
An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

V. Vimala

Department of Commerce, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

In the current scenario, due to huge attractiveness towards Internet banking, the usages of its services has revolutionized the entire banking sector by enabling customers to conduct fiscal contact through the Internet. However, there is some security lapse in this new process, which can be avoided by some simple safety measures. Internet banking has furthered few new dimensions to banking business/services by allowing their clientele to carry out financial transactions through the Internet mode. Banking institutions have taken several measures to ensure the safety measures to their customers while performing various transactions carried out through the internet mode. In this context, an effort is made to inspect and evaluate the collision of Internet banking security on the selected bank customers of Indian Bank in Coimbatore district. The study is carried out with the help of a suitable research instrument and 50 customers were selected and with the help of their responses analysis is made followed by few suggestions.

Keywords: Internet Banking, Mobile Banking, Internet Security

INTRODUCTION

In India, the banking services, banking technology products and its usages through the mode of internet banking have been remarkably increasing due to rapid developments in the Banking sector. It has also enabled the customers to execute bank related transactions through Internet system. The prevalent gain of Internet banking is that people can pay out the services sitting at home, to transact business dealing. Due to which, the bank customers does not have to visit in person to the bank. With the help of Internet banking services and its advances technology, many transactions can be executed by the customers virtually which benefits customers in time saving and quick work within short span of time. The transactions like balance inquiry, withdrawal, deposits, viewing the bank statement, record of recent transaction, etc. are to be processed, the Internet banking system facility proves to be very versatile.

Internet Banking In India: An Overview

Internet banking system facilitates only one of its kind chances to record big business incidence in a universal market successfully. Its efficacy in disseminate the information about one's profitable activities at a reasonably cost effective manner is remarkable. Instant, perceptive information can be updated faster than any other media. A properly premeditated website can pass on more accurate and focused icon of a product or service than any other media. India now has third major internet population in the world after china and United Stated. India presents unmatched developmental

prospect for the internet segment in coming years. In our view India will likely see golden-haired period of the internet sectors between 2013 to 2018 with barely credible growth opportunity and worldly growth adoption for e-commerce.

REVIEW OF LITERATURE

The literature in the vicinity of Internet Banking Security is mammoth, but the review of a few important works is made in the following paragraphs with an important objective to identify the research gap that exists at present.

Anne J. Broderick (2002) in their research work considered the challenges of the Internet service prominence and a product which has secluded design brings note worthy transformation among the customer interaction and behavior in the routine transactions. Guru (2002) in their work analyzed the state of affairs of online banking and its services. In the study, it also pays attention more towards the virtual banking system.

Karjaluo (2002) in his work, the author made an attempt to determine those factors that influence the formation of consumer attitude toward electronic banking. Damien Hutchinson, Matthew Warren (2003) in his work studies the financial service of electronic commerce, Internet Banking and its benefits to the customers. In the study, internet banking security measures and various techniques for privacy of customer's data has been found.

Rotchanakitumnuai and Speece (2003) in their research work stated corporate customers do not accept electronic form of banking, which can assist banks to implement this self-service technology more efficiently in the various banking transactions. Lympo and Chaniotakir (2004) evaluated the allusion of Internet – banking technology and the existence of different distinct factors which affect the market. Li and Worington (2004) in their working paper described the connectivity among the approval rate of internet banking and electronic connectivity activities in the business and industrial events.

Pikkarainen et al., (2004) in his research highlighted that electronic banking know-how had created new traditions of usages in the on a daily basis banking dealings especially via online banking direct methodology. The authors adopted technology approval model to control the online environment. Singh (2004) in his study examined the collision of online banking and internet banking trends. The study also concentrated on the latest banking technology products and services for the economic growth. Ankur Gupta (2006) in his study analyzed, the Consumer Internet Banking, with its capability to achieve each and every cranny and gap of the world holds great significance for a realm like India.

Flavian et al., (2006) in his study explored how customers' sensitivity of conventional bank manipulate their judgment to take up the services of the internet. The researchers found that if the customer trusts in unit and mortar bank then it was feasible that they feel more forced to use the online services offered by the same bank due to credibility of the customer in the traditional banking system. Lichtenstein and Williamson (2006) in their research explained the definite factors impinge on the consumer decision, whether or not to choose internet banking services in the Australian context. Nelubiri and Sinti (2006) in their research discussed the impact of internet banking on customers' stance, their needs and activities. The intent of the study was to see the internet banking adoption in Malaysia.

AbuShanab E, J.M. Pearson (2007) in their study described the rationale of the study is to investigate the key determinants of the adoption of internet banking in Jordan. Kamakodi et al (2008) in his work, discussed that, it is just about 15 years since the Indian banking sector was liberalized and exemplar shift happened in the Indian banking services. Uppal R.K (2008) described that in the Post – LPG (Liberalization, Privatization and Globalization) era and Information Technology (IT) era, revolution in Indian banks is captivating position with different parameters and the curves of banking services are with passion towards altering the face of banking, as banks are stepping towards e-banking from traditional banking.

Lee (2009) discussed, the factors influencing the espousal of internet banking, the TAM and TPB were incorporated and seeming risk and perceived assistance and put up were added to the research model. Anita Lifan Zhao (2010) in their study explained the roles of reliance and perceived the risk on client's/customer's usage purpose. Arpita Khare (2010) in his study described the importance of Technology in civilizing customer service levels in being used deliberately and progressively more by service organizations.

There are substantial amount of studies conducted at the Indian level and international level but, very few works are to be had here focusing on the Internet banking, its usage, internet banking safety measures and its perceptions, attentiveness level, satisfactions, attitudes, behavior of the internet banking, security issues, frauds and crime activities, and the impact on the banks, adoption of new technologies involved in the internet banking. But, studies relating to the Internet Banking Security specifically in the Southern Region of Tamil Nadu are extremely limited. Keeping this point of view, an attempt has been made to study on Internet Banking Security among Selected the Indian Bank Customers

STATEMENT OF THE PROBLEM

In the present state of affairs, the banking sector has been seen a mammoth progress and the popularity with respect to the Internet banking services and its products. This development has led to the large number of internet banking transactions which are helped for the faster and more convenient mode of transactions to the bank customers. Nowadays, information technology takes the chore of underneath and raising service efficiency in all businesses. Banking industry is one of the businesses that have brought IT to help with banking transactions and increase banking services, opportunities to its customers. Today we see millions of websites over internet, which are made for internet banking as a part and parcel of the routine life. This facilities helped millions

of customers to perform their transaction anytime any ever easily, quickly, smoothly with perfections. And for carrying out banking transactions through the Internet, one needs to have some basic knowledge about computers and the Internet, which to some extent, limits the number of people willing to avail this facility. Many people who are not comfortable with computers and the Internet find it difficult to use this service.

