



## **A STUDY ON CUSTOMER SATISFACTION OF E - BANKING SERVICES IN PUBLIC SECTOR BANK IN VELLORE DISTRICT - AN EMPIRICAL STUDY**



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### **ABSTRACT**

*The success of Internet banking not only depends on the technology but also on, to the large extent the attitude, commitment and involvement of the operating at all levels and how far the customers reap the benefits from Internet banking services. A special weight must be given to the protection, which would endorse customers in using e-banking services. Finally it is concluded that customers are very much satisfied with e-banking services provided by the Public sectors banks.*

### **INTRODUCTION**

The banking scenario in India in the post liberalization and deregulated environment has witnessed extensive changes. The tremendous advances in technology and the aggressive infusion of information technology had brought in an example shift in banking operations. For the banks, technology has emerged as a strategic resource for achieving higher efficiency, control of operations, productivity and profitability. For customers, it is the realization of their 'Anywhere, Anytime, Anyway' banking dream. This has prompted the banks to embrace technology to meet the increasing customer expectation. Technology to start with is a business enabler and now has become a business driver. The banking institutions cannot think of introducing a financial product without information technology support is customer service, transactions, remittances, audit, marketing, pricing or any other activity in the banks. Information Technology plays an important role not only to complete the activity with high efficiency but also has the potential to innovate and meet the future requirements.

Information Technology has therefore introduced new business paradigms and is increasingly playing a significant role in improving the services in the banking industry. In the above background it becomes imperative to dwell on the evolution of Information Technology in banks before embarking on the various aspects of e-banking. Information Technology came into picture as early as in the 1980's in the banking industry through the Rangarajan Committee recommendations and bank have given utmost importance to the technology since the last 25 years.

The Reserve Bank of India is constantly pursuing the banks from 1980's to introduce computerization at branch level and to improve the quality of customer service through technology. E-Banking implies performing basic banking transaction by customers around the clock globally through electronic media. Alternatively, electronic banking can be defined as "delivery of bank's services to a customer at his office or home by using electronic technology and this has resulted in the conceptualization of virtual banking". In traditional banking, the customer has to visit the branch of the bank in person to perform the basic banking operations viz., account inquiry, fund transfer and cash withdrawal. The brick and mortar structure of a bank is essential to perform the banking functions.

#### **MEANING OF E-BANKING**

Online banking is an electronic payment system that enables customers of a financial institution to conduct financial transactions on a website operated by the institution, such as a retail bank, virtual bank, credit union or building society. Online banking is also referred as Internet banking, e-banking, virtual banking and by other terms. To access a financial institution's online banking facility, a customer with Internet access would need to register with the institution for the service, and set up some password (under various names) for customer verification.

Thus, today's banking is no longer confined to the branches. Customers are being provided with additional delivery channels which are more convenient and are cost effective to the banks. This has resulted in decrease of physical boundaries, easy reach to the customers, reliable and secure services. The E-Banking services include ATM Machine, Plastic Card Currency, and Internet Banking, Mobile Banking, home banking, Electronic Fund Transfer, Bill payment and Electronic Clearing Services.

#### **PURPOSE OF E-BANKING**

When banking system was manually operated, it has faced so many limitations like time consuming, lack of data security, accuracy was very less when it was compared in terms of percentage, it used to consume a lot of manpower for good results etc., due to this E-Banking application has been developed. The major idea is to provide a series of services to the customer through the internet, and make the customer comfortable of feel flexible in calling out simple tasks faster instead of making customer to visit the bank every time.

And this type of services is available only for the saving Account holders and not for the current account holders. The main purpose of my study is to get an overview of the customer satisfaction of e-banking services and to study as to how it has helped to change the banking habits of various individuals. The concept of electronic banking defines electronic banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone or digital television. The internet banking as an "internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments", With the exception of cash withdrawals, internet banking gives customers access to almost any type of banking transaction at the click of a mouse.

#### **DEVELOPMENT OF E-BANKING**

Technology has become the engine for generating rapid change. It is no longer measured merely for operating privilege or restricted to management evidence systems. It suggests the integration of statistics systems with the communication technology and of innovative application to product manufacturing, design and control. With the growth of technology, the world has become a global village and escorted in a revolution in the banking industry. "As per the statistic, India has knowledgeable a high development rate in the last four years, the consumers' expenditure has appealed up to 75% as a result the Banking Industry is probable to grow further in the future days with replicated cafes and kiosks springing up in diverse city access to the Net is going to be easy. Internet banking (also denoted as banking) is the latest in this series of technological phenomena in the recent past, connecting the use of the Internet for distribution of banking products & services. E-business has been endlessly growing as a new industry during the last decade. In the wake of the internet uprising, electronic commerce occurred and permits businesses to interrelate more efficiently with their customers and other corporations. In this multiplied information age, banking industry has been using this new communication channel to reach its diversities of customers.

