (2000). Relationship marketing in mass markets. In J. N. Sheth & A. Parvatiyar (Eds.), *The Handbook of Relationship Marketing* (pp. 327-354). Thousand Oaks, CA: SAGE Publications.
19. Bhattacharjee, A. (2001). Understanding Information Systems Continuance, An Expectation-Confirmation Model. *MIS Quarterly*, 25( 3), 635-646.
20. Bisht, N. S, Mishra, R. C & Belwal, R. (2002). Liberalization and its effect on Indian banking. *Finance India*, 16(1), 147-152.
21. Black, I. R., Efron A., Ioannou, C. and Rose, J. M. (2005). Designing and Implementing Internet questionnaires using Microsoft Excel. *Australasian Marketing Journal (AMJ)*, 13(2), 61-72.
22. Black, N.J., Lockett, A., Ennew, C, Winklhofer, H. & McKechnie, S. (2002). Modeling customer choice of distribution channels, an illustration from financial services. *International Journal of Bank Marketing*, 20(4), 161-173.
23. Bolton RN. (1998). A dynamic model of the duration of the customer's relationship with a continuous service provider. The Role of Satisfaction. *Marketing Science*, 17(1), 45-65.
24. Bolton, R. N. & James H. D. (1991). A longitudinal analysis of the impact of service changes on customer attitudes. *Journal of Marketing*, 55(1), 1-10.
25. Boulding, K. D., Kalbra, A., Staeling, R. & Zeithaml, V. A. (1993). A dynamic process model of service quality, from expectations to behavioral intentions. *Journal of Marketing Research*, 30(2), 7-27.
26. Bradley, L. & Stewart, K. (2003). Delphi study of internet banking. *Marketing Intelligence and Planning*, 21(5), 272-281.
27. Brislin, R. (1980). Translation and content analysis of oral and written materials. In H. C.

- Triandis, & J. W. Berry (Eds.), *Handbook of cross-cultural psychology methodology*. Boston: Allyn and Bacon.
28. Brown, M., Pope, N. & Voges, K. (2003). Buying or Browsing? An exploration of shopping orientations and online purchase intention. *European Journal of Marketing*, 37(11/12), 1666-1685.
  29. Browne, M. W. & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage Publications.
  30. Burnham, T., Frels, J.K. & Mahajan, V. (2003). Consumer switching costs, a typology, antecedents, and consequences. *Journal Academy of Marketing Science*, 31(2), 109-26.
  31. Carlson J., Furst K., Lang W. W. & Nolle D. E. (2001). Internet banking, market developments and regulatory issues, Manuscript. *The Society of Government Economists: Washington D.C.*
  32. Casalo, L., Flavián, C. & Guiraliu, M. (2008). The role of usability and satisfaction in the consumers' commitment to financial services. *International Journal of Electronic Finance*, 2 (1), 2008 –2031.
  33. Casson, M., Pearce, R. & Singh, S. (1992). Business Culture and International Technology, In Granstrand O, Håkanson, L. and Sjölander S (Eds.), *Technology Management and International Business* (pp.117-137). London: Wiley.
  34. Cavana, R., Delahaye, B. & Sekaran, U. (2001). *Applied Business Research: Qualitative and Quantitative Method*, John Wiley & Sons Australia Ltd.
  35. Cavana, R.Y., Delahaye, B.L. & Sekaran, U. (2001). *Applied business research, qualitative and quantitative methods*. Queensland: John Wiley & Sons.
  36. Census of India, 2011 (Final Data), Household Tables, Registrar General, Govt. of India, New Delhi.
  37. Chatterjee, P. & Narasimhan, A. (1994). *The Web as a Distribution Channel*, Owen Doctoral Seminar Paper.
  38. Chau, P.Y. & Lai, V.S. (2003). An empirical investigation of the determinants of user acceptance of Internet banking. *Journal of organization computing and electronic commerce*, 13(2), 123-145.

39. Cheolho, Y. (2010). Antecedents of customer satisfaction with online banking in China, The effects of experience. *Journal of Computers in Human Behavior*, 26(6), 67-74.
40. Chi, C.G-Q. & Qu, H. (2008). Examining the structural relationships of destination image, tourist satisfaction and destination loyalty, An integrated approach. *Tourism Management*, 29, 624-636.
41. Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling, In G. A. Marcoulides (Eds.), *Modern Methods for Business Research* (pp. 295-336). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
42. Chothani P.Y., Siva P., Narayanan L. (2004). Retrieved from <http://www.crmzday.com>
43. Christolov, E.A. & Marianne, A.H.J.M.H. (2004). US Consumers and Electronic banking, 1995–2003, *Federal Reserve Bulletin Winter*, 1–18.
44. Colgate, M. & Lang, B. (2001). Switching barriers in consumer market, an investigation of the financial services industry, *Journal of Consumer Marketing*, 18(4), 332-347.
45. Colgate, M., Stewart, K., & Kinsella, R. (1966). Customer defection, a study of the student market in Ireland, *International Journal of Bank Marketing*, 14(3), 23-29.
46. Cooper, D. R., & Schindler, P.S. (2006). *Marketing Research*. New York: McGraw Hill.
47. Copeland, M. (1923). Relation of consumers' buying habits to marketing methods. *Harvard Business Review*, 1 (April), 282-289.
48. Coughlan, Anne T., Anderson, E., Stern, L.W. & Adel I. E. (2001). *Marketing Channels* (6th Ed.). Upper Saddle River: Prentice Hall.
49. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 22(3), 297-334.
50. Cronin, J. & Taylor, S. (1992). Measuring service quality, a reexamination and extension. *Journal of Marketing*, 56, 55–68.
51. Dangwal, R.C., Kailash, S. & Anand, S. (2010). The upcoming technology and the associated innovations. *Professional banker*, 2, 26-31.
52. Daniel, E. (1999). Provision of electronic banking in the UK and the Republic of Ireland. *International Journal of Bank Marketing*, 17(2), 72-82.
53. Dasgupta, S. (1999). Determinants of information technology adoption: an extension of existing models to firms in a developing country. *Journal of Global Information Management*, 7(3), 30-40.

54. Davidow, N.H. & Uttal, B. (1989). Service companies: focus or falter. *Harvard Business Review*, 67(4), 77-85.
55. Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly* 13(3), 319-340.
56. Debashish, S.S., Mishra, B. (2005). *Indian banking system–development, performance and services*. (pp. 175-195). New Delhi: Mahamaya Publishing House.
57. Delgado, J., Hernando, I. & Nieto, M. J. (2004). Do European primarily internet banks show scale and experience efficiencies? *Working Paper No. 0412*, Banco de España, Madrid.
58. Delgado, J., Hernando, I. & Nieto, M. J. (2006). Do European primarily internet banks show scale and experience efficiencies? *European Financial Management*.
59. Devlin, J. F. (1995). Technology and innovation in retail banking distribution. *International Journal of Bank Marketing*, 13(4), 19-23.
60. Dharmalingam. S. and Kannan. K. V. (2011). Customer Perception on Service Quality of New Private Sector Banks in Tamilnadu - an Empirical Study, *JBFSIR* 1(5),31-38.
61. Dhekra, A. (2009). The adoption of electronic banking in Tunisia, an exploratory study. *Journal of Internet Banking and Commerce*, 14(3), 1-11.
62. Dhillon, J.S., Batra G.S., Kaur, N. (2008). Customer trust v/s relationship marketing in banks. *Global Digital Business Review*, 3(1), 51-59.
63. Dholakia, U. M. & Rego, L. (1998). What makes Commercial Web Pages Popular? *European Journal of Marketing*, 3z, (7/8), 724-736.
64. Dimitriadis, Z.S. (2006). Customer satisfaction, loyalty and commitment in service organizations-some evidence from Greece. *Management Research News*, 29(12), 782-800.
65. Durkin, M. & O'Donnell, A. (2005). Towards a model of adoption in Internet banking, strategic communication challenges. *The Service Industries Journal*, 25(7), 861–878.
66. Eastin, M. S. (2002). Diffusion of E-commerce, an analysis of the adoption of four E-commerce activities. *Telematics and Informatics*, 19 (3), 251–267.
67. Eglund, K. L., Furst, K., Nolle, D., E. & Robertson, D. (1998). Banking over the Internet. *Journal of Office of Comptroller of the Currency*, 17(4).
68. Ennew, C.T. & Binks, M.R. (1997). The impact of service quality and service