NEED OF THE STUDY

01. To know the awareness of internet of Internet Banking Security system;
02. To know the usage and perception of Internet Banking securities;
03. To understand the importance of Internet Banking transaction; and
04. To analyze the safe and security level of Internet Banking transaction among the customers.

OBJECTIVES OF THE STUDY

The central objectives of the present study are -

01. To analyze the customer's perceptions awareness of Internet banking security;
02. To understand the problems faced by customers while using internet Banking services; and
03. To know impact of the internet banking securities among the selected customers in Coimbatore.

SCOPE OF THE STUDY

This study provides a guide to the current structure of the Internet Banking Security and highlights how people are aware of using Internet banking, and their perception and satisfaction towards Internet Banking with new technologies and its functioning. This helps to know in details about development in banking industry with advancement in technology. It also helps in understanding different services

offered in Internet banking. Ultimately this would help in understanding the benefits of Internet banking to customers as well as banking industry. The present study tries to cover the factors affecting the passion towards among the awareness, perception, satisfaction towards the customer and the impact relating to the Internet Banking.

Sample Design

The Multi Stage Sampling Technique adopt for selection of respondents for the study. In four stages the customers of Indian Bank, ADU Campus, and Coimbatore were selected. It is observed that about 1647 Indian Bank branches in India, out of which 710 Indian Bank branches in Tamilnadu, 37 Indian Bank branches in Coimbatore, out of the 37 Indian Bank branches, only ADU Campus(Avinashilingam Institute for Home Science and Higher Education for Women) was purposively selected for the study. Avinashilingam Institute for Home Science and Higher Education for Women (ADU Campus) one Indian Bank were selected. Sampling Size - In the present study the only 50 customers were taken as sample size.

Methodology

The present study will be based on analytical and exploratory nature. Accordingly, the uses of data have to be made of both primary as well as the secondary data. The relevant reports viz., RBI monthly bulletins, Magazines, news papers, business dailies, books and journals, e-media and other literature available in this field constitute Secondary sources for the present study. The awareness, percept ion, satisfaction, and others impacts of Internet Banking Security is studied with the help of research instrument of structured questionnaire for customers will be used to collect the data from them using Internet Banking. The primary data has been collected, through a separate pre-tested Questionnaire from 50 Internet Banking customers, in Tamilnadu division of Coimbatore. The Internet Banking users were selected from ADUC Branch, Coimbatore.

Statistical Tools and Techniques

To analyze the collected data, various statistical techniques and tools such as averages, frequency distribution tables, and normal distribution will be used as per the requirement of the data and for the analysis purposes. In order to compare two methods, it is often important to know whether the variability's for both methods are the same or if the standard deviations of two populations are equal. Chi- square is used to check the goodness of fit the model. The information collected will be analyzed and presented in a logical way to arrive at meaningful interpretation. This study will use suitable statistical tools such as Mean, Median, Standard deviation with Co-efficient of variation, Correlation and regression, factor analysis etc. and different tools including tables, diagrams etc., will be used to analyze both the primary as well as secondary data and to make the presentation more effectively. The aforesaid test and statistical techniques have been used to analyze the data and others Test by using SPSS software package in addition to percentages, averages and the IBM - AMOS 20.0 version Software is used.

Hypotheses of the Study

01. H_{01} : Internet banking has no associate relationship with traditional Banking System;
 H_{a1} : Internet banking has associate relationship with traditional Banking System;
02. H_{02} : Internet banking Security has no strong impact on the Selected Customers;
 H_{a2} : Internet banking Security has strong impact on the Selected Customers;

LIMITATION OF THE STUDY

The following are the limitation of the study:

01. This study covers selected customer of Indian Bank, ADU campus, Coimbatore.
02. This study is purely based on available primary and secondary data.
03. The sample size for the study is limited to 50 customers.

ANALYSIS AND INTERPRETATIONS

Table -1.1 Socio Economic Profile of the selected Internet Banking customers, Coimbatore

Sl. No.	Category	Description	Gender		No. of Respondents	(%) of Respondents
			Male	Female		
01.	Age	20-30	16	09	25	50
		31-40	07	08	15	30
		41-50	02	04	06	12
		51-60	03	-	03	06
		60 and above	01	-	01	02
TOTAL			29	21	50	100
02.	Gender	Male	29	-	29	58
		Female	-	21	21	42
TOTAL			29	21	50	100
03.	Qualification	Up to SSLC	04	-	04	08
		PUC	02	04	06	12
		Graduate	09	08	17	34
		Post Graduate	06	06	12	24
		Professional Degree	08	03	11	22
TOTAL			29	21	50	100
04.	Occupation	Agriculturist	-	01	01	02
		Business	11	03	14	28
		Professional	02	03	05	10
		Employee in Public Sector	05	01	06	12
		Employee in Private Sector	08	08	16	32
		Student	02	05	07	14
		Retired Employee	01	-	01	02
TOTAL			29	21	50	100
05.	Monthly Income	Below 10,000	02	06	08	16
		10,000-20,000	08	06	14	28
		20,000-30,000	12	05	17	34
		30,000-40,000	03	03	06	12
		40,000-50,000	02	01	03	06
		50,000-1,00,000	01	-	01	02
		1,00,000 and above	01	-	01	02
TOTAL			29	21	50	100
06.	Marital Status	Single	17	10	27	54
		Married	12	11	23	46
TOTAL			29	21	50	100
07.	Family Members	Up To 3	07	05	12	24
		4-6	21	14	35	70
		6 and above	01	02	03	06
TOTAL			29	21	50	100
08.	Type Of Account	Savings A/c	17	19	36	72
		Current A/c	12	02	14	28
TOTAL			29	21	50	100

Source: Survey Data, February – March, 2014

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

From the above table, it indicates Socio Economic profile of the selected Internet Banking users in Coimbatore. In that 50% of the people between the age group of 20 – 30 in Coimbatore district use Internet Banking Transaction, it also reveals that 58% of the male in Coimbatore district prefer to use Internet Banking Transaction, it also clear that graduates are mostly use Internet Banking, 32% of the private employee use Internet Banking, 34% of the middle Income people use Internet Banking, it also indicates that majority of Internet Banking Users are Single say 54%, savings account holders are mostly use Internet Banking say 72%.

