

**Factors Affecting Customer Experience in the Usage of Self-Service  
Technologies (SSTs) in Retail Banking – A Study in the Indian Context**

**A thesis submitted to the University of Hyderabad in partial  
fulfillment for the award of the degree of**

**DOCTOR OF PHILOSOPHY**

**in**

**MANAGEMENT**

**By**

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**DECEMBER, 2017**

## DECLARATION

I, Thirupathi Chellapalli, hereby declare that this thesis entitled “**Factors Affecting Customer Experience in the Usage of Self-Service Technologies (SSTs) in Retail Banking – A Study in the Indian Context**” in fulfilment of the requirements for the award of Degree of Doctor of Philosophy in Management Studies, is the outcome of original study, free of plagiarism, undertaken by me under the supervision of **Dr. D. V. Srinivas Kumar**.

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This is to certify that the thesis entitled “**Factors Affecting Customer Experience in the Usage of Self-Service Technologies (SSTs) in Retail Banking – A Study in the Indian Context**” submitted by **THIRUPATHI CHELLAPALLI** bearing registration number **12MBPH09** in partial fulfilment of the requirements for award of Doctor of Philosophy in the **School of Management Studies, University of Hyderabad** is a bonafide work carried out by him under my supervision and guidance.

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Parts of this thesis have been:

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1. SCMS Journal of Indian Management (ISSN: 0973-3167)
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Further, the student has passed the following courses towards fulfilment of coursework requirement for Ph.D./was exempted from doing the course (Recommended by Doctoral Committee) by the following courses passed during his M.Phil. Program and the M.Phil. The degree was awarded:

<b>Course Code</b>	<b>Name</b>	<b>Credits</b>	<b>Pass / Fail</b>
1. MB-106	Quantitative Methods	3	Pass
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3. MB-543	Customer Relationship Management	3	Pass
4. MB-207	Research Methodology	3	Pass

Supervisor

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## CONTENTS

<b>Description</b>	<b>Page No</b>
Title Page	i
Declaration	ii
Certificate	iii
Acknowledgement	iv-vii
Contents	viii
Detailed Contents	ix-xv
List of Tables	xvi-xx
List of Figures	xxi-xxiii
List of Acronyms & Abbreviations	xxiv-xxv
Symbols Used in the Study	xxvi
Chapter I            Introduction	1-14
Chapter II          Review of Literature	15-41
Chapter III        Research Methodology	42-60
Chapter IV        Data Analysis, Interpretation, and Findings	61-143
Chapter V        Conclusions and Suggestions for Further Research	144-154
References	155-167
Bibliography	168
Appendices	169-181
A – Questionnaire	169
B – Presentations & Publications	178
Similarity Report (Plagiarism Report)	182

## **DETAILED CONTENTS**

<b>Description</b>	<b>Page No.</b>
<b>Chapter I – Introduction</b>	<b>1-14</b>
1. Introduction	2
1.1 The Role of Banking in Indian Economy	3
1.2 Significance of Banking Sector	4
1.3 The Impact of Information Technology on Banks	4
1.4 Retail Banking – An Introduction	4
1.4.1 Customer Experience in Retail Banking	5
1.5 Customer Experience - An Overview	6
1.6 Self-Service Technologies (SSTs) - An Introduction	7
1.6.1. Significance of the Self-Service Technologies (SSTs)	8
1.7 Importance of the ATM Banking and Internet Banking	10
1.7.1. ATM Banking	10
1.7.2. Internet Banking	12
1.8 Chapter Conclusion	14
<b>Chapter II – Review of Literature</b>	<b>15-41</b>
2. Introduction	16
2.1 Customer Experience – The Evolution	16
2.2 Experience Economy	17
2.3 Experiential Marketing	19
2.4 Managing Customer Experience	20
2.5 Customer Experience Definitions	21

2.6 Overview of the Literature Reviewed for Customer Experience	25
2.7 Statement of the Problem	33
2.8 Articles Reviewed for Gaps Identification	33
2.9 Research Gaps	36
2.10 Research Questions	37
2.11 Research Objectives	37
2.12 Research Hypotheses	39
2.12.1 SST-I: ATM-Banking Hypotheses	39
2.12.2 SST-II: Internet-Banking Hypotheses	40
2.13 Chapter Conclusion	41
<b>Chapter III – Research Methodology</b>	<b>42-60</b>
3. Introduction	43
3.1 Research Design	43
3.2 Inductive Research VS. Deductive Research	44
3.3 Target Population of the Study	44
3.4 Justification for the Target Population	45
3.5 Sampling Technique	45
3.6 Sample Size	46
3.7 Survey Instrument	47
3.8 Scale Development (ATM Banking Experience and Internet Banking Experience)	48
3.9 Methods and Procedures Employed in Data Collection	54
3.10 Sample Size Justification	54
3.11 Data Analysis Methods	55