- characteristics on customer retention, small business and their banks in the UK. *British Journal of Management*, 7, 219-230.
69. Eriksson, K., Kerem, K. & Nilsson, D. (2008). The adoption of commercial innovations in the former central and eastern European markets, the case of internet banking in Estonia. *International Journal of Bank Marketing*, 26(3), 154 – 169.
  70. Errol, D' Souza, (2002). How well have public sector banks done? A Note. *Economic and Political Weekly*, 38 (9), 867-70.
  71. Farquhar, J. (2004). Customer retention in retail financial services, an employee perspective. *International Journal of Bank Marketing*, 22(2/3), 86-99.
  72. Faullant, R. & Matzler, K. (2008). The impact of satisfaction and image on loyalty, the case of Alpineski. *Managing Service Quality*, 18(2), 163-178.
  73. Featherman, M. & Pavlou, P. A. (2003). Predicting e-services adoption, a perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59, 451-474.
  74. Fen, Y. S. & Lian, K. M. (2007). Service quality and customer satisfaction, Antecedents of customer's re-patronage intentions. *Sunway Academic Journal*, 4(1), 59-73.
  75. Flavian, C. & Guinaliu, M. (2006). Consumer trust, perceived security and privacy policy, Three basic elements of loyalty to a web site. *Industrial Management and Data Systems*, 106(5), 601-620.
  76. Flavian, C., Torres, E. & Guinaliu, M. (2004). Corporate image measurement, a further problem for the tangibilization of internet banking services. *International Journal of Bank Marketing*, 22 (5), 366-84.
  77. Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
  78. Fozia (2013).A Comparative Study of Customer Perception toward E-banking Services Provided By Selected Private & Public Sector Bank in India, *International Journal of Scientific and Research Publications*, 3(9), 1-5
  79. Fujikoshi, Y. (1993). Two-Way ANOVA models with unbalanced data. *Discrete Maths*. 116, 315-334.
  80. Furash, E.F. (1999). Why banks may be getting it wrong – and how to get it right. *Journal of Retail Bank Services*, 21(2), 37-43.

81. Furst, K., Lang, W. W. & Nolle, D. E. (2000). Who offers Internet Banking? *Quarterly Journal of Office of the Comptroller of the Currency*, 19(2), 27-46.
82. Furst, K., Lang, W. W. & Nolle, D. E. (2002). Internet Banking. *Journal of Financial Services Research*, 22 (1&2), 93-117.
83. Gan, C. & Clemes, M. (2006). A logit analysis of electronic banking in New Zealand. *International Journal of Bank Marketing*, 24 (6), 360-383.
84. Gao, O. & Owolabi, O. (2008). Consumer Adoption of internet banking in Nigeria. *International Journal of Electronic Finance*, 2(3), 284 –299.
85. Gerrard, P. & Cunningham J. B. (2003). The diffusion of internet banking among Singapore consumers. *International Journal of Bank Marketing*, 21(1), 16-28.
86. Ghauri, P., Grønhaug, K. & Kristianslund, I. (1995). *Research methods in business studies. A practical study*, New York: Prentice Hall.
87. Gill, L.S. (2008). Capability building for innovations, public policy and economic growth in Asia, lessons for science and technology policy. *Current Politics and Economics of Asia*, 17(4).
88. Girish, V. & Preetha, S. (1997). Technology in banks-A global perspective. *IBA Bulletin*, 68(4), 183-189.
89. Goi, C. L. (2005). E-banking in Malaysia, opportunities and challenges. *Journal of Internet Banking and Commerce* 10( 3), 39-45.
90. Gopi, M. & Ramayah, T. (2007). Applicability of theory of planned behavior in predicting intention to trade online, some evidence from a developing country. *International Journal of Emerging Markets*, 2(4), 348 – 360.
91. Gundersen, M. G., Heide, M. & Olsson, U. H. (1966). Hotel Guest satisfaction among Business Travellers, What Are the Important Factors? *The Cornell Hotel and Restaurant Administration Quarterly*, 37(2), 72-81.
92. Gupta, D. (1999). Internet Banking, Where does India Stand? *Journal of Contemporary Management*, 2(1).
93. Gupta, S.K. (2011). *Financial Inclusion - IT as enabler*. Retrieved from [https://rbi.org.in/scripts/bs\\_viewcontent.aspx?Id=2598](https://rbi.org.in/scripts/bs_viewcontent.aspx?Id=2598)

94. Guru, B., Vaithilingam, S., Ismail, N. & Prasad, R. (2000). Electronic banking in Malaysia, a note on evolution of services and consumer reactions. *Journal of Internet Banking and Commerce*, 5(1).
95. Harsh V. V. (1993). *Marketing of Services*, New Delhi: Global Business Press.
96. Hasan, I., Maccario, A. & Zazzara, C. (2002). Do Internet Activities Add Value? The Italian Bank Experience. *Working Paper, Berkley Research Center*, New York University.
97. Hassan, K. & Ruhul, S. (2013). Does the Balassa-Samuelson theory explain the link between relative population growth and purchasing power parity? *Singapore Economic Review*, 58(1), 1–19.
98. Healy, T.J. (1999). Why You Should Retain Your Customers. *America Community Banker*, 8(9), 22-26.
99. Hellier, P. K. & Geursen, G. M., Carr, R. A., and Rickard, J. A. (2003). Customer repurchase intention, A general structural equation model. *European Journal of Marketing*, 37(11/12), 1762–1800.
100. Hennig, T. & Klee, A. (1997). The impact of customer satisfaction and relationship quality on customer retention: A critical reassessment and model development. *Psychology and Marketing*, 14(8), 737-764.
101. Herington, C. & Weaven, S. (2007). Can banks improve customer relationships with high quality online services? *Managing Service Quality*, 17(4), 404-427.
102. Ho, H., Jung, J., Kim, J.Y. & Shim, S.W. (2004). Cross cultural differences in perceived risk of online shopping. *Journal of Interactive Marketing*, 4(2), 20-29.
103. Holbrook, M. (1994). *The nature of customer value, an axiology of services in the consumption context*. In R. Rust and R. L. Oliver (Eds.), *Service quality, new directions in theory and practice*. Thousand Oaks: SAGE Publications.
104. Hoque, M. & Doucouliagos, C. (2005). Corporate governance and Australian bank stock prices. *Journal of Business and Policy Research*, 1(1), 33-53.
105. Howcroft, B., Hamilton, R. & Hewer, P. (2002). Consumer attitude and the usage and adoption of home banking in the United Kingdom. *International Journal of Bank Marketing*, 20 (3), 111-121.
106. <http://www.statista.com/chart/467/channels-used-for-investment-transactions/>