Table - 1.2 Internet Banking Awareness Level of Indian Bank Customers, Coimbatore

Sl. No.	Become Aware through various Modes	No. of Respondents	Percentage of Respondents
01.	Advertisement	16	32
02.	News Paper	04	08
03.	Parents	04	08
04.	Relatives	06	12
05.	Television	05	10
06.	Friends	06	12
07.	Bankers	09	18
	TOTAL	50	100

Source: Survey Data, February – March, 2014

From the table, it indicates that Internet Banking awareness level of Indian Bank customers, Coimbatore. It shows that 32% of the people were aware about Internet Banking facility through advertisement, it also reveals that 18% of the people in Coimbatore aware of Internet Banking Facility through Bankers while it is only 8% of the people aware of newspaper and their Parents and 12% of people aware of their Relatives and Friends and 10% of people aware of Television.

Table - 1.3 Awareness Level of Internet Banking Security among the Selected Customers of Indian Bank, ADU Campus

Sl. No.	Types of Security /Protection Mode	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Security Code	19	38	21	42	05	10	03	06	02	04
02.	Password protection	23	46	21	42	05	10	01	02	00	00
03.	Transaction Security	14	28	20	40	09	18	05	10	02	04
04.	Confidentiality	06	12	12	24	07	14	15	30	10	20
05.	Authentication Security	04	08	09	18	10	20	16	32	11	22
06.	Hardware Security	05	10	09	18	08	16	14	28	14	28
07.	Database Security	09	18	16	32	02	04	12	24	11	22
08.	Memory Protection	07	14	20	40	04	08	13	26	06	12
09.	File Security	10	20	22	44	06	12	05	10	07	14

Source: Survey Data, February – March, 2014, (Note: SA – Strongly Agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly Disagree)

From the above table indicates that awareness level of Internet Banking Security among the selected customers in ADU campus. It is reveals that 42% of the people agree to aware of security code for using

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

Internet Banking Transaction, 46% of the people strongly agree to aware of Password Protection, 40% of the people agree aware of Transaction Security, 24% of the people agree to aware of confidentiality security, 18% of the people agree to aware of Hardware security, 32% of the people agree to aware of Database security, 40% of the people agree to aware of Memory Protection and 44% of people agree to aware of file Security. It concludes that, maximum people aware of password protection security.

Table - 1.4 Benefits of Traditional Banking System

Sl. No.	Banking Services / Facilities	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Interaction with Banker	07	14	21	42	02	04	18	36	02	04
02.	Easy Deposit and Withdrawal	03	06	12	24	04	08	22	44	09	18
03.	Collection Of Cheque	08	16	22	44	01	02	13	26	06	12
04.	Demand Draft	14	28	25	50	01	02	09	18	01	02
05.	Security	10	20	32	64	03	06	04	08	01	02
06.	Security Lockers	17	34	20	40	02	04	06	12	05	10

Source: Survey Data, February – March, 2014

From the above table indicates that benefits of Traditional Banking system. It is reveals that 42% of the people agree the benefits of Interaction with Banker, 44% of the people disagree the benefits of Easy deposit and withdrawal, 44% of the people agree the benefits of Collection of Cheque, 50% of the people agree the benefits of Demand Draft, 64% of the people agree the benefits of security and 40% of the people agree the benefits of security lockers. It is observed that maximum people benefited in security level of Traditional Banking.

Table –1.5 Benefits of Internet Banking System

Sl. No.	Internet Banking Benefits	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Time Saving	47	94	03	06	-	-	-	-	-	-
02.	Any Time Banking	41	82	09	18	-	-	-	-	-	-
03.	Any Where Banking	39	78	09	18	02	04	-	-	-	-
04.	Easy Accessible	38	76	10	20	02	04	-	-	-	-
05.	No Queue	14	28	36	72	-	-	-	-	-	-
06.	Easy Of Monitoring	05	10	33	66	09	18	03	06	-	-
07.	Friendlier Rates	05	10	11	22	08	16	25	50	01	02

Source: Survey Data, February – March, 2014, (Note: SA – Strongly Agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly Disagree)

From the above table indicates that Benefits of Internet Banking system. It is reveals that 94% of the people Strongly agree the benefits of Time saving, 82% of the people strongly agree the benefits of Any time Banking, 78% of the people strongly agree the benefits of Any Where Banking, 76% of the people strongly agree the benefits of Easy Accessible, 72% of the people agree the benefits of no queue, 66% of the people agree the benefits of Easy of Monitoring and 50% of the people disagree the benefits of friendlier rates. It is observed that maximum people benefited in time saving of Internet Banking.

An Evaluative Study on Internet Banking Security
among Selected Indian Bank Customers

Table –1.6 Usage of Internet Banking Services

Sl. No.	Usage of Internet Banking Services	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Secured Transaction	-	-	02	04	03	06	25	50	20	40
02.	Quick Settlement	21	42	28	56	01	02	-	-	-	-
03.	Electronic Fund Transfer	13	26	33	66	02	04	02	04	-	-
04.	Electronic Clearing Services	12	24	31	62	03	06	04	08	-	-
05.	Electronic Payment Services	11	22	22	44	02	04	11	22	04	08
06.	National Electronic Fund Transfer	16	32	24	48	04	08	03	06	03	06
07.	Real Time Gross Settlement	11	22	25	50	06	12	04	08	04	08
08.	Core Banking System	03	06	13	26	02	04	17	34	15	30

Source: Survey Data, February - March, 2014, (Note: SA - Strongly Agree, A - Agree, N - Neutral, D - Disagree, SD - Strongly Disagree)

From the above table indicates that usage of Internet Banking services. It observes 50% of people disagree the usage of secured transaction, 56% of people agree the usage of quick settlement, 66% of people agree the usage of Electronic Fund Transfer, 62% of people agree the usage of Electronic Clearing services, 44% of people agree the usage of Electronic Payment Service, 48% of people agree the usage of National Electronic Fund Transfer, 50% of people agree the usage of Real Time Gross Settlement, 34% of people disagree that core Banking System. It is concluded that maximum people accepted the usage of Electronic fund transfer.