Electronic commerce (e-commerce) has become a very significant technological progression for businesses by shifting business practices. Internet banking is moving the banking industry and is having the major belongings on banking dealings. Withdraw cash or deposit a cheque or request a statement of accounts. E-banking technologies have multiplied in modern years, and the obtain ability of a wide range of products has led to swelling acceptance among consumers. These technologies comprise direct deposit, computer banking, stored value cards, and debit cards. The terms 'PC banking', 'online banking', 'internet banking', 'telephone banks' or 'mobile banking' refers to a number of ways in which customers can entree their banks without having to be physically existing at the bank branch. E-banking may be assumed as a term that covers all these ways of banking business electronically.

#### **CUSTOMER SATISFACTION**

Before proceeding further, it is best that one fully understands the definition of the phrase 'Customer Satisfaction'. The phrase does not only express a happy customer, but rather complex than that. Customer satisfaction is actually a term most widely used in the business and commerce industry. It is a business term explaining about a measurement of the kind of products and services provided by a company to meet its customer's expectation. To some, this may be seen as the company's key performance indicator (KPI).

#### **EXPECTATION OF BANK CUSTOMERS**

The introduction of electronic banking services also creates new tasks to be forced, such as the optimization of distribution channels and the security of data transfer. The customer will not purchase a service that fails to meet his requirements or a service that does not guarantee the required privacy and security. E-banking is a fast spreading service that allows customers to use computer to access account specific information and possibly conduct transactions from a remote location – such as at

home or at the workplace. ATM cards, credit cards, debit cards, smart cards, all these have ease human life up to such a extent that today life without these seems to be hard, full of misery.

#### REVIEW OF LITERATURE

**Mohammad Shamsus Sadekin, et al., (2016)** E-Banking is a newly added concept in banking sector of Bangladesh but after starting it becoming popular in Bangladesh; thus almost all Bangladeshi banks offer many facilities of e-banking. Customers can withdraw and deposit money any time within 24 hours of a day. E-banking is growing in Bangladesh day by day. Domestic private commercial banks and foreign commercial banks are in leading position. State owned commercial banks do not offer all the functions of e-banking. Total population of Bangladesh is near equal proportion between male and female.

**Haruna Isa Mohammad, et al., (2016)** To Understanding the level of rural customer satisfaction and improving on the result may lead in increasing bank patronage by rural customers. This study has analysed the customer satisfaction with rural bank customers using SERVQUAL model. The result indicated that customers are satisfied with four construct (Tangibles, reliability, responsiveness and assurance) while empathy was not satisfied by customers. Despite the four variables showed significant level of satisfaction by customers, there is need to improve on them and work seriously on empathy.

**Sadekin M S, et al., (2015)**, Bangladeshi customers have very poor knowledge about e-banking transactions. They are not ready to accept any financial difficulties and will not trust on e-banking services. Bankers have to be sincere about e-banking security. Therefore e-banking may be secured by taking necessary initiatives, like using finger print, authentication of cash withdrawals, using close circuit camera, increasing internet speed, increasing awareness, using protective password and antivirus, formulation of e-banking supporting policies, close monitoring, legal provisions for controlling frauds etc.

**Abbokar Siddiq (2015)** Customer is a king in the present day banking. The banks are providing services according to customer's needs and wants. Traditionally we had bricks and mortar bank where all the banking transaction has to be carried on within the particular geographical area. Due to globalization and technological innovation many transformation has been taken place in all the sectors of the economy banking sector is no exception. In order to provide better services to the changing needs of customers, the banks brought the transformation in the banking services.

**Shouvik Sanyal et al., (2015)** The success of a bank depends on its ability to attract and retain its customers. Thus customer satisfaction is an important indicator of strategic success and helps in better understanding of customers' perceptions. It also helps the banks to determine the action required to meet the customers' needs. E-banking has become a competitive strategy in the banking sector in Oman because of the convenience and comfort that it brings to the customer. Therefore it has become a necessity to evaluate the e-banking services and its effect on customer satisfaction through service quality. The main objective of the study is to examine the impact of service quality of e-banking services on the satisfaction of Omani customers.

**Rajeev Kumar, et al., (2015)** TBBS have been a critical component of service delivery in the banking industry. As per the analysis it can be said that all the selected public sector banks are competing each other on providing the better TBBS. From the current research it is found that Canara Bank's customer are most satisfied with TBBS offered by the said bank than the other four public sector banks, followed by Union Bank of India. The research indicated that the service quality dimensions of Enjoyment, Customization, Design and Functionality combined together appear to explain customer satisfaction in selected public sector banks India. The service Security, Convenience and Assurance did not contribute to the fitness of the model.

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**Ms.Vrushali, et al., (2015)** Thus, this study has analysed the overall usage of E-banking services by the customers from public and private sector banks in India. Gender, Age, Education and Occupation are the important demographic factors which have used to measure the customers using e-banking services. E-Banking will be successful for banks only when they have commitment to e-Banking along with a deeper understanding of customer needs.