107. Hu, L.T. & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis, conventional criteria versus new alternatives. *Structural Equation Modeling*, 6 (1), 1-55.
108. Hugar, S.S. & Vaz, N.H. 2008. An evaluation of customer orientation of Indian public sector banks. *Indian Journal of Marketing*, 38(6), 31-41.
109. Hutchinson, D. & Warren, M. 2003. Security for internet banking, a framework. *Logistic Information Management*, 16, (1), 64-73.
110. Ibok, N. & Ikoh, I.M. (2013). Determinants of customer satisfaction with internet banking services, *British Journal of Arts and Social Sciences*, 14(2), 178-186.
111. Ibrahim, E.E., Joseph, M & Ibeh, K.I.N. (2006). Customers' perception of electronic service delivery in the UK retail banking sector. *International Journal of Bank Marketing*, 24(7), 475-493.
112. International Monetary Fund, (2001). *International capital markets: developments, prospects and key policy issues*. Washington: IMF.
113. Internet Questionnaires Using Microsoft Excel. *Australasian Marketing Journal*, 13(2), 61-73.
114. Internet World Stats. (2014). *Internet usage and population statistics report*. Retrieved from <http://www.internetworldstats.com/stats3.htm>
115. Jacoby, J. & Chestnut R. B. (1978). *Brand Loyalty Measurement and Management*, New York: John Wiley & Sons.
116. Jaruwachirathanakul & Fink, D. (2005). Internet banking adoption strategies for a developing country, The case of Thailand. *Internet Research*, 15(3), 295-311.
117. Jarvenpaa, S.L., J. Tractinsky & M. Vitale. (2000). Consumer trust in an internet store. *Information Technology and Management*, 1(1-2), 45-71.
118. Jayawardhena, C. (2004). Personal values' influence on e-shopping attitude and behaviour. *Internet Research*, 14(2), 127 – 138.
119. Joglekar, Y. & Mampatta, S. (2011). E-banking clicks over bank visits- money-DNA, Retrieved from [http://www.dnaindia.com/money/report\\_e-banking-clicks-over-bank-visits\\_1577001](http://www.dnaindia.com/money/report_e-banking-clicks-over-bank-visits_1577001)
120. Jones, M. A., Mothersbaugh, D. L. & Beatty, S. E. (2000). Switching barriers and repurchase intentions in services. *Journal of Retailing*, 76(2), 259-374.

121. Jones, T.O. & Sasser, W.S. (1995). Why satisfied customers defect. *Harvard Business Review*, 73, 88-89.
122. Joseph, M., McClure, C. & Joseph, B. (1999). Service quality in the banking sector, the impact of technology on service delivery. *International Journal of Bank Marketing*, 17 (4), 182-191.
123. Joshua, A., Moli, V., & Koshi, P. (2005). Expectations and perceptions of service quality in old and new-generation banks - a study of select banks in the South Canara Region. *Indian Journal of Marketing*, 37(3), 6-11.
124. Jun, M. & Cai, S. (2001). The key determinants of Internet banking service quality, a content analysis. *International Journal of Bank Marketing*, 19 (7), 276-91.
125. Karjaluoto, H., Kovivumäki, T. & Salo, J. (2002). Individual differences in private banking, empirical evidence from Finland. *Conference Proceedings of the 36th Hawaii International Conference on System Science*, Big Island, Hawaii, p. 196.
126. Kaushik, S. (1995). Social Objectives and Profitability of Indian Banks. UBS, *Punjab University*, Doctoral Thesis, 190-242.
127. Khalil, M.N., & Pearson, J. M. (2007). The influence of trust on internet banking acceptance. *Journal of Internet Banking and Commerce*, 12(2), 1-10.
128. Khatri, P. & Ahuja, Y. (2010). Comparative study of customer satisfaction in Indian public sector and private sector banks. *International Journal of Engineering and Management Sciences*, 1, 42-51.
129. Kim, D.J., Ferrin, D.L. & Rao, H.R. (2008). A trust-based consumer decision-making model in electronic commerce, the role of trust, perceived risk, and their antecedents. *Decision support systems*, 44(2), 544-564.
130. Kline, R. B. (2005). Principles and practice of structural equation modeling. (2nd Ed.). New York : Guilford Press.
131. Kohli, S. (2014). NACH creating strides by elevating payment systems landscape in India to global standards bank quest. *The Journal of Indian Institute of Banking & Finance*, 85(1), 11-14.
132. Kolsaker, A., Lee-Kelley, L. & Choy, P. C. (2004). The reluctant hong kong consumer, purchasing travel online. *International Journal of Consumer Studies*, 28(3), 295-304.

133. Kothari, D. (2007). Count on IT, banks are now just a click or SMS away. *The Week*, 25(48), 63-76.
134. Kotler, P. R. (1994). *Marketing Management, Analysis, Planning, Implementation, and Control*, Eighth Edition, Englewood Cliffs, NJ: Prentice-Hall.
135. Kotler, P., Armstrong, G. & Cunningham, P. G. (2002). *Principles of Marketing*, Englewood Cliffs, NJ: Prentice-Hall.
136. Kumbhar, V.M. (2011). Factors affecting the customer satisfaction in E-banking, some evidences from Indian banks. *Management Research and Practices*, 3(4), 1-14.
137. Kurnia, S., Peng, F. & Liu, Y. R. (2010). Understanding the adoption of electronic banking in China. *Proceedings of the 2010 43rd Hawaii International Conference on System Sciences*. 5-8 Jan. Melbourne, Australia, 1-10.
138. Laforet, S. & Li, X. (2005). Consumers' attitudes towards online and mobile banking in China. *The International Journal of Bank Marketing*, 23 (4/5), 362-380.
139. Lee, G. & Lin, H. (2005). Customer perceptions of e-service quality in online shopping. *International Journal of Retail & Distribution Management*, 33, 161-176.
140. Lewis, B. & Soureli, M. (2006). The antecedents of consumer loyalty in retail banking. *Journal of Consumer Behaviour*, 5(1), 15-31.
141. Li, H., Kuo, C. & Russel M.G. (2006). The impact of perceived channel utilities shopping orientation and demographics on the consumers online buying behaviour. *Journal of Computer Mediated Communication*, 5(2), 41-62.
142. Liao, Z. & Cheung, M.T. (2002). Internet-based E-banking and consumer attitudes, an empirical study. *Information and Management*, 39, 283–295.
143. Liljander, V. & Leverin, A. (2006). Does relationship marketing improve customer relationship satisfaction and loyalty? *International Journal of Bank Marketing*, 24(4), 232-251.
144. Liu, C. C. (2008). The relationship between digital capital of Internet banking and business performance. *International Journal of Electronic Finance*, 2(1), 18-30.
145. Luka, M.K., & Frank, I.A. (2012). The impacts of ICTs on banks, a case study of the Nigerian banking industry. *International Journal of Advanced Computer Science and Applications*, 3(9), 145-149.
146. Luo, X. & Homburg, C. (2007). Neglected Outcomes of Customer Satisfaction, *Journal*

- of Marketing*, 71(2), 133-149.
147. Makadok, R. (1998). Can first-mover and early-move advantages be sustained in an industry with low barriers to entry/imitation? *Strategic Management Journal*, 19, 686-696.
148. Malhotra, P. & Singh, B. (2004). Status of internet banking in India. *Management Accountant*, 39 (11), 890-96.
149. Malik, S. (2014). Technological innovations in Indian banking sector, changed face of banking. *International Journal of Advance Research in Computer Science and Management Studies*, 2(6), 122-128.
150. Mathew J. & Nitsure, R. (2002). WTO and Indian banking sector, the road ahead. *Economic and Political Weekly*, 37(24), 2315-22.
151. Mathur, H.P. & Rai, R. (2006). Effectiveness of mergers & acquisitions in Indian banking industry, a study of HDFC bank – Times bank merger, management trends. *Saurashtra* 1/2(6), 58-71.
152. Mattila, M., Karjaluo, H. & Pento, T. (2003). Internet banking adoption among mature customers, early majority or laggards? *Journal of Services Marketing*, 17, 514–528.
153. McKinsey & Company (2014). Digital Banking in Asia Winning approaches in a new generation of financial services, *Asia Financial Institutions*, New Media Australia, 5.
154. McMellon, C. A., Schiffman, L. G. (2001). Cybersenior Research: A Practical Approach to Data Collection. *Journal of Interactive Marketing*, 15(4), 46.
155. McQuitty, S., Finn, A. & Wiley, J.B. (2000). Systematically varying consumer satisfaction and its implications for product choice. *Academy of Marketing Science Review*. Retrieved from <http://www.amsreview.org/amsrev/theory/mcquitty10-00.html>
156. Methlie, L. & Nysveen, H. (1999). Loyalty of on-line bank customers. *Journal of Information technology*, 14 (4), 375-386.
157. Mishra, U., Mishra, B., Praharaj, S. & Mahapatra, R. (2011). CRM in banks, a comparative study of public and private sectors in India. *European Journal of Social Sciences*, 24, 265-277.
158. Mittal, S., Khatri, P. & Khushboo. (2015). E-Buying Behaviour, A study of perceptual differences between prospective generation Y Professionals in Delhi-NCR region. *Journal of Information Technology and Computer Applications*, 1(1), 11-25.