Table – 1.7 Factor Influencing the Internet Banking Facility

Sl. No.	Description	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Convenience	43	86	07	14	-	-	-	-	-	-
02.	Friends / Relatives Advice	31	62	18	36	-	-	01	02	-	-
03.	Personal Of Bank Manager	05	10	34	68	07	14	04	08	-	-
04.	Popularity Of Banks	07	14	36	72	07	14	-	-	-	-
05.	Quality Of Service	07	14	34	68	06	12	03	06	-	-

Source: Survey Data, February - March, 2014. (Note: SA - Strongly Agree, A - Agree, N - Neutral, D - Disagree, SD - Strongly Disagree)

From the above table – 5.7 indicates that influencing factor of Internet Banking Facility. It shows that 86% of people strongly agree the influencing factor of convenience, 62% of people strongly agree that factor of Friends and Relatives, 68% of people strongly agree the factor of Personal of Bank manager, 72% of people strongly agree the factor of Popularity and Bank Manager, 68% of people strongly agree the factor of quality of services. It is clear that most of the people influencing the factor of convenience.

An Evaluative Study on Internet Banking Security
among Selected Indian Bank Customers

Table – 1.8 Internet BankingUsers by Application of Various Browsers

Sl. No.	Type of Browser	MP		P		MLP		LP		NAP	
		No	%	No	%	No	%	No	%	No	%
01.	Internet explorer	02	04	03	06	05	10	33	66	07	14
02.	Google Chrome	05	10	28	56	03	06	12	24	02	04
03.	Mozilla Firebox	41	82	08	16	-	-	01	02	-	-
04.	Opera	01	02	09	18	01	02	33	66	06	12
05.	Netscape	01	02	03	06	03	06	22	44	21	44
06.	Safari	-	-	-	-	11	22	02	04	37	74

Source: Survey Data, February - March, 2014

(Note: MP - Most Preferred, P - Preferred, MLP - Most Likely to Preferred, LP - Least Preferred, NAP - Not At All Preferred)

From the above table indicates that different users of Internet Banking securities by the application of various browsers. It shows that 66% of the people Least preferred of Internet Explorer, 56% of the people Preferred the Google chrome, 82% of the people Most preferred of Mozilla Firebox, 66% of the people Least Preferred of Opera, 44% of the people least preferred and also 44% of people not at all prefer Netscape, 74% of people not at all preferred Safari. It is clear that most preferred browser of Internet Banking was Mozilla Firebox.

Table – 1.9 Operating System Used for the Internet Banking Transaction and Security

Sl. No.	Type of Operating System	MP		P		MLP		LP		NAP	
		No	%	No	%	No	%	No	%	No	%
01.	Window7	17	34	29	58	02	04	01	02	01	02
02.	Window8	11	22	28	56	01	02	10	20	-	-
03.	Linux Mint	04	08	13	26	05	10	25	50	03	06
04.	Linux Live CD	02	04	07	14	02	04	19	38	20	40
05.	Mac	15	30	10	20	01	02	08	16	16	32
06.	Ubuntu (Operating system for Desktop)	02	04	01	02	03	06	31	62	13	26
07.	Windows XP Professional	11	22	28	56	03	06	06	12	02	04
08.	Macintosh OSX	-	-	-	-	-	-	25	50	25	50
09.	Windows 8.1	03	06	09	18	02	04	16	32	20	40
10.	Windows XP	36	72	12	24	-	-	02	04	-	-
11.	Fedora	01	02	08	16	05	10	19	38	17	34
12.	Android	05	10	04	08	10	20	15	30	16	32

Source: Survey Data, February - March, 2014.(Note: MP – Most Preferred, P – Preferred, MLP – Most Likely to Preferred, LP – Least Preferred, NAP – Not At All Preferred)

From the above table indicates that various operating system of Internet Banking transaction and security. It shows that 58% of people prefer to use window 7, 56% of people prefer to use windows8, 50% of people least prefer to use Linux Mint, 40% of people not at all prefer Linux Live CD, 32% of people not at all prefer Mac, 62%

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

of people least prefer to use ubuntu, 56% of people prefer to use windows XP professional, 50% of the people not at all prefer Macintosh OSX, 50% of the people not at all prefer to use Windows 8.1, 72% of the people Most Prefer to use Windows XP, 38% of the people least prefer to use Fedora, 32% of the people not at all prefer to use Android. It is clear that 72% of the People most preferred to use windows XP.

Table – 1.10 Operating System updating and Security Patches

Sl.No.	CATEGORY	GENDER		No. of Respondents	PERCENTAGE (In %)
		MALE	FEMALE		
01.	Yes	20	15	35	70
02.	No	07	04	11	22
03.	Can't say	02	02	4	8
	Total	29	21	50	100

Source: Survey Data, February – March, 2014

From the above table indicate that updating and security patches of operating system. It reveals that 70% of the people aware of updating with security patches. 22% of the people not aware of the updating and security patches.

Table – 1.11 Anti-Malware Preference tools for using Internet Banking Security

Sl. No.	Type of Anti-Malware	MP		P		MLP		LP		NAP	
		No	%	No	%	No	%	No	%	No	%
01.	Anti-Virus	17	34	18	36	04	08	08	16	03	06
02.	Firewall	20	40	27	54	-	-	03	06	-	-
03.	Anti – Spyware	08	16	07	14	05	10	10	20	20	40
04.	Spyware Blaster	07	14	03	06	02	04	20	40	18	36
05.	AVG Anti Root kit	01	02	04	08	01	02	09	18	35	70
06.	Comodo Firewall Pro	02	04	05	10	20	40	-	-	23	46
07.	Windows Defender	-	-	06	12	03	06	19	38	22	44
08.	Malicious Software	04	08	06	12	10	20	19	38	11	22
09.	McAfee Virus	05	10	11	22	01	02	19	38	14	28
10.	Microsoft Security	05	10	09	18	07	14	11	22	18	36

Source: Survey Data, February – March, 2014, (Notes: MP – Most Preferred, P – Preferred, MLP – Most Likely to Preferred, LP – Least Preferred, NAP – Not At All Preferred)

From the above table indicates that various anti-malware tools of Internet Banking security. It shows that 36% of the people prefer to use anti – virus, 54% of the people prefer to use firewall, 40% of the people not at all prefer anti – Spyware, 40% of the people least prefer to use Spyware Blaster, 70% of the people not at all prefer AVG anti Root Kit, 46% of the people not at all prefer Comodo Firewall pro, 44% of the people not at all prefer to use Windows Defender, 38% of the people least prefer to use Malicious Software, 38% of the people Least prefer to use McAfee Virus, 36% of the people not at all prefer to use Microsoft Security. It is clear that most of the people prefer to use firewall.