**Sharma, et al., (2014)** In their study "Internet Banking Service Quality and its Impact on Customer satisfaction in Indore district of Madhya Pradesh" mainly focused on internet banking service quality to maintain customer satisfaction. The work attempts to develop a model based on service quality dimensions with purpose to investigate impact of service quality factors and to analyse its impact on customer satisfaction.

**RenuBagoria(2014)**, In this paper comparative study has been done of mobile banking in public sector and private sector banks. As the comparative analysis results shows that the mobile banking ratio is very low as compare to other banking facilities like internet and ATM banking. This paper includes a comparative analysis of difference between public sector banks and private sector banks in various cities regarding adoption of mobile banking.

#### STATEMENT OF THE PROBLEM

Today, Indian Banking Industry is one of the largest in the world. Indian banking has come a long way from being a quiet business institution to a highly positive and dynamic entity. Indian banking has finally woken up to the surging demands of the ever-discerning Indian consumer. Nowadays, due to the increase in competition, customer satisfaction is considered to be the most important thing in banking services. A customer always wants something and expects that the bank should come up to the level to fulfill those needs. Service quality is about meeting customers' needs and requirements, and how well the service level delivered matches customer expectations. Service quality in banking implies consistently anticipating and satisfying the needs and expectations of customers. Over the last decade India has been one of the fastest adopters of information technology, particularly because of its capability to provide software solutions to organizations around the world. This capability has provides a tremendous force to the domestic banking industry in India to deploy the latest technology, particularly in the Internet banking and e-commerce arenas.

### SCOPE OF THE STUDY

With the advent of liberalization policy and RBI's easy norms several public, private and foreign banks have entered in Indian banking sector, which has given birth to cut throat competition amongst banks for acquiring large customer base and market share. Banks have to deal with many customers and render various types of services to its customers and if the customers are not satisfied with the services provided by the banks then they will defect which will impact the economy as a whole since the banking system plays an important role in the economy of a country, also it is very costly and difficult to recover a dissatisfied customer. Since the competition has grown manifold in the recent times it has become a Herculean task for organizations to build loyalty, the reason being that the customer of today is spoilt for choice. Retaining customers is a financial imperative for Indian banks, especially as attracting new customers is considerably more expensive than for comparable, traditional, bricks-and-mortar stores. Understanding how or why a sense of loyalty develops in customers remains one of the crucial management issues of the present day. In increasingly competitive markets, being able to build loyalty in consumers by increasing their satisfaction is seen as the key factor in winning market share and developing sustainable competitive advantage. Banking industry worldwide is offering various options, financial products and services to enhance customer satisfaction. Innovative ways for information technology are used to provide services. Undoubtedly e-banking is the technological wonders and is gaining popularity. E-banking is regarded as the pulse of the nation. It is important for banks to encourage customers to use e-banking. Banks-trusted business service providers, have the opportunity to leverage their existing relationships to provide full range of high quality trusted internet business services to their customers.

### OBJECTIVES OF THE STUDY

The following are the specific objectives of the research study

1. To study and analyze the present E-Banking scenario in the study area.
2. To measure the influence of demographic profile of the E-Banking services provided by public sector bank.

### HYPOTHESIS OF THE STUDY

- H<sub>0</sub>1: "There is no significant difference between demographic profile of the respondents and E-Banking attributes in PSB"  
H<sub>0</sub>2: "There is no significant level of awareness of customers on E-Banking services"  
H<sub>0</sub>3: "There is no significant difference between level of satisfaction of customers and E-Banking attributes in public sector bank."  
H<sub>0</sub>4: "There is no significant difference between demographic variable of the respondents and Preference for E-Banking Services in PSB"  
H<sub>0</sub>5: "There is no significant difference between demographic variable and problem faced by customer on E-Banking services in public sector bank"

### RESEARCH METHODOLOGY

The researcher who taken by systematic research has been employed. This research is based on analytical and descriptive nature. It depends upon both primary and secondary data. The methodology is the details of segment which governs the outcome of the research. It encompasses and directs the researcher to carry out the research in a methodical process which ensures and facilitates the truthfulness of the outcomes. It deals with the data collected for the study, sources of data, sampling plan the population of the study, location of the research, instrument used to collect data, method of collecting data, analysis and interpretation of the collected data with different statistical tools in order to find out the strength of the collected data and limitations of the study. The secondary source comprises available materials. Such as Banking Records, Journals, Magazines, Books, Websites, etc. The secondary data was composed of the Head Quarters of each of the designated public sector banks for the preparation and presence of the chapter, profile of the study.

### Area of the study

Vellore District is one of the famous districts as well as big in TamilNadu. Vellore city is the headquarters of this district. As of 2011, the district had a population of 3,939,331 with a sex ratio of 1,007 females for every 1000 males. The government of India recently included Vellore city in the prestigious smart city project along with 26 more cities. A total of 4, 32,550 were under the age of six, constituting 2,22,460 males and 2,10,090 females. Scheduled Cates and Scheduled Tribes accounted for 21.85% and 1.85% of the population respectively. The average literacy of the district was 70.47% compared to the national average of 72.99%, the district had 9,29,281 households. There were 16,89,330 workers, comprising 1,53,211 cultivators, 2,54,999 main agricultural labourers, 1,06, 906 in household industries, 845,069 other workers.