159. Mols, N. P. (2000). The internet and services marketing – The case of Danish retail banking. *Internet Research Electronic Networking Applications and Policy*, 10(1), 7-18.
160. Mukherjee, A. & Nath, P. (2003). A model of trust in online relationship banking, *The International Journal of Bank Marketing*, 21(1), 5-16.
161. Mulaik, S.A., James, L.R., Alstine, J., Bennet, N., Lind, S. & Stilwell, C.D. 1989. Evaluation of goodness-of-fit indices for structural equation models, *Psychological Bulletin*, 105 (3), 430-45.
162. Munusamy, J., Annamalah, S. & Chelliah, S. (2012). A Study of Users and Non-Users of Internet Banking in Malaysia. *International Journal of Innovation, Management and Technology*, 3( 4), 452-458.
163. Nielsen. (2008). Two-thirds of online kiwis now use Internet Banking. Retrieved 18 June, 2009 from [http://nz.nielsen.com/news/CFM\\_Feb08.shtml](http://nz.nielsen.com/news/CFM_Feb08.shtml)
164. Nitsure, R.R. (2003). E-banking, challenges and opportunities. *Economic and Political Weekly*, 38(49), 5377-5381.
165. Noe, J. (1996). Regaining customer appreciation. *America's Community Banker*, 5(4), 16-21.
166. Nsouli, S. M. & Schaechter, A. (2002). Challenges of the E-banking revolution. *Finance and Development, International Monetary Fund*, September, 39(3).
167. Nunnally, J. C. (1978). *Psychometric theory* (2nd Ed.). New York: McGraw-Hill
168. Oliver, R. L. (1980). A Cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469.
169. Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions, *Journal of Marketing Research*, 17(4), 460-469.
170. Parasuraman, A & Zinkhan, G.M. (2002). Marketing to and serving customers through the internet, an overview and research agenda. *Journal of the Academy of Marketing Science*, 30(4), 286-95.
171. Patterson P.G., Johnson L.W. & Spreng R.A. (1997). Modelling the determinants of customer satisfaction for business-to-business professional services. *Journal of the Academy of Marketing Science*, 25(1), 4-17.
172. Patterson, P. G., & Spreng, R. A. (1997). Modelling the relationship between perceived value, satisfaction and repurchase intentions in a business-to-business, services context,

- an empirical examination. *International Journal of Service Industry Management*, 8(5), 414–434.
173. Paul, J. & Mukherjee, A. (2006). Retail banking, ATMs & cash supply management. *PRAJNAN- Journal of Management and Social Sciences*, 35(1), 47-60.
174. Pavlou, P.A. (2003). Consumer acceptance of electronic commerce, integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101-34.
175. Pearce, R. D. & Singh, S. (1992). *Globalizing research and development*, New York: St. Martin's Press.
176. Pegu, R. (2000). Net-banking is fast becoming popular, *The Week*, 25 June.
177. Pels, J. (1999). Exchange relationships in consumer markets, *European Journal of Marketing*, 33(1/2), 19-37.
178. Pew, 2005. *Convenience is king: Pew Internet and American Life Project*. Retrieved from Pikkarainen, T., Karjaluoto, H. & Pahlila, S. (2004). Consumer acceptance of online banking, an extension of the technology acceptance model, *Internet Research, Electronic Networking Applications and Policy*, 14(3), 224–235.
179. Polatoglu, V. N., & Ekin, S. (2001). An empirical investigation of the Turkish consumers' acceptance of internet banking services. *International Journal of Bank Marketing*, 19 (4), 156- 65.
180. Raaj, N. (2006). *Ghaziabad is 'India's hottest city'*. The Economic Times, June 29, 2006.
181. Rajneesh D. & Padmanabhan, C. (2002). *Internet opens new vistas for Indian bank*. Retrieved from <http://www.expresscomputeronline.com/20020916/indtrend1.shtml>.
182. Ramayah T, Jantan, M., Noor M.N. & Ling, K.P. (2003). Receptiveness of internet banking by Malaysian consumers. *Asian Academy of Management Journal*, 8(2), 1- 29.
183. Ramayah T, Taib, F. M. & Ling, K.P. (2006). Classifying users and non-users of internet banking in Northern Malaysia. *Journal of Internet Banking and Commerce*, 11( 2), 1-13
184. Ramayah T. & Ling, K.P. (2002). An Exploratory Study of Internet Banking in Malaysia, *Proceedings of the 3rd International Conference on Management of Innovation and Technology*, China, 25-27 October 2002.
185. Ramayah, T. & Suki, N.M. (2006). Intention to use mobile PC among MBA students, implications for technology integration in the learning curriculum. *UNITAR E-Journal*,

- 1(2), 1-10.
186. Ramsay, J. & M. Smith. (1999). Managing consumer channel usage in the Australian banking sector. *Managerial Auditing Journal*, 14(7), 32-33
187. RBI (2001). *Report on Internet Banking*, Retrieved from <https://www.rbi.org.in/scripts/PublicationReportDetails.aspx?ID=244>.
188. RBI (2012). Payment system in India, Vision 2012-15. Retrieved from <https://rbi.org.in/scripts/PublicationVisionDocuments.aspx?Id=678>.
189. RBI (2014). *Financial Stability Report including Trend and Progress of Banking in India*, 2013-14. December. Retrieved from [https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/FSR29122014\\_FL.pdf](https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/FSR29122014_FL.pdf)
190. RBI Annual Publications, *Trend and progress of Banking in India*. Retrieved from <https://rbi.org.in/Scripts/Publications.aspx?publication=Annual>
191. Reibstein, D.J. (2002). What attracts customers to online stores and what keeps them coming back? *Journal of the Academy of Marketing Science*, 30(4), 465-75.
192. Reichheld, F. & Schefter, P. (2000). E-Loyalty, your secret weapon on the web. *Harvard Business Review*, 78(4), 105-114.
193. Reichheld, F.F. & Sasser, W.E. (1990). Zero defections, quality comes to services. *Harvard Business Review*, 66(5), 105-111.
194. Rengasamy, E. & Gudep, V. (2006). A comparative study on the service quality and customer satisfaction among private, public and foreign banks. *The IUP Journal of Marketing Management*, 5(3),6-17.
195. Reserve Bank of India. *Database on the Indian Economy*, Retrieved from <http://dbie.rbi.org.in>
196. Ribbink, D., Riel, V. A., Liljander V. & Streukens, S. (2004). Comfort your online customer, quality, trust and loyalty on the internet, *Managing Service Quality*, 14 (6), 446-456.
197. Robinson, T. (1998). Banks hit home. *Internetweek*, 706, 55-8.
198. Roboff, G. & Charles, C. (1998). Privacy of financial information in cyberspace, banks addressing what consumers want. *Journal of Retail Banking Services*, 20(3), 51-63.
199. Rogerson, S, Foley, P. & Jayawardhena, C. (1999). Is electronic commerce a socially beneficial activity? *Proceedings of the Exploring Cyber Society Conference, Newcastle*,

UK.