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

Table – 1.12 Frequency of Internet Banking Transaction

Sl. No.	CATEGORY	No. of Respondents	PERCENTAGE (In %)
01.	Occasionally	13	26
02.	Frequently	33	66
03.	Never	03	06
04.	Very Often	01	02
	Total	50	100

Source: Survey Data, February – March, 2014

From the above table indicates that frequency Internet Banking Transaction. It shows that, 26% of the people occasionally use the Internet banking, 66% of the people frequently use the Internet Banking, 6% of the people never using the Internet Banking, 2% of the people very often to use Internet Banking.

Table – 1.13 Frequent Changes in the Internet Banking Password

Sl. No.	CATEGORY	No. of Respondents	PERCENTAGE (In %)
01.	Monthly	22	44
02.	Quarterly	15	30
03.	Half Yearly	11	22
04.	Yearly	02	04
	Total	50	100

Source: Survey Data, February – March, 2014.

From the above table indicates that frequent changes in the Internet Banking password. It shows that 44% of the people changing our password in Monthly, 30% of the people changing our password in quarterly, 22% of the people changing our password in Half Yearly, 4% of the people changing our password in yearly basis. It is concluded that maximum people changing our password in monthly basis.

Table – 1.14 Purpose for Using Internet Banking Services among the Selected Customer

Sl. No.	Description	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Online Ticket Booking	37	74	11	22	02	04	-	-	-	-
02.	Online Bill Payment	37	74	09	18	03	06	01	02	-	-
03.	Balance Enquiry	36	72	11	22	03	06	-	-	-	-
04.	Request for Cheque Book	02	04	06	12	09	18	18	36	15	30
05.	Income Tax/TDS Payment	09	18	22	44	07	14	10	20	02	04
06.	Service Tax/Central Excise	11	22	17	34	07	14	13	26	02	04
07.	Insurance Premium Payment	02	04	11	22	06	12	23	46	08	16
08.	Online Shares Trading	09	18	10	20	07	14	15	30	09	18
09.	TNEB Payments	27	54	15	30	04	08	04	08	-	-
10.	Online Shopping	28	56	19	38	-	-	03	06	-	-

Source: Survey Data, February - March, 2014.

(Note: SA – Strongly Agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly Disagree)

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

From the above table indicates that purpose for using Internet Banking services. It shows that 74% of the people strongly agree the services of online ticket booking, 74% of the people strongly agree the services of online bill payment, 72% of the people strongly agree the services of Balance Enquiry, 36% of the people disagree the services of Request for a cheque book, 44% of the people agree the services of Income Tax Payment, 34% of the people agree the services of service Tax, 46% of the people disagree the services of Insurance premium payment, 30% of the people disagree the services of online shares Trading, 54% of the people Strongly agree the services of TNBE Payments and 56% of the people strongly agree the services of online shopping. It is observed that, maximum people accept the services of online ticket Booking and Online Bill payment.

Table – 1.15 Technical Problems and Difficulties While Using Internet Banking Facility

Sl. No.	Description	SA		A		N		D		SD	
		No	%	No	%	No	%	No	%	No	%
01.	Hacking Attacks	10	20	25	50	04	08	06	12	05	10
02.	Phishing	15	30	25	50	03	06	03	06	04	08
03.	Malware	12	24	19	38	06	12	07	14	06	12
04.	Illegal Activities	04	08	13	26	08	16	14	28	11	22
05.	Transaction Activities	05	10	11	22	01	02	08	16	25	50

Source: Survey Data, February – March, 2014.
(Note: SA – Strongly Agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly Disagree)

From the above table – 5.15 indicates that technical problems and difficulties while using Internet Banking Facility. It shows that 50% of the people agree to affect the problems of hacking attacks, 50% of the people agree to affect the problems of Phishing attacks, 38% of the people agree to affect the problems of Malware, 28% of the people disagree to affect the problems of Illegal activities and 50% of the people strongly disagree to affect the problems of Transaction Activities. It is concluded that maximum people affect the problems of hacking attacks and phishing.

Testing of the Hypothesis

(A). Test of Hypothesis – I

01. H01: Internet banking has no associate relationship with traditional Banking System.

Ha1: Internet banking has associate relationship with traditional Banking System.