### Sample Design

In Vellore district, all the major banks have branches in this district. As it was felt that it would useful to attempt a customer's satisfaction among public sector bank. The public sector banks having the largest network of branches in the district were identified. The similarly of public sector bank from e-bank have been identified. In the district, public sector bank, SBI has large number of branches (60 branches) located in this district.

Table 1: Distribution of Sample Customers

S.No	Name of the Taluk	Total No. of Branches In Vellore District	Selection of Sample 10 Customers From Each Branches
1	Arakonam Taluk	6	60
2	Arcot Taluk	5	50
3	Ambur Taluk	4	40
4	Gudiyatham Taluk	8	80
5	Katpadi Taluk	8	80
6	Tirupattur Taluk	8	80
7	Vaniyampadi Taluk	7	70
8	Vellore Taluk	10	100
9	Wallaja Taluk	4	40
	<b>Total</b>	<b>60</b>	<b>600</b>

**DATA ANALYSIS AND STATISTICAL TOOLS**

The research adopts the Convenience sampling method. The respondents reside in Vellore district from the age group of 20 years to 65 years, including the different categories of customers from Public sectors banks like students, Farmer, Teacher, Professor, business Man, Investment & Fund Managers, Retired salaried class, Stock Brokers, and Investment Advisors. 630 questionnaires were distributed to the customers spread over in Vellore District. Among them, 615 questionnaires were collected. In which 15 questionnaires were found unusable. Hence, the accurate sample of the study is 600. The survey questionnaire has been designed related to service quality dimensions, *i.e.* Accessibility, Convenience, Privacy, Security, Design, Content, Speed and Fees and Charges. Each statement in the questionnaire positively worded. Reliability of the questionnaire was tested using Cronbach's alpha reliability test.

**PILOT TESTING OF INSTRUMENT**

Researchers strongly recommend pilot testing of the instrument. A sample of 50 customers was used, in the pilot testing, to validate the results empirically, appropriate reliability and validity tests of the measurement were taken. Indeed, reliability refers to the instrument's ability to prove consistent results in repeated uses, whereas validity refers to the degree to which the instrument measures the concept the researcher wants to do. This provides confidence that the empirical findings accurately reflect the proposed constructs.

**PERIOD OF THE STUDY**

The study on customer satisfaction of e-banking services in public sector banks in Vellore district-an empirical study is made for the period of primary data covered is six month from December 2012 to May 2013.this month is normal for the purpose of analysis and evaluation.

**LIMITATIONS OF THE STUDY**

The study has limitations that need to be approved and addressed about the present study. The study is limited to, public sector banks (SBI only) located in Vellore district only. The study is based on the opinion survey of customers. But, the opinion expressed may differ according to time and situation. In this research, only 600 respondents are considered to suggest the nine dimensions of e- banking service in Vellore District. Large sample of respondents produce better results. The findings of the study can't be comprehensive as the study is made covering a limited area namely, Vellore district of TamilNadu.

**RANKING E-BANKING SERVICES PREFERRED BY THE RESPONDENTS**

An attempt has made to know the E-Banking services preferred by the respondents. For this purpose of the study, nine services are selected like ATM, Internet Banking, and Mobile banking, Tele-banking, Electronic Fund Transfer, Smart cards, Home Banking, Electronic Clearing System and Bill payment. The respondents were asked to rank the services in the order of their importance. To identify the most important factors, ranking of the E-Banking services preferred by the respondents are shown in the following table.

Table 2(a) Frequency table for Ranking of Services

S.No	E-Banking Services	Rank					Total
		1	2	3	4	5	
1	ATM	293	241	17	36	13	<b>600</b>
2	Internet Banking	217	138	11	89	145	<b>600</b>
3	Mobile banking	131	136	23	110	200	<b>600</b>
4	Tele-banking	74	64	5	169	288	<b>600</b>
5	Electronic Fund Transfer	235	221	15	83	46	<b>600</b>
6	Smart cards	45	41	111	98	305	<b>600</b>
7	Home Banking	109	99	58	149	185	<b>600</b>
8	Electronic Clearing System	223	205	6	97	69	<b>600</b>
9	Bill payment	158	142	6	158	136	<b>600</b>

Data given in above table can be used to prepare the summarized rank ordering of various services. The ranking of services given in table can be presented in the form of frequency distribution in table. To calculate a summary rank ordering, the

services with the first rank was given the lowest number (1) and the least preferred attribute was given the highest number (5). The summarized rank order is obtained with the following computations as:

**Table 2(b) Rank Ordering Summary**

S. No	E-Banking Services	Manipulation	Total	Rank
1	ATM	(1*293)+(2*241)+(3*17)+(4*36)+(5*13)	1035	I
2	Internet banking	(1*217)+(2*138)+(3*11)+(4*89)+(5*145)	1607	IV
3	Mobile banking	(1*131)+(2*136)+(3*23)+(4*110)+(5*200)	1912	VI
4	Tele-banking	(1*74)+(2*64)+(3*5)+(4*169) + (5*288)	2333	VIII
5	Electronic fund transfer	(1*235)+(2*221)+(3*15)+(4*83)+(5*46)	1284	II
6	Smart cards	(1*45)+(2*41)+(3*111)+(4*98)+ (5*305)	2377	IX
7	Home banking	(1*109)+(2*99)+(3*58)+(4*149)+(5*185)	2002	VII
8	Electronic clearing system	(1*223)+(2*205)+(3*6)+(4*97)+ (5*69)	1384	III
9	Bill payment	(1*158)+(2*142)+(3*6)+(4*158)+(5*136)	1772	V

The total lowest score indicates the first preference ranking. The results show the following rank ordering: ATM, Electronic Fund Transfer, Electronic Clearing System, Internet Banking, Bill payment, Mobile banking, Home Banking, Tele-Banking and Smart cards. It is found from the analysis that majority of the respondents are preferred the E-Banking services as "ATM service" in public sector bank.

### TESTING OF THE HYPOTHESIS

One way ANOVA and t-test has been applied to ascertain the significant difference between the demographic profile of the respondents and E-Banking attributes in public sector bank in Vellore district.

The following null hypothesis has been formulated to assess the significant difference between the demographic profile of the respondents and E-Banking attributes in public sector bank.

$H_0I$ : "There is no significant difference between demographic profile of the respondents and E-Banking attributes in PSB"

**To assess the significant difference between gender of the respondents and E-Banking attributes in public sector bank.**

One way ANOVA has been applied and the following null hypothesis has been formulated.

$H_0I^a$  "There is no significant difference between gender of the respondents and E-Banking attributes in PSB"

The below table shows the output of the ANOVA analysis, that the Accessibility of the customer with different gender is insignificant as  $F=.011$  ( $p=.916$ ) which is above 0.05 and therefore, the mean Accessibility is statistically unequal across all categories of gender. Convenience of the customer with different gender is insignificant as  $F=.417$  ( $p=.519$ ) which is above 0.05 and therefore, the mean Convenience is statistically unequal across all categories of gender. Privacy of the customer with different gender is insignificant as  $F=.040$  ( $p=.842$ ) which is above 0.05 and therefore, the mean Privacy is statistically unequal across all categories of gender. Security of the customer with different gender is insignificant as  $F=.004$  ( $p=.953$ ) which is above 0.05 and therefore, the mean Security is statistically unequal across all categories of gender. Design of the customer with different gender is insignificant as  $F=2.267$  ( $p=.133$ ) which is above 0.05 and therefore, the mean Design is statistically unequal across all categories of gender. Content of the customer with different gender is insignificant as  $F=.780$  ( $p=.378$ ) which is above 0.05 and therefore, the mean Content is statistically unequal across all categories of gender. Speed of the customer with different gender is insignificant as  $F=1.454$  ( $p=.228$ ) which is above 0.05 and therefore, the mean Speed is statistically unequal across all categories of gender. Service charge of the customer with different gender is insignificant as  $F=.705$  ( $p=.402$ ) which is above 0.05 and therefore, the mean Service charge is statistically unequal across all categories of gender

Since all the P value is above 0.05,  $H_0I^a$  is rejected which means the Accessibility, Convenience, Privacy, Security, Design, Content, Speed and Service Charge is statistically unequal across all categories of gender.

**Table 3: Gender Vs E-Banking Attributes-ANOVA**

E-Banking Attributes	Particulars	Sum of Squares	D.f	Mean Square	F	Sig.
Accessibility	Between Groups	.002	1	.002	.011	.916
	Within Groups	120.316	598	.201		
	Total	120.318	599			
Convenience	Between Groups	.129	1	.129	.417	.519
	Within Groups	185.364	598	.310		
	Total	185.493	599			
Privacy	Between Groups	.011	1	.011	.040	.842
	Within Groups	171.947	598	.288		
	Total	171.958	599			

Security	Between Groups	.001	1	.001	.004	.953
	Within Groups	250.984	598	.420		
	Total	250.985	599			
Design	Between Groups	.808	1	.808	2.267	.133
	Within Groups	213.026	598	.356		
	Total	213.833	599			
Content	Between Groups	.242	1	.242	.780	.378
	Within Groups	185.716	598	.311		
	Total	185.958	599			
Speed	Between Groups	.555	1	.555	1.454	.228
	Within Groups	228.105	598	.381		
	Total	228.660	599			
Service charge	Between Groups	.139	1	.139	.705	.402
	Within Groups	117.660	598	.197		
	Total	117.798	599			
	Total	141.598	599			

To assess the significant difference between age of the respondents and E-Banking attributes in public sector bank.

One way ANOVA has been applied and the following null hypothesis has been formulated.