200. Rusbult, C.E., Farrell, D., Rogers, G. & Mainous, A. G. (1988). Impact of exchange variables on exit, voice, loyalty, and neglect, an integrative model of responses to declining job satisfaction. *The Academy of Management Journal*, 31( 3), 599-627.
201. Rust, R. T. & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2), 193-215.
202. Ruyter, K., Wetzels, M. & Kleijnen, M. (2001). Customer adoption of e-service, an experimental study. *International Journal of Service Industry Management* 12(2), 184-208.
203. Sai, S. (1999). Customer service- some HRD interventions. *IBA Bulletin*, 21(2), 11-16.
204. Saini, M. (2011). *The Kansas Opportunity Innovation Network (KOIN)*, Innovate Kansas, Advanced Manufacturing Institute. Retrieved from <http://innovatekansas.org/blog/2011/03/11/the-kansas-opportunity-innovationnetwork-ko-in-2>.
205. Salehi, M. & Zhila A. (2008). Fraud detection and audit expectation gap, empirical evidence from Iranian bankers. *International Journal of Business and Management*, 3(10), 65-77.
206. Salma, A. (1998). Technological reforms in the banking sector. *NMIMS Management Review*, 10(1), 21-27.
207. Salmen, S. M. & Muir, A. (2003). Electronic customer care, the innovative path to E-loyalty. *Journal of Financial Services and Marketing*, 8(2), 133-144.
208. Sangaran, S. (2001). Attitude towards Internet banking: a study of influential factors in Malaysia, *International Journal of Services Technology and Management*, 8(1), 697-705.
209. Santouridis, I., Trivellas, P. & Reklitis, P. (2009). Internet service quality and satisfaction, examining internet banking in Greece. *Total Quality Management*, 20(2), 223-39.
210. Sathye, M. (1999). Adoption of internet banking by Australian consumers, an empirical investigation. *International Journal of Bank Marketing*, 17(7), 324-334.
211. Sathye, M. (2005). The impact of internet banking on performance and risk profile, evidence from Australian credit unions. *The Journal of International Banking Regulation*, 6(2), 22-34.

212. Sayar, C. & Wolfe, S. (2007). Internet banking market performance, Turkey versus the UK. *International Journal of Bank Marketing*, 25(3),122-141.
213. Shankar, V., Urban, G. & Sultan, F. (2002). Online trust, a stakeholder perspective, concepts, implications and future directions. *Journal of Strategic Information Systems*, 11(3-4), 325–44.
214. Sharma, A. (2014). Assessment of patient satisfaction, a study of core and secondary attributes of hospital healthcare services. *International Journal of Pharmaceutical Sciences and Research*, 5(1), 34-41.
215. Sharma, N. & Patterson, P.G. (2000). Switching costs, alternative attractiveness and experience as moderators of relationship commitment in professional consumer services. *International Journal of Service Industry Management*, 11(5), 470-490.
216. Sharma, S. & Goyal, D.P. (2011). Critical success factors for CRM implementation, a study on Indian banks. In S. Dua, S. Sahni, & D.P. Goyal (Eds). *Information intelligence, systems, technology and management, communications in computer and information science* (pp.141), London and New York, NY: Springer Heidelberg, Dordrecht.
217. Siaw, I, & Yu, A. (2004). An analysis of the impact of the internet on competition in the banking industry, using porter’s five forces model. *International Journal of Management*, 21(4), 514-522.
218. Singh, B. & Malhotra, P. (2004). Adoption of internet banking, an empirical investigation of Indian banking sector. *Journal of Internet Banking and commerce*, 9(2), 33-52.
219. Singh, I. & Kumar, P. (2006). Liberalization and efficiency, The case of Indian banking. *Indian Management Studies Journal*,10(1),77-83.
220. Singh, L. & Singh, S. (2002). Deceleration of Economic Growth in Punjab, Evidence, Explanation and a Way-Out. *Economic and Political Weekly*, 37(6), 579-586.
221. Singh, S. & Arora, R. (2011). A comparative study of banking services and customer satisfaction in public, private and foreign banks. *Journal of Economics*, 2(1), 45-56.
222. Singh, S. P. & Upadhyay, V. (2010). Inclusive growth in rural india, key elements and policy interventions. *Social and Management Solutions*, 5(1), 8-17.
223. Smith, A. D. (2006). Exploring security and comfort issues associated with online banking. *International Journal of Electronic Finance*, 1(1), 18-48.

224. Smith, A. K. & Bolton, R.N. (2002). The effect of customers' emotional responses to service failures on their recovery effort evaluations and satisfaction judgments. *Journal of the Academy of Marketing Science*, 30 (5), 5-23.
225. Sohail, M.S., & Shanmugham, B.E. (2003). E-banking and customer preferences in Malaysia, an empirical investigation. *Information Sciences*, 150, 207-17.
226. Soma, S. & Sarkar, A. (2008). Satisfaction and commitment relationships in technology-based remote service encounters. *Proceedings of International Conference on Global Warning, BVIMR*, 37-42.
227. Stamoulis, D., Kanellis, P. & Martakos, D. (2002). An approach and model for assessing the business value of e-banking distribution channels, evaluation as communication. *International Journal of Information Management*, 22, 247-261
228. Statista Database. (2012) Survey of online consumers using investment services, Newyork, NY : Statista Inc.
229. Suganthi, B. & Balachandran. (2001). Internet banking patronage, an empirical investigation of Malaysia. *Journal of Internet Banking and Commerce*, 6(1). Retrieved from [http://www.arraydev.com/commerce/jibc/0103\\_01.htm](http://www.arraydev.com/commerce/jibc/0103_01.htm)
230. Sur, S. (2007). Technology-based Remote Service Encounters, Understanding Customer Satisfaction and Sustainability. *Proceedings of International Conference on Service Management*, 35-44
231. Tabachnick, B.G. & Fidell, L.S. (2007). *Using Multivariate Statistics* (5th Eds.). New York: Allyn and Bacon.
232. Tan, M., & Teo, T. (2000). Factors influencing the adoption of Internet Banking. *Journal of the Association for Information System*, 1(5), 1-42.
233. Taylor, K. (2002). Bank customers logging on. *The New Zealand Herald*. Retrieved August 17, 2010 from [http://www.nzherald.co.nz/technology/news/article.cfm?c\\_id=5&objectid=1291883](http://www.nzherald.co.nz/technology/news/article.cfm?c_id=5&objectid=1291883)
234. Taylor, S. A. & Baker, T.L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *Journal of Retailing*, 70(2), 163-178.
235. Texak R. H. & Kaur, M. (2009). A study of customer satisfaction in private and public sector Banks. *Gyan Management*, 3(1), 43-55.