3.12 Descriptive Statistics	55
3.13 Exploratory Factor Analysis (EFA)	55
3.14 Confirmatory Factor Analysis (CFA)	56
3.15 Structural Equation Modelling (SEM)	56
3.16 Model Fit Indices	57
3.17 Absolute Fit Measures	58
3.18 Incremental Fit Measures	59
3.19 Parsimonious Fit Measures	59
3.20 Chapter Conclusion	60
<b>Chapter IV - Data Analysis, Interpretation, and Findings</b>	<b>61-143</b>
4. Introduction	62
4.1 Data Tabulation Coding and Purification	62
4.2 Software Used	63
4.3 Data Analysis	63
4.4 Reliability of the Scales	63
4.5 Tests of Hypotheses	64
4.6 PART-I: ATM Banking Experience Results & Discussions	64
4.6.1 Demographic Profile Analysis of ATM Banking	64
4.6.2 Factor Analysis (FA)	71
4.6.3 Exploratory Factor Analysis (EFA) on ATM Banking Experience	71
4.6.4 Confirmatory Factor Analysis (CFA) on ATM Banking Experience	76
4.6.4.1 ATM Banking Experience Model Fit Summary for Measurement Model	77
4.6.5 Content Validity of ATM Banking Experience Scale	80

4.6.6 Convergent Validity of ATM Banking Experience Scale	80
4.6.7 Discriminant Validity of ATM Banking Experience Scale	81
4.6.8 Nomological Validity of ATM Banking Experience Scale	81
4.6.9 Construct Validity of ATM Banking Experience Scale	81
4.6.10 ATM Banking Experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value	82
4.6.11 ATM Banking Experience Convergent Validity, Discriminant Validity & Correlation Matrix	82
4.6.12 Structural Model of Overall ATM Banking Experience	82
4.6.13 ATM Banking Experience Hypotheses Testing Results	86
4.6.14 Major Findings related to ATM Banking Experience	91
4.6.15 ATM Banking Experience Relative Importance of the Factors	93
4.6.15.1 ATM Banking Experience Additional Findings	93
4.6.16 ATM Banking Experience - City Wise Analysis	93
4.6.17 ATM Banking Experience – Gender Wise Analysis	94
4.6.18 ATM Banking Experience – Education Wise Analysis	94
4.6.19 ATM Banking Experience – Marital Status Wise Analysis	96
4.6.20 ATM-Banking Experience – Occupation Wise Analysis	97
4.6.21 ATM-Banking Experience – Age Wise Analysis	98
4.6.22 ATM-Banking Experience – Income Wise Analysis	100
4.6.23 Demographic Profile Analysis Findings of Overall ATM Banking Experience	102
4.6.24 Additional Findings of the Study	103
4.7 PART-II: Internet Banking Experience Results & Discussions	104

4.7.1 Demographic Profile Analysis of Internet Banking	104
4.7.2 Exploratory Factor Analysis (EFA) on Internet Banking Experience	110
4.7.3 Confirmatory Factor Analysis (CFA) on Internet Banking Experience	115
4.7.3.1 Internet Banking Experience Model Fit Summary for the Measurement Model	116
4.7.4 Content Validity of Internet Banking Experience Scale	119
4.7.5 Convergent Validity of Internet Banking Experience Scale	119
4.7.6 Discriminant Validity of Internet Banking Experience Scale	120
4.7.7 Nomological Validity of Internet Banking Experience Scale	120
4.7.8 Construct Validity of Internet Banking Experience Scale	120
4.7.9 Internet Banking Experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value	121
4.7.10 Internet Banking Experience Convergent Validity, Discriminant Validity	121
4.7.11 Structural Model of Overall Internet Banking Experience	123
4.7.12 Internet Banking Experience Hypotheses Testing Results	126
4.7.13 Major Findings Related to Internet Banking Experience	130
4.7.14 Internet Banking Experience Relative Importance of the Factors	131
4.7.14.1 Other Findings Related to Internet Banking Experience	131
4.7.15 Internet Banking Experience - City Wise Analysis	132
4.7.16 Internet Banking Experience – Gender Wise Analysis	133
4.7.17 Internet Banking Experience – Education Wise Analysis	133
4.7.18 Internet Banking Experience – Marital Status Wise Analysis	135
4.7.19 Internet Banking Experience – Occupation Wise Analysis	136
4.7.20 Internet Banking Experience – Age Wise Analysis	137

4.7.21 Internet Banking Experience – Income Wise Analysis	139
4.7.22 Demographic Profile Analysis Findings of Overall Internet Banking Experience	141
4.7.23 Additional Findings of the Study	142
4.8 Chapter Conclusion	143
<b>Chapter V - Conclusions and Suggestions for Further Research</b>	<b>144-154</b>
5. Introduction	145
5.1 Factors Identified in the Study	145
5.2 Effect of the Identified Factors on Customer Experience	146
5.2.1 ATM Banking	146
5.2.2 Internet Banking	147
5.3 Ranking of Factors	148
5.3.1 ATM Banking Experience Relative Importance of the Factors	148
5.3.2 Internet Banking Experience Relative Importance of the Factors	149
5.4 Role of Demographics on Customer Experience	149
5.4.1 ATM Banking	149
5.4.2 Internet