$H_0I^b$  "There is no significant difference between age of the respondents and E-Banking attributes in PSB"

The below table shows the output of the ANOVA analysis, that the Accessibility of the customer with different age is insignificant as  $F=.933$  ( $p=.445$ ) which is above 0.05 and therefore, the mean Accessibility is statistically unequal across all categories of age. Convenience of the customer with different age is insignificant as  $F=1.262$  ( $p=.284$ ) which is above 0.05 and therefore, the mean Convenience is statistically unequal across all categories of age. Privacy of the customer with different age is significant as  $F=3.163$  ( $p=.014$ ) which is below 0.05 and therefore, the mean Privacy is statistically equal across all categories of age. Security of the customer with different age is insignificant as  $F=.572$  ( $p=.683$ ) which is above 0.05 and therefore, the mean Security is statistically unequal across all categories of age. Design of the customer with different age is insignificant as  $F=1.503$  ( $p=.200$ ) which is above 0.05 and therefore, the mean Design is statistically unequal across all categories of age. Content of the customer with different age is insignificant as  $F=1.079$  ( $p=.366$ ) which is above 0.05 and therefore, the mean Content is statistically unequal across all categories of age. Speed of the customer with different age is insignificant as  $F=2.324$  ( $p=.055$ ) which is above 0.05 and therefore, the mean Speed is statistically unequal across all categories of age. Service charge of the customer with different age is insignificant as  $F=.865$  ( $p=.485$ ) which is above 0.05 and therefore, the mean Service charge is statistically unequal across all categories of age.

Since all the P value is above 0.05,  $H_0I^b$  is rejected which means the Accessibility, Convenience, Security, Design, Content, Speed and Service Charge is statistically unequal across all categories of age. For Privacy P value is below 0.05,  $H_0I^b$  is rejected which means the mean Privacy is statistically equal across all categories of age.

Table 4: Age Vs E-Banking Attributes

ANOVA

E-Banking Attributes		Particulars	D.f	Mean Square	F	Sig.
Accessibility	Between Groups	.750	4	.187	.933	.445
	Within Groups	119.569	595	.201		
	Total	120.318	599			
Convenience	Between Groups	1.560	4	.390	1.262	.284
	Within Groups	183.933	595	.309		
	Total	185.493	599			
Privacy	Between Groups	3.580	4	.895	3.163	.014
	Within Groups	168.378	595	.283		
	Total	171.958	599			
Security	Between Groups	.961	4	.240	.572	.683
	Within Groups	250.024	595	.420		
	Total	250.985	599			

Design	Between Groups	2.139	4	.535	1.503	.200
	Within Groups	211.694	595	.356		
	Total	213.833	599			
Content	Between Groups	1.339	4	.335	1.079	.366
	Within Groups	184.620	595	.310		
	Total	185.958	599			
Speed	Between Groups	3.517	4	.879	2.324	.055
	Within Groups	225.143	595	.378		
	Total	228.660	599			
Service charge	Between Groups	.681	4	.170	.865	.485
	Within Groups	117.117	595	.197		
	Total	117.798	599			

Table 5: Multiple Comparisons AGE Vs Privacy Tukey HSD

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Below 25 Years	26 – 35	-.189*	.068	.046	-.38	.00
	36- 45	-.174	.066	.065	-.36	.01
	46- 55	-.048	.092	.985	-.30	.20
	Above 55 Years	-.007	.102	1.000	-.29	.27
26 – 35	Below 25 Years	.189*	.068	.046	.00	.38
	36- 45	.015	.052	.999	-.13	.16
	46- 55	.141	.082	.426	-.08	.37
	Above 55 Years	.182	.094	.294	-.07	.44
36- 45	Below 25 Years	.174	.066	.065	.00	.36
	26 – 35	-.015	.052	.999	-.16	.13
	46- 55	.126	.080	.518	-.09	.35
	Above 55 Years	.168	.092	.364	-.08	.42
46- 55	Below 25 Years	.048	.092	.985	-.20	.30
	26 – 35	-.141	.082	.426	-.37	.08
	36- 45	-.126	.080	.518	-.35	.09
	Above 55 Years	.041	.112	.996	-.26	.35
Above55 Years	Below 25 Years	.007	.102	1.000	-.27	.29
	26 – 35	-.182	.094	.294	-.44	.07
	36- 45	-.168	.092	.364	-.42	.08
	46- 55	-.041	.112	.996	-.35	.26

\*. The mean difference is significant at the 0.05 level.

From the results so far, we know that there are statistically significant differences between the age and privacy. The table **Multiple Comparisons** shows which groups differed from each other. The Tukey post hoc test is generally the preferred test for conducting post hoc tests on a one-way ANOVA. From the Table that there is a statistically significant difference in age to Privacy between the group with age of Below 25 years and 26-35 ( $p = 0.046$ ), as well as between the 26-35 years and Below 25 years ( $p = 0.046$ ). There is a statistically insignificant difference in age to Privacy between the 36-45 years and Below 25 years ( $p=.065$ ), between the 46-55 years and Below 25 years ( $p=.985$ ) and also above 55 years and Below 25 years ( $p=1.000$ ). However, there were significant differences between the group with age of Below 25 years and 26-35 ( $p = 0.046$ ), as well as between the 26-35 years and Below 25 years ( $p = 0.046$ ).