236. Thompson, B. (2004). *Exploratory and confirmatory factor analysis, Understanding concepts and applications*. Washington, DC, US: American Psychological Association.
237. Treiblmaier, A., Floh & Horst. (2006). What keeps the e-banking customer loyal? A multigroup analysis of the moderating role of consumer characteristics on e-loyalty in the financial service industry. *Journal of Electronic Commerce Research*, 7(2), 58-66.
238. Tucker, L. R. & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1–10.
239. Turner, P. (2001). E-finance and financial stability. In R Litan, P Masson and M Pomerleano (Eds.). *Open Doors, Foreign Participation in Financial Systems in Developing Countries*, (pp.389-410). *Brookings Institution*.
240. Uelschy, L., Laroche, M., Tamilya, R. & Yannopoulos, P. (2004). Cross-cultural invariance of measures of satisfaction and service quality, *Journal of Business Research*, 57(8), 901-912.
241. Unnithan, C. & Swatman, P. (2001). E-Banking adaptation and dot.com viability-a comparison of Australian and Indian experiences in the banking sector. *Proceedings of the 11th Annual BIT Conference at Manchester Metropolitan University Business School, Manchester*, 57-64.
242. Vyas, P. (2004). Measurement of customer satisfaction on information technology adoption in banking services. *Prestige Journal of Management and Research*, 81(1-2), 8-16.
243. Wang, Y. S., Wang, Y. M., H, L. H. & Tang, T. I. (2003). Determinants of user acceptance of internet banking, an empirical study. *International Journal of Service Industry Management*, 14 (5), 501-519.
244. Werts. C. E., Joreskog, K. G. & Linn, R. L. (1974). Analyzing ratings with correlated measurement errors. *Educational and Psychological Measurement*, 36, 319-328.
245. Wheaton, B., Muthen, B., Alwin, D., F. & Summers, G. (1977). Assessing Reliability and Stability in Panel Models. *Sociological Methodology*, 8(1), 84-136.
246. Williamson, K. & Lichtenstein, S. (2006). Understanding consumer adoption of internet banking, an interpretive study in the Australian banking context. *Journal of Electronic Commerce Research*, 7(2), 75-89.
247. Wilson & Sasse (2004). From doing to being, getting closer to the user experience.

*Interacting with Computers*, 16(4), 697-705.

248. Wise, V. & Ali, M. M. (2009). Customer Relationship Management in Banks with special reference to Bangladesh. *Southwest Review of International Business Research*, 19(1), 67-74

[www.pewInternet.org/reports/reports.asp?Report=77&Section=ReportLevel1&Field=Level1ID&ID=342](http://www.pewInternet.org/reports/reports.asp?Report=77&Section=ReportLevel1&Field=Level1ID&ID=342).

249. Yannopoulos, P. (2011). Impact of the Internet on Marketing Strategy Formulation. *International Journal of Business and Social Science*, 2 (8), 1-7.

250. Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing*, 60(4), 31-46.

## APPENDIX I

### Questionnaire on E-Banking

Dear Sir/Madam,

I am a Ph. D. research scholar pursuing research in the field of E-banking services. I request you to kindly fill in this questionnaire. Your true responses are highly valuable for us.

This questionnaire has five Sections:

**Section A** captures demographic profile

**Section B** captures E- banking features

**Section C** captures determinants of Customer Satisfaction

**Section D** captures determinants of Customer Retention

**Section E** captures customers' attitude while choosing E-banking services

#### **Section A: Demographic Profile**

1. Name of customer: .....
2. Age:  21- 30       31 to 45       Over 45
3. Gender:  Male       Female
4. Educational Qualification:  Under Graduate     Graduate     Postgraduate
5. Yearly income:  Less than Rs 3 lakh       Rs 3 lakh - Rs 5 lakh  
 Greater than Rs 5lakh
6. Place of Residence:  Delhi       Noida       Greater Noida  
 Ghaziabad     Gurgoan       Faridabad
7. Category of Bank:  Public Sector Bank     Private Sector Bank  
 Foreign Sector Bank

**Section B: Rating of E-Banking Features on quality parameters**

**Rate the following on the basis of priority (1 for least priority and 5 for highest priority)**

<b>E-banking Features</b>						
8.	Convenient operating hours	1	2	3	4	5
9.	Safety of funds transfer on net	1	2	3	4	5
10.	Reasonable service charges	1	2	3	4	5
11.	ATM Services	1	2	3	4	5
12.	Internet banking Assistance	1	2	3	4	5
13.	Depository services	1	2	3	4	5
14.	Credit card services	1	2	3	4	5
15.	Debit card services	1	2	3	4	5
16.	Phone banking facility	1	2	3	4	5
17.	Other IT based services	1	2	3	4	5
18.	One stop banking	1	2	3	4	5
19.	Innovative services	1	2	3	4	5

**Section C: Determinants of Customer Satisfaction**

**Rate the following on the basis of priority (1 for least priority and 5 for highest priority)**

20. I am more inclined towards getting personal services from my bank.	1	2	3	4	5
21. My bank always resolves any banking problem and provides customer care services anytime/ anywhere.	1	2	3	4	5
22. E-banking has enhanced channel activity of my bank.	1	2	3	4	5
23. Elimination of free checks and implementation of new fees affects me.	1	2	3	4	5
24. I am happy with the latest facilities provided by my bank.	1	2	3	4	5
25. It is easy to use e- banking services offered by my bank.	1	2	3	4	5
26. I am adapting to the latest technological advancements in e-banking services.	1	2	3	4	5

27. E-banking facilitates accessing account information anywhere in the world.	1	2	3	4	5
28. I have confidence in e-banking services provided by my bank.	1	2	3	4	5
29. I see synchronization of work and cordial relations among banking staff.	1	2	3	4	5

**Part D: Determinants of Customer Retention**

<b>Rate the following on the basis of priority (1 for least priority and 5 for highest priority)</b>					
30. Comfort of electronic banking channels to carryout banking transactions than physically going to branch.	1	2	3	4	5
31. Preference to choose the Internet banking service of prime bank.	1	2	3	4	5
32. Security of availability and managing of financial information over internet.	1	2	3	4	5
33. E-banking has reduced the 'Gap' between the bank and the client.	1	2	3	4	5
34. Necessity of Human contact between bank and the customer.	1	2	3	4	5
35. Invasion of technology has improved the service level of banks.	1	2	3	4	5
36. I-banking services are replacing physical branches.	1	2	3	4	5
37. Inconvenience in changing bank.	1	2	3	4	5
38. Satisfaction regarding e-banking services.	1	2	3	4	5
39. Accuracy in reporting transactions.	1	2	3	4	5
40. Providing updated information regarding rewards and schemes.	1	2	3	4	5
41. Willingness to pay a higher price for using the Internet banking service.	1	2	3	4	5
42. Technical expertise of staff.	1	2	3	4	5
43. Safety Measures of banks.	1	2	3	4	5
44. Good relationship with staff.	1	2	3	4	5
45. Ability to meet consumers' changing demands.	1	2	3	4	5

46. 24*7 Telephonic support.	1	2	3	4	5
47. Implementation of latest technology by banks.	1	2	3	4	5

**Section E: Customers' attitudes towards E-banking**

**Rate the following on the basis of priority (1 for least priority and 5 for highest priority)**

<b>EI: Convenience</b>					
48. It is easy to navigate online services.	1	2	3	4	5
49. Online banking facility enables to handle finances efficiently.	1	2	3	4	5
50. Online banking facilities are open 24/7, thus providing flexibility and accessibility to money anytime of the day and anywhere in the world.	1	2	3	4	5
51. E-banking provides the comfort to transact from home with just a click.	1	2	3	4	5
52. Online banking comprises of sophisticated tools that provide effective management of financial assets.	1	2	3	4	5
53. Transaction is executed at an unparalleled speed with the help of internet.	1	2	3	4	5
54. E- Banking efficiently handles multiple bank accounts on one site.	1	2	3	4	5
55. First time logging of online banking may take some time.	1	2	3	4	5
<b>EII: Security</b>					
56. Clear & brief instructions on the web page.	1	2	3	4	5
57. E-banking services provide strong commitment for security issues.	1	2	3	4	5
58. Using Internet for transaction is safe.	1	2	3	4	5
59. Banks keep customers information confidential.	1	2	3	4	5
60. Confidential information is safely delivered from bank to customer.	1	2	3	4	5
61. Awareness about cyber security certificates on banking website login page.	1	2	3	4	5

62. Online bank may ask for identification in the form of certain codes.	1	2	3	4	5
<b>E III: Cost</b>					
63. E-banking operations are costly.	1	2	3	4	5
64. Internet connection is necessary for operating e-services & involves heavy cost.	1	2	3	4	5
65. E-banking is cheaper than physical banking.	1	2	3	4	5
66. Transfer of funds online from one account to another is chargeable.	1	2	3	4	5
67. Yearly charges are applicable on some of e-banking services irrespective of service usage.	1	2	3	4	5
<b>E IV: Technology</b>					
68. E-banking manages banking transactions more efficiently.	1	2	3	4	5
69. E-banking is useful in conducting banking activities effortlessly.	1	2	3	4	5
70. It's easy to become skilled in using internet banking.	1	2	3	4	5

**THANKS**

## APPENDIX II

Regression Results for Relation between Customer Satisfaction and Customer Retention are shown as below:

Coefficients <sup>g</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
g. Dependent Variable: Customer Retention	(Constant)	-.865	.121		-7.136	.000***
	Technology Adoption	1.123	.038	.829	29.594	.000***
a	(Constant)	.027	.134		.201	.841
	Technology Adoption	.722	.050	.533	14.527	.000***
	Confidence	.209	.019	.399	10.885	.000***
b	(Constant)	-.299	.147		-2.032	.043
	Technology Adoption	.601	.055	.443	11.006	.000***
	Confidence	.231	.019	.441	12.003	.000***
	Ease of use	.222	.046	.132	4.809	.000***
c	(Constant)	-.447	.153		-2.920	.004**
	Technology Adoption	.541	.057	.399	9.454	.000***
	Confidence	.215	.020	.411	10.918	.000***
	Ease of use	.267	.048	.159	5.579	.000***
	Personal Services	.105	.033	.099	3.135	.002**
d	(Constant)	-.621	.163		-3.804	.000***
	Technology Adoption	.587	.059	.433	9.969	.000***
	Confidence	.240	.021	.460	11.229	.000***
	Ease of use	.312	.050	.186	6.253	.000***
	Personal Services	.125	.034	.118	3.699	.000***
	Channel Activity	-.079	.027	-.122	-2.897	.004**
e	(Constant)	-.551	.163		-3.389	.001***
	Technology Adoption	.569	.058	.420	9.758	.000***
	Confidence	.221	.022	.422	10.051	.000***
	Ease of use	.337	.050	.201	6.757	.000***
	Personal Services	.099	.034	.093	2.874	.004**
	Channel Activity	-.138	.032	-.212	-4.257	.000***
	Relation among staff	.093	.028	.162	3.290	.001***
g. Dependent Variable: Customer Retention						
*** p<.001; ** p<.01; * p<.05						

Collinearity Diagnostics <sup>g</sup>										
Model	Eigenvalue	Condition Index	Variance Proportions							
			(Constant) (1)	Technology Adoption (2)	Confidence (3)	Ease of use (4)	Personal Services (5)	Channel Activity (6)	Relation among staff(7)	
a	1	1.989	1.000	.01	.01					
	2	.011	13.722	.99	.99					
b	1	2.805	1.000	.00	.00	.02				
	2	.190	3.842	.02	.00	.49				
	3	.005	22.655	.98	1.00	.50				
c	1	3.767	1.000	.00	.00	.01	.00			
	2	.220	4.134	.01	.00	.45	.01			
	3	.008	22.300	.53	.02	.00	.89			
	4	.005	26.674	.47	.97	.54	.10			
d	1	4.729	1.000	.00	.00	.00	.00	.00		
	2	.220	4.632	.01	.00	.42	.00	.00		
	3	.039	11.050	.00	.00	.14	.04	.76		
	4	.006	27.204	.89	.01	.10	.58	.14		
	5	.005	30.795	.10	.99	.33	.37	.10		
e	1	5.680	1.000	.00	.00	.00	.00	.00	.00	
	2	.230	4.965	.01	.00	.29	.00	.00	.01	
	3	.044	11.415	.00	.00	.07	.01	.36	.44	
	4	.036	12.582	.02	.00	.44	.03	.37	.31	
	5	.005	32.278	.40	.14	.04	.96	.26	.09	
	6	.005	34.949	.58	.85	.16	.00	.00	.14	
f	1	6.524	1.000	.00	.00	.00	.00	.00	.00	.00
	2	.328	4.462	.00	.00	.08	.00	.00	.00	.07
	3	.073	9.443	.00	.00	.73	.00	.00	.02	.37
	4	.042	12.400	.00	.00	.00	.02	.54	.16	.01
	5	.022	17.126	.03	.01	.03	.02	.23	.67	.53
	6	.005	34.684	.42	.11	.02	.95	.23	.10	.01
	7	.005	37.633	.55	.88	.13	.01	.00	.06	.01

g. Dependent Variable: Customer Retention

Excluded Variables								
Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
a	Personal Services	.143 <sup>a</sup>	4.359	.000***	.214	.693	1.443	.693
	Problem Resolution & Customer care	.285 <sup>a</sup>	7.982	.000***	.372	.531	1.885	.531
	Channel Activity	.143 <sup>a</sup>	3.347	.001***	.166	.420	2.380	.420
	Fees and elimination of free checks	.130 <sup>a</sup>	2.920	.004**	.145	.391	2.561	.391
	Facilities	-.077 <sup>a</sup>	-1.898	.058	-.095	.478	2.092	.478
	Ease of use	.054 <sup>a</sup>	1.745	.082	.087	.803	1.245	.803
	Account Information	.246 <sup>a</sup>	6.894	.000***	.327	.554	1.805	.554
	Confidence	.399 <sup>a</sup>	10.885	.000***	.479	.450	2.221	.450
	Relation among staff	.252 <sup>a</sup>	6.594	.000***	.314	.485	2.062	.485
b	Personal Services	.046 <sup>b</sup>	1.476	.141	.074	.623	1.604	.405
	Problem Resolution & Customer care	-.009 <sup>b</sup>	-.164	.870	-.008	.204	4.912	.173
	Channel Activity	-.032 <sup>b</sup>	-.776	.438	-.039	.349	2.862	.349
	Fees and elimination of free checks	-.076 <sup>b</sup>	-1.737	.083	-.087	.313	3.193	.313
	Facilities	.032 <sup>b</sup>	.851	.395	.043	.442	2.261	.239
	Ease of use	.132 <sup>b</sup>	4.809	.000***	.235	.758	1.319	.354
	Account Information	.001 <sup>b</sup>	.027	.979	.001	.298	3.359	.242
	Relation among staff	.071 <sup>b</sup>	1.708	.088	.085	.353	2.833	.328
c	Personal Services	.099 <sup>c</sup>	3.135	.002**	.156	.567	1.763	.315
	Problem Resolution & Customer care	-.076 <sup>c</sup>	-1.381	.168	-.069	.192	5.221	.154
	Channel Activity	-.089 <sup>c</sup>	-2.138	.033*	-.107	.326	3.072	.313
	Fees and elimination of free checks	-.114 <sup>c</sup>	-2.635	.009**	-.131	.305	3.283	.298
	Facilities	-.124 <sup>c</sup>	-2.714	.007**	-.135	.272	3.679	.238
	Account Information	.017 <sup>c</sup>	.390	.697	.020	.296	3.378	.238
	Relation among staff	.081 <sup>c</sup>	2.009	.045*	.101	.352	2.841	.317
d	Problem Resolution & Customer care	-.042 <sup>d</sup>	-.761	.447	-.038	.183	5.456	.138
	Channel Activity	-.122 <sup>d</sup>	-2.897	.004**	-.144	.311	3.212	.292
	Fees and elimination of free checks	-.109 <sup>d</sup>	-2.558	.011*	-.128	.304	3.287	.268
	Facilities	-.031 <sup>d</sup>	-.426	.671	-.021	.105	9.554	.099
	Account Information	-.020 <sup>d</sup>	-.450	.653	-.023	.275	3.632	.238
	Relation among staff	.047 <sup>d</sup>	1.116	.265	.056	.319	3.136	.299
e	Problem Resolution & Customer care	-.041 <sup>e</sup>	-.752	.453	-.038	.183	5.456	.129
	Fees and elimination of free checks	.183 <sup>e</sup>	1.034	.302	.052	.018	57.027	.018
	Facilities	.030 <sup>e</sup>	.398	.691	.020	.096	10.371	.096
	Account Information	-.004 <sup>e</sup>	-.093	.926	-.005	.271	3.690	.221
	Relation among staff	.162 <sup>e</sup>	3.290	.001***	.164	.223	4.488	.218

f	Problem Resolution & Customer care	.008 <sup>f</sup>	.136	.892	.007	.170	5.889	.111
	Fees and elimination of free checks	-.462 <sup>f</sup>	-1.855	.064	-.093	.009	115.855	.009
	Facilities	.018 <sup>f</sup>	.237	.813	.012	.096	10.397	.096
	Account Information	.003 <sup>f</sup>	.070	.945	.004	.270	3.699	.207
g. Dependent Variable: Customer Retention								
a. Predictors in the Model: (Constant), Technology Adoption								
b. Predictors in the Model: (Constant), Technology Adoption, Confidence								
c. Predictors in the Model: (Constant), Technology Adoption, Confidence, Ease of use								
d. Predictors in the Model: (Constant), Technology Adoption, Confidence, Ease of use, Personal Services								
e. Predictors in the Model: (Constant), Technology Adoption, Confidence, Ease of use, Personal Services , Channel Activity								
f. Predictors in the Model: (Constant), Technology Adoption, Confidence, Ease of use, Personal Services , Channel Activity, Relation among staff								

\*\*\* p<.001; \*\* p<.01; \* p<.05

Correlations of Customer Satisfaction and Customer Retention												
		Customer Retention	Personal Services	Problem Resolution & Customer care	Channel Activity	Fees and elimination of free checks	Facilities	Ease of use	Technology Adoption	Account Information	Confidence	Relation among staff
Pearson Correlation	Customer Retention	1.000	.559	.720	.691	.698	.562	.412	.829	.690	.795	.717
	Personal Services	.559	1.000	.436	.545	.470	-.056	-.016	.554	.622	.588	.638
	Problem Resolution & Customer care	.720	.436	1.000	.681	.702	.521	.279	.685	.785	.892	.626
	Channel Activity	.691	.545	.681	1.000	.979	.566	.416	.761	.691	.743	.833
	Fees and elimination of free checks	.698	.470	.702	.979	1.000	.621	.369	.781	.672	.765	.866
	Facilities	.562	-.056	.521	.566	.621	1.000	.720	.723	.309	.409	.398
	Ease of use	.412	-.016	.279	.416	.369	.720	1.000	.444	.154	.187	.215
	Technology Adoption	.829	.554	.685	.761	.781	.723	.444	1.000	.668	.741	.718
	Account Information	.690	.622	.785	.691	.672	.309	.154	.668	1.000	.835	.699
	Confidence	.795	.588	.892	.743	.765	.409	.187	.741	.835	1.000	.776
	Relation among staff	.717	.638	.626	.833	.866	.398	.215	.718	.699	.776	1.000
Sig. (1-tailed)	Customer Retention		.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***
	Personal Services	.000***		.000***	.000***	.000***	.134	.372	.000***	.000***	.000***	.000***
	Problem Resolution & Customer care	.000***	.000***		.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***
	Channel Activity	.000***	.000***	.000***		.000***	.000***	.000***	.000***	.000***	.000***	.000***
	Fees and elimination of free checks	.000***	.000***	.000***	.000***		.000***	.000***	.000***	.000***	.000***	.000***
	Facilities	.000***	.134	.000***	.000***	.000***		.000***	.000***	.000***	.000***	.000***
	Ease of use	.000***	.372	.000***	.000***	.000***	.000***		.000***	.001***	.000***	.000***
	Technology Adoption	.000***	.000***	.000***	.000***	.000***	.000***	.000***		.000***	.000***	.000***
	Account Information	.000***	.000***	.000***	.000***	.000***	.000***	.001***	.000***		.000***	.000***
	Confidence	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***		.000***
	Relation among staff	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***	.000***	

\*\*\* p<.001; \*\* p<.01; \* p<.05

## APPENDIX III

### DETAILS OF PUBLICATIONS IN JOURNALS

S. No.	Title of the Paper	Journal Name & Vol.No. Status	Journal Indexed/Listed/abstracted in:	Authors Name	Journal Other Details
1	Customer Satisfaction and Customer Loyalty in E-Banking in India: The Intricacies of Relationship	IOSR Journal in Business and Management (IOSR-JBM) Vol.16, (9) September 2014, Pg.6-13	<ul style="list-style-type: none"> <li>•NASA - Astrophysics Data System (ADS) Digital Library.</li> <li>Cross Ref</li> <li>•arXiv Databse, The arXiv (arXiv.org), a project by Cornell University Library,</li> <li>Cabell Publishing, Inc.,</li> <li>Index Copernics</li> <li>Index Copernics @Open J-Gate</li> <li>Ulrich Web</li> <li>Ebsco Host</li> <li>Google Scholar</li> <li>American National Engineering Database</li> <li>Jour Informatics</li> </ul>	Navneet Kaur & Prof.Ravi Kiran	e-ISSN : 2278-487X p-ISSN : 2319-7668 IMPACT FACTOR 1.458
2	E-Delivery Channels and Banking Performance in India: A Pragmatic Approach	Global Journals Inc. (US) GJMBR-C Vol. 14 (4), 2014, Pg. 113-126	<ul style="list-style-type: none"> <li>Gale</li> <li>• ProQuest</li> <li>• EBSCO</li> <li>• EconLit</li> <li>• Cabells</li> <li>• Scirus</li> <li>• ERA 2012 Journal List (Excellence in</li> <li>• Biblioteca</li> <li>• IndexCopernicus Journals Master List</li> <li>• Libraries Resource Directory (Listed under Information Research Organizations category)</li> <li>• Google Scholars</li> <li>• Globethics</li> <li>• Questia</li> <li>• Standard Periodical Directory</li> <li>• Ulrich's International Periodicals Directory</li> </ul>	Navneet Kaur & Prof.Ravi Kiran	ISSN: 1947-5667 (Online), Journal Launch Date: 2009, Language: English, Review Process: Double Blind , Publisher: Universal Publishers - Boca Raton, Florida, USA Journal Performance (Updated: June, 2014)  Journal h-index: 6 Journal g-index: 11 Average citations per paper: 2.42 Publication Frequency: Quarterly (with cite-ahead publication)
3	E-Banking Service Quality and Customer Loyalty: Changing Dynamics of Public, Private and Foreign Bank Consumers in India	Global Business and Management Research: An International Journal, Vol.7 (1), Pg. 74-92	<ul style="list-style-type: none"> <li>Gale</li> <li>• ProQuest</li> <li>• EBSCO</li> <li>• EconLit</li> <li>• Cabells</li> <li>• Scirus</li> <li>• ERA 2012 Journal List (Excellence in Research for Australia [ERA] by the</li> <li>• Biblioteca</li> <li>• IndexCopernicus Journals Master List</li> <li>• Libraries Resource Directory (Listed under Information Research Organizations category)</li> <li>• Google Scholars</li> <li>• Globethics</li> <li>• Questia</li> <li>• Standard Periodical Directory</li> <li>• Ulrich's International Periodicals Directory</li> </ul>	Navneet Kaur & Prof.Ravi Kiran	ISSN: 1947-5667 (Online), Journal Launch Date: 2009, Language: English, Review Process: Double Blind , Publisher: Universal Publishers - Boca Raton, Florida, USA Journal Performance (Updated: June, 2014)  Journal h-index: 6 Journal g-index: 11 Average citations per paper: 2.42 Publication Frequency: Quarterly (with cite-ahead publication)