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

Table – 116 Correlation between Internet Banking and Traditional Banking

Correlations														
Description	Correlation	IWB	Dw	CC	DD	security	SL	TS	ATB	AWB	EA	NQ	EM	FR
IWB	Pearson Correlation	1	0.52	-0.81	-.261	.039	.104	-.086	-.203	-.212	-.021	-.061	.014	.208
	Sig. (2-tailed)		.721	.578	.067	.787	.472	.553	.158	.139	.886	.674	.921	.147
DW	Pearson Correlation	.052	1	-.029	.099	-.034	.353*	.048	-.128	-.023	-.222	-.031	-.346*	-.101
	Sig. (2-tailed)	.721		.843	.492	.816	.012	.743	.375	.874	.121	.830	.014	.483
CC	Pearson Correlation	-.081	-.029	1	.015	.157	.071	-.141	-.026	-.018	.138	.012	.209	.008
	Sig. (2-tailed)	.578	.843		.917	.275	.625	.328	.858	.902	.341	.933	.145	.957
DD	Pearson Correlation	-.261	.099	.015	1	-.077	-.239	.040	.123	.209	.339*	-.155	-.069	-.304*
	Sig. (2-tailed)	.067	.492	.917		.593	.094	.781	.395	.145	.016	.284	.633	.032
Security	Pearson Correlation	.039	-.034	.157	-.077	1	-.052	-.120	.077	-.090	.229	.109	.140	.032
	Sig. (2-tailed)	.787	.816	.275	.593		.718	.405	.596	.534	.110	.452	.333	.825
SL	Pearson Correlation	.104	.353*	.071	-.239	-.052	1	-.111	-.286*	-.121	-.246	.149	-.053	.191
	Sig. (2-tailed)	.472	.012	.625	.094	.718		.443	.044	.403	.086	.302	.714	.184
TS	Pearson Correlation	-.086	.048	-.141	.040	-.120	-.111	1	.539**	.520**	.254	-.030	.170	-.105
	Sig. (2-tailed)	.553	.743	.328	.781	.405	.443		.000	.000	.075	.836	.237	.467
ATB	Pearson Correlation	-.203	-.128	-.026	.123	.077	-.286*	.539**	1	.764**	.317*	.176	.015	-.243
	Sig. (2-tailed)	.158	.375	.858	.395	.596	.044	.000		.000	.025	.221	.918	.089
AWB	Pearson Correlation	-.212	-.023	-.018	.209	-.090	-.121	.520**	.764**	1	.274	.140	.133	-.266
	Sig. (2-tailed)	.139	.874	.902	.145	.534	.403	.000	.000		.054	.332	.358	.062
EA	Pearson Correlation	-.021	-.222	.138	.339*	.229	-.246	.254	.317*	.274	1	-.298*	.504**	.056
	Sig. (2-tailed)	.886	.121	.341	.016	.110	.086	.075	.025	.054		.036	.000	.697
NQ	Pearson Correlation	-.061	-.031	.012	-.155	.109	.149	-.030	.176	.140	-.298*	1	-.334*	-.136
	Sig. (2-tailed)	.674	.830	.933	.284	.452	.302	.836	.221	.332	.036		.018	.347
EM	Pearson Correlation	.014	-.346*	.209	-.069	.140	-.053	.170	.015	.133	.504**	-.334*	1	.445**
	Sig. (2-tailed)	.921	.014	.145	.633	.333	.714	.237	.918	.358	.000	.018		.001
FR	Pearson Correlation	.208	-.101	.008	-.304*	.032	.191	-.105	-.243	-.266	.056	-.136	.445**	1
	Sig. (2-tailed)	.147	.483	.957	.032	.825	.184	.467	.089	.062	.697	.347	.001	
* Correlation is significant at the 0.05 level														
** Correlation is significant at the 0.01 level														

* Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Source: Survey Data, February – March, 2014
(Note: IWB – Interaction with Banker, DW – Deposit and withdrawal, CC collection of cheque, DD – Demand Draft, SL – Safety Lockers, TM – Time Saving, ATB – Any Time Banking, AWB – Any Where Banking, EA – Easy Accessible, NQ – No Queue, EM – Ease of Monitoring, FR – Friendlier Rates)

Friendlier Rates is a congestion control mechanism designed for unicast flows operating in an Internet environment and competing with Transmission Control Protocol (TCP) traffic. It works by maintaining a window of packets that have not yet been acknowledged. This window is increased by one packet every round trip time if no packets have been lost, and is decreased by half if a packet loss is detected.

The value of Pearson correlation arrange from -1 to +1 with negative numbers representing a negative correlation (as one variable increases, the other variable decreases) and positive numbers representing a positive correlation (as one variable increases, the other also increases). The closer the value is to -1 or +1 the stronger the association is between the variables. The hypothesized a positive relationship between the Traditional Banking system and Internet Banking system. Since the

Pearson and correlation value was correlated in (.957) for friendlier rates to collection of cheque, (.921) for Interaction with banker to easy monitoring, (.917) for demand draft to collection of cheque, (.886) for easy accessible to Interaction with banker, (.843) for deposits and withdrawal to collection of cheque, (.858) for any time Banking to collection of cheque, (.787) for security to interface with Banker and it is noteworthy, so we can say that it supports the proposition Ha1.

(B). Test of Hypothesis – II

H02: Internet banking Security has no strong impact on the selected Customers.

Ha2: Internet banking Security has strong impact on the selected Customers.

The value of Pearson correlation arrange from -1 to +1 with negative numbers representing a correlation (as one variable increases, the other variable decreases) and positive numbers representing a positive correlation (as one variable increases, the other also increases). The closer the value is to -1 or +1 the stronger the association is between the variables. The hypothesized a positive relationship between the Internet Banking Security and its influencing factors. Since the Pearson and correlation value was correlated in (.920) for transaction security to memory protection security, (.887) for authentication security to file security, (.798) for password protection security to database security, (.758) for security code generators to hardware security, (.722) for privacy security to safety measures, system generators and it is considerable, so we can say that it supports supposition Ha2.

Table – 1.17 Correlation between Internet Banking Security and its influencing factor

		Correlations									
Description	Correlations	SCG	PPS	TS	CS	AS	HS	DS	MPS	FS	
SCG	Pearson Correlation	1	-.122	-.046	-.052	.060	-.045	-.039	-.035	-.280*	
	Sig. (2-tailed)		.399	.753	.722	.679	.758	.786	.808	.049	
PPS	Pearson Correlation	-.122	1	.064	.154	-.183	-.198	-.037	-.145	.139	
	Sig. (2-tailed)	.399		.661	.285	.203	.169	.798	.314	.334	
TS	Pearson Correlation	-.046	.064	1	.064	-.144	-.251	-.427	-.015	.029	
	Sig. (2-tailed)	.753	.661		.661	.318	.079	.002	.920	.840	
CS	Pearson Correlation	-.052	.154	.064	1	-.068	-.091	-.266	-.082	-.207	
	Sig. (2-tailed)	.722	.285	.661		.637	.529	.062	.573	.148	
AS	Pearson Correlation	.060	-.183	-.144	-.068	1	-.166	-.055	-.216	.021	
	Sig. (2-tailed)	.679	.203	.318	.637		.248	.704	.132	.887	
HS	Pearson Correlation	-.045	-.198	-.251	-.091	-.166	1	.266	.072	.076	
	Sig. (2-tailed)	.758	.169	.079	.529	.248		.062	.622	.599	
DS	Pearson Correlation	-.039	-.037	-.427**	-.266	-.055	.266	1	.253	-.304*	
	Sig. (2-tailed)	.786	.798	.002	.062	.704	.062		.076	.032	
MPS	Pearson Correlation	-.035	-.145	-.015	-.082	-.216	.072	.253	1	-.157	
	Sig. (2-tailed)	.808	.314	.920	.573	.132	.622	.076		.277	
FS	Pearson Correlation	-.280*	.139	.029	-.207	.021	.076	-.304*	-.157	1	
	Sig. (2-tailed)	.049	.334	.840	.148	.887	.599	.032	.277		

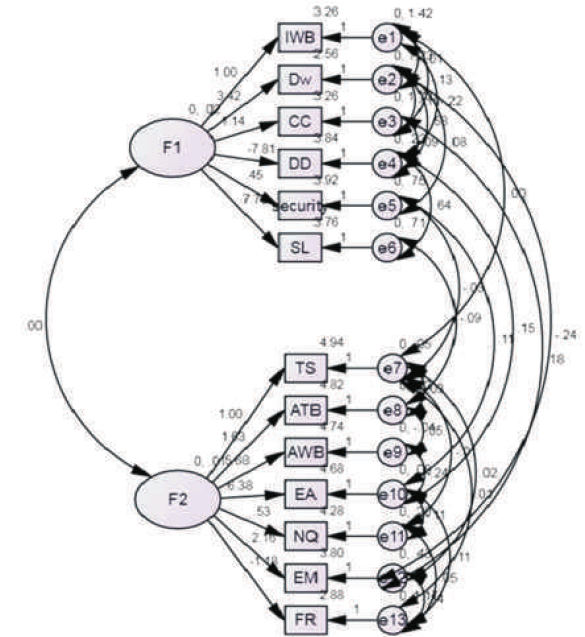
* Correlation is significant at the 0.05 level (2 – tailed)

** Correlation is significant at the 0.01 level (2 – tailed)

Source: Survey Data, February – March, 2014

(Note: SCG – Security Code Generators, PPS – Password Protection Security, TS – Transaction Security, CS – Confidential Security, AS – Authentication Security, HS – Hardware Security, DS – Database Security, MPS – Memory Protection Security, FS – File Security)

Model of the Study
Associate Relationship between Traditional Banking and Internet banking



Source: Survey Data, February – March, 2014
(Note: F1=Traditional Banking, F2 = Internet Banking)

Table – 1.18 SUMMARY RESULTS OF MEASUREMENT MODEL

Model	χ^2	df	P – Value	RMSEA	PGFI/PCFI	NNFI	CFI	RFI	CMIN/DF
H ₁	46.508	39	0.001	0.06	.467	.380	.935	.519	1.193

Source: Survey data, February - March, 2014

The Chi-Square (χ^2) value of 46.508 with the 39 degree of freedom is at the 0.05 (5%) significant level: its p – value is 0.001. This finding suggests that model fits the data acceptably in the population from selected bank customers in the TamilNadu state drew their sample. Corroborating evidence is provided by the RMSEA fit statistics – the obtained

value of 0.008 is less than the cutoff 0.08. Similarly, the Tucker Lewis Index (TLI)/CMIN - DF result of 1.193 is considerably above the 0.95 threshold denoting satisfactory model fit.

The acceptable threshold for the values of GFI, CFI and NFI should be greater than 0.90 and RMSEA are

recommended up to 0.05 and acceptable up to 0.08. (Geffen, Straub and Boudreau, 2000). All the measures indicate an acceptable fit and exceed within the common acceptance levels as suggested by Hair et.al (2006).

In the above Model F1 and F2 causes the scores observed on the measures variables Traditional Banking and Internet Banking respectively. Causal effects are represented by single-headed arrows in the path diagram. F1 and F2 can be conceptualized as the variance the four indicators share (i.e. what the four indicators have in common). Since the chi-square test of absolute model fit is reported, along with its degrees of freedom and probability value.

FINDINGS OF THE STUDY

The major findings of the study is listed below -

01. 32% of the respondents were aware about Internet Banking Security through advertisement whereas 18% of the respondents are alert through their Bankers.
02. 46% of the respondents were conscious of password protection security whereas 8% of the respondents only attentive of authentication security.
03. 64% of the respondents harmonize that security was more benefited in traditional Banking whereas 12% of the respondents only be of the same mind that Easy deposit and withdrawal was benefited.
04. 94% of the respondents agree that Time Saving was more benefited in Internet banking whereas 11% of the respondents only consent that friendlier rate was benefited.
05. 86% of the respondents were strongly accept that convenience was most influencing factor in Internet Banking whereas 10% of the people only accept that personal of Bank manger was influencing factor.
06. 74% of the respondents were mostly using the purpose of online ticket booking and online bill

payment in Internet Banking whereas 4% of the respondents only using Request for a cheque book and Insurance premium payment purposes.

07. 66% of the respondents were used the services of Electronic fund transfer in Internet Banking whereas 4% of the respondents only used the services of Secured transaction.
08. 82% of the respondents agree to use Mozilla firebox was Internet Banking Browser whereas 2% of the respondents only agree to use Opera and Netscape.
09. 72% of the respondents agree to use of windows XP was operating system in Internet Banking whereas 4% of the respondents only agree to use Linux Live CD and Mac.
10. 70% of the respondents were updating our operating system whereas 22% of the respondents were not updating our Operating system.
11. 54% of the respondents used the firewall was Anti - Malware tools in Internet Banking security whereas 6% of the respondents used spyware Blaster was Anti Malware tools.
12. 66% of the respondents were frequently using the Internet Banking transaction whereas 6% of the respondents were never use the Internet Banking transaction.
13. 44% of the respondents were changing our password in monthly basis whereas 4% of the respondents were changing our password in yearly basis.
14. 50% of the respondents were agree to affect the problems of hacking attacks and phishing attacks whereas 22% of the respondents only affect the problems of transaction activities.

CONCLUSION

To sum up, the current investigation study paid special attention on Internet Banking Customers in the Coimbatore district to divulge the most recent

growth in the Internet banking services, its facts and perspicacity of Internet Banking security measures. The outcome of the research work on the Internet banking helped to identify the precautions checklist open to quite a lot of exciting issues in the internet banking era. Furthermore, a supreme and powerful security policy employed by the banks and legislation instituted by local or state governments should be in use and obligatory in order to improve security in Internet banking systems. In addition, the banks should provide enhanced evidence to the business processes or mechanisms as new and improved hi-tech security measures such as Internet scam protection, hacking detector and anti-virus protections etc. These upgrades can provide better discretion to both existing and prospective Internet banking customers. Finally, these research efforts help us to be acquainted with the awareness and sensitivity level of Internet Banking customer in the Indian bank, Coimbatore.

REFERENCES and NOTES

I. Books and Articles

- Abu Shanab, E. Pearson J.M, (2007), Internet banking in Jordan: The unified theory of acceptance and use of technology (UTAUT) perspective, Journal of Systems and Information Technology, Vol. 9 ISSN: 1, PP. No.78 - 97.
- Anita Lifan Zhao, Nicole Koenig - Lewis, Stuart Hanmer - Lloyd, Philippa Ward (2010), Adoption of internet banking services in China: is it all about trust? International Journal of Bank Marketing, Vol.28 ISSN: 1, PP. No.7 - 26.
- Ankurgupta (2006), Data Protection in Consumer Internet-Banking, Journal of Internet Banking and Commerce, vol.11, PP. No.1.
- Anne J. Broderick, Supattra Vachirapornpuk (2002), Service quality in Internet banking: the importance of customer role, Marketing Intelligence & Planning, Vol. 20 ISSN: 6, PP. No.327 - 335.
- Arpita Khare, (2010), Online banking in India: An approach to establish CRM, Journal of Financial Services Marketing PP. No.176 - 188.
- Barczak G.E, Scholder P. and Piling B.K.T. (1997), Developing typologies of consumer motivation for use of technologically based banking services, Journal of Business Research 38 (2), PP. No.131 - 140.

Damien Hutchinson, Matthew Warren, (2003) Security for Internet banking: a framework, Logistics Information Management, Vol. 16, ISSN: 1, PP. No.6

Devlin J. F. and Young Matthew (2003), Insight in to customer motivation for switching to Internet Banking, Int. Rev. of Retail, Distribution and Consumer Research, 13 - 4, PP. No. 375 - 392

Flavian C, Gualiniu, M.; and Torres, E. (2006), How Brick and Mortar Attributes Affect Online Banking Adoption, International Journal of Bank Marketing, Vol. 24, No.6, PP. No. 406 - 423.

Frimpong Twum 2012, Internet Banking Security Strategy: Securing Customer Trust Journal of Management and Strategy Vol. 3, PP. No. 4;

Guru, C. (2002), Online Banking in Transitional Economies: Implementation of Online Banking Systems in Romani, International Journal of Bank Marketing, Vol.20, No.6, PP. No.285 - 296.

Kamakodi N., M Basheer Ahmed Khan, Customer Expectations and Service Level in E - Banking Era: An Empirical Study, The ICAI University Journal of Bank Management, Volume 7 Issue 4, PP. No.50 - 70.

Karjaluo, H.; Mattila, M.; and Pento, T. (2002), Factors Underlying Attitude Formation Towards Online Internet Banking in Finland, International Journal of Bank Marketing, Vol.20, No.1, PP. No. 261 - 273.

Lee, M. (2009), Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. Electronic Commerce Research and Applications, 8(3), PP. No.130 - 141.

Li, S.; and Worington, C.A. (2004), The Relation Between Adoption of Internet Banking and Electronic Connectivity, School of Economics and Finance Queensland University of Technology, Brisbane Australia, Working Paper No.176.

Liechtenstein, S. and Williamson, K. (2006), Understanding Consumer Adoption of Internet Banking: An Interruptive Study in the Australia Banking Context, Journal of Electronic Commerce Research, Vol.7, No.2, PP. No. 50 - 62.

Lympero C and Chaniotakis, E.I. (2004), Branch Employee Perception Towards Implication of Internet-banking in Greece, International Journal of Retail and Distribution Management, Vol.32, No.6, PP. No.302 - 311.

Mattila, M.; Karjaluo, H.; and Pento, T. (2003), Internet Banking Adoption among Mature Customers: Early Majority or Laggards? Journal of Service Marketing, Vol.17, No. 5, PP. No. 514 - 528.

Nelubiri, O.N. and Sinti, Q. (2006), Consumers Attitudes, Systems Characteristics and Internet Banking Adoption in Malaysia, Management Research, Vol.29, No.1/2, PP. No.16 - 27.

Pikkarainen, T. Karjaluo, H. , Pahmila, S. (2004), Consumer Acceptance of Online Banking, An Extension of the Technology Acceptance Model Internet Research, Vol.14, No. 3, PP. No. 224 - 235.

An Evaluative Study on Internet Banking Security among Selected Indian Bank Customers

Rotchanakitumnuai. S & Speece, M. (2003), Barriers to internet banking adoption: a qualitative study among corporate consumers in Thailand. International Journal of Bank Marketing, 21 (6/7), PP. No.312–323.

Singh, M. A. (2004), Trends in South African Internet Banking, Journal of New Information Perspective, Vol. 56, PP. No. 3.

Uppal R. K. (2008), Customer Perception of Internet -Banking Services of Indian Banks: Some Survey Evidence, The ICFAI University Journal of Bank Management, Volume-VII Issue-1, PP. No.63 – 78.

II. Websites

www.Indiabankbranches.com

www.rbi.org.in

BRIEF PROFILE OF THE AUTHOR

V. Vimala, Ph.D., is Assistant Professor in Commerce at Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore – 641043, Tamil Nadu state, India. She has done Ph.D on “The Impact of Plastic Money on Bank Customers in Karnataka – An Empirical Study” from Department of Post-Graduate Studies and Research in Commerce, Jnana Sayadri, Kuvempu University, Shankaraghatta – 577 451, Shivamogga District, Karnataka State, India. She did M.Com from PG Center, Tholunese Campus, Kuvempu University,

Davangere, She Completed PGDMM at PG Studies in Research and Commerce at Tholunese campus, Kuvempu University, Davangere B.Com from Government First Grade College, Old Town, Bhadravathi, Shivamogga District, Karnataka, she did Honours Diploma in Web Application (HWA) at Bhadravathi Center, NIIT. She has about 11 years of teaching experience both in UG and PG. She has published 17 articles in reputed national and international journals, 08 seminar proceedings, presented 50 papers in both national and international seminars/conferences, attended 19 workshops, one Book edited, 10 International Conference, 04 State level seminars, 13 chapters in books and 42 National level seminars participated, since 2005. She also organized two National workshops and one National level conference. In the year 2011, to her credit, she won best paper award from Kousali Institute of Management Studies (KIMS), Karnatak University, Dharwad, in 2013, to her credit, she won the Citation of Award in the Name of Prof. Manubhai M. Shah Memorial Research Award and the Gold Medals and in 2016, she awarded as best NSS Programme Officer and Best NSS unit at University level for her excellent service in the adopter village in Coimbatore District. Her research interests area are in the field of Banking, Finance, Operations Research, Management Information systems, International Business, Marketing, Forex Management and Taxation.