To assess the significant difference between marital status of the respondents and E-Banking attributes in public sector bank.

One way ANOVA has been applied and the following null hypothesis has been formulated.

$H_0I^c$  "There is no significant difference between marital status of the respondents and E-Banking attributes in PSB"

The below table shows the output of the ANOVA analysis, that the Accessibility of the customer with different marital status is insignificant as  $F=.339$  ( $p=.797$ ) which is above 0.05 and therefore, the mean Accessibility is statistically unequal across all categories of marital status. Convenience of the customer with different marital status is insignificant as  $F=.993$  ( $p=.395$ ) which is above 0.05 and therefore, the mean Convenience is statistically unequal across all categories of marital status. Privacy of the customer with different marital status is insignificant as  $F=3.739$  ( $p=.011$ ) which is above 0.05 and therefore, the mean Privacy is statistically equal across all categories of marital status. Security of the customer with different marital status is insignificant as  $F=1.393$  ( $p=.244$ ) which is above 0.05 and therefore, the mean Security is statistically unequal across all categories of marital status. Design of the customer with different marital status is insignificant as  $F=.507$  ( $p=.677$ ) which is above 0.05 and therefore, the mean Design is statistically unequal across all categories of marital status. Content of the customer with different marital status is insignificant as  $F=1.522$  ( $p=.208$ ) which is above 0.05 and therefore, the mean Content is statistically unequal across all categories of marital status. Speed of the customer with different marital status is insignificant as  $F=.795$  ( $p=.497$ ) which is above 0.05 and therefore, the mean Speed is statistically unequal across all categories of marital status. Service charge of the customer with different marital status is insignificant as  $F=1.302$  ( $p=.273$ ) which is above 0.05 and therefore, the mean Service charge is statistically unequal across all categories of marital status. Since all the P value is above 0.05,  $H_0I^c$  is rejected which means the Accessibility, Convenience, Privacy, Security, Design, Content, Speed and Service Charge is statistically unequal across all categories of marital status. The P value is below 0.05, is rejected which means the mean Privacy is statistically equal across all categories of marital status.

**Table 6: Marital Status Vs E-Banking Attributes- ANOVA**

E-Banking Attributes	Particulars	Sum of Squares	D.f	Mean Square	F	Sig.
Accessibility	Between Groups	.205	3	.068	.339	.797
	Within Groups	120.114	596	.202		
	Total	120.318	599			
Convenience	Between Groups	0.923	3	.308	.993	.395
	Within Groups	184.570	596	.310		
	Total	185.493	599			
Privacy	Between Groups	3.177	3	1.059	3.739	.011
	Within Groups	168.782	596	.283		
	Total	171.958	599			
Security	Between Groups	1.748	3	.583	1.393	.244
	Within Groups	249.237	596	.418		
	Total	250.985	599			
Design	Between Groups	.545	3	.182	.507	.677
	Within Groups	213.289	596	.358		
	Total	213.833	599			
Content	Between Groups	1.414	3	.471	1.522	.208
	Within Groups	184.544	596	.310		
	Total	185.958	599			
Speed	Between Groups	.911	3	.304	.795	.497
	Within Groups	227.749	596	.382		
	Total	228.660	599			
Service charge	Between Groups	.767	3	.256	1.302	.273
	Within Groups	117.031	596	.196		
	Total	117.798	599			
	Within Groups	140.728	596	.236		
	Total	141.598	599			

Table 7: Multiple Comparisons-Privacy And Marital Status -Tukey HSD

(I) Marital Status	(J) Marital Status	an Dif fer enc e Sta · Er ror	Sig ·	95 Confidence Interval		
				Lower Bound	Upper Bound	
Married	Unmarried	.135*	.046	.019	.02	.25
	Seperated	.109	.179	.931	-.35	.57
	Wiidow	-.447	.308	.469	-1.24	.35
Unmarried	Married	-.135*	.046	.019	-.25	-.02
	Seperated	-.027	.181	.999	-.49	.44
	Wiidow	-.582	.310	.237	-1.38	.22
Seperated	Married	-.109	.179	.931	-.57	.35
	Unmarried	.027	.181	.999	-.44	.49
	Wiidow	-.556	.355	.399	-1.47	.36
Wiidow	Married	.447	.308	.469	-.35	1.24
	Unmarried	.582	.310	.237	-.22	1.38
	Seperated	.556	.355	.399	-.36	1.47

\*. The mean difference is significant at the 0.05 level.

From the results so far, we know that there are statistically significant differences between the Marital Status and privacy. The table Multiple Comparisons shows which groups differed from each other. The Tukey post hoc test is generally the preferred test for conducting post hoc tests on a one-way ANOVA. From the table that there is a statistically significant difference in marital status to Privacy between the groups with married and unmarried ( $p = 0.019$ ). There is a statistically insignificant difference in marital status to Privacy between the unmarried and separated ( $p=.999$ ), between the separated and widow ( $p=.399$ ) and widow and married ( $p=.469$ ) and also widow and unmarried ( $p=.237$ ). However, there were significant differences between the group with married and unmarried ( $p = 0.019$ ).

#### SUMMARY OF FINDINGS

- ❖ **“There is no significant difference between gender of the respondents and e-banking attributes in PSB”** To test this hypothesis one way ANOVA test is applied and it is found that the  $p$  value is less than the acceptance level of 0.05 for all factors. Hence the null hypothesis is rejected which means the Accessibility, Convenience, Privacy, Security, Design, Content, Speed, Service Charge, Problem Faced by customer and Customer Satisfaction is statistically unequal across all categories of gender.
- ❖ **“There is no significant difference between age of the respondents and e-banking attributes in PSB”** To test this hypothesis one way ANOVA test is applied and it is found that the  $p$  value is less than the acceptance level of 0.05 for all factors. Hence the null hypothesis is rejected which means the Accessibility, Convenience, Privacy, Security, Design, Content, Speed, Service Charge, Problem Faced by customer and Customer Satisfaction is statistically unequal across all categories of gender.
- ❖ **“There is no significant difference between marital status of the respondents and e-banking attributes in PSB”** To test this hypothesis one way ANOVA test is applied and it is found that the  $p$  value is less than the acceptance level of 0.05 for all factors. Hence the null hypothesis is rejected which means the Accessibility, Convenience, Privacy, Security, Design, Content, Speed, Service Charge, Problem Faced by customer and Customer Satisfaction is statistically unequal across all categories of gender.
- ❖ **“There is no significant level of awareness of customers on E-Banking services”** It is inferred that t-test values 61.306, 19.394, 18.256, 23.320, 13.633, 11.848, 6.525, 4.215 and .498 are statistically significant at 5 per cent level. Therefore, it can be concluded that the Null hypothesis is rejected and there is significant level of awareness of customers on E-Banking services. Hence, it can be concluded that the bank customers in Vellore district strongly agree for ATM and mobile banking and moderately agree for electronic fund transfer, phone banking, internet banking, Smart card, Bill payment, Home banking, and electronic clearance system.

#### SUGGESTIONS AND RECOMMENDATIONS

- ❖ The use of technology in banking improves the service contribution to the customers. The banks must increase their competence so as to deliver more effective services to the customers. Banks need to pay more courtesy in endorsing the e-banking service among the customers and the general public. Banks must take more steps to familiarize the e-banking habits among the customers.
- ❖ The banks must pay courtesy in increasing the quality level of the e-banking services. The banks may help the customers gain more knowledge about the e-banking services.
- ❖ Knowledge level about internet banking is very less among customers. Hence banks have to conduct customer meet regularly to educate the customers on internet banking. The bank can also distribute booklets contains information about the new schemes and it can be distributed directly to the customers.
- ❖ Banks should come up with innovative ways of service at their door steps; this may be a costly affair but will surely give positive results in the long run.

- ❖ The banks must get customers' feedback to handle the grievances. This not only delivers a service to the customers but also offer the bank with appreciated information for future expansion of electronic service.
- ❖ Reliability and Trust should be created in mind of customers towards security of their accounts and confidentiality.
- ❖ The banks should establish public displays and talk shows and make the services available to all customers. Thus customers' interest would be stimulated Banks need to progress their e-banking services, so that their service will not be out of date, this leading to that customer choose another e-banks which are better developed and modern.
- ❖ The use of technology in banking improves the service contribution to the customers. The banks must increase their competence so as to deliver more effective services to the customers. Banks need to pay more courtesy in endorsing the e-banking service among the customers and the general public. Banks must take more steps to familiarize the e-banking habits among the customers.
- ❖ The banks must pay courtesy in increasing the quality level of the e-banking services. The banks may help the customers gain more knowledge about the e-banking services.
- ❖ Knowledge level about internet banking is very less among customers. Hence banks have to conduct customer meet regularly to educate the customers on internet banking. The bank can also distribute booklets contains information about the new schemes and it can be distributed directly to the customers.
- ❖ Banks should come up with innovative ways of service at their door steps, this may be a costly affair but will surely give positive results in the long run.
- ❖ The banks must get customers' feedback to handle the grievances. This not only delivers a service to the customers but also offer the bank with appreciated information for future expansion of electronic service.

### **CONCLUSION**

E-banking has become a necessary survival weapon still needed for the banking system to make reforms and train the customers for acceptance and adoption of e-banking. From studies, customers' satisfaction of e-banking is more of risk and fear for security concerns. Customers have fears of hacking of accounts and loss of their funds, hence hesitate to adopt e-banking. However, banks are trying their level best by providing the best security options to the customers. Banks are providing free internet banking services to attract the customers. The study concluded that different age group of customers have different insight toward the e-banking services and the usage level of these banks' customer is different so bank should concentrate on all the age group of customers for betterment of e-banking . It has also seen that different occupation group of customers have different insight toward the e-banking services.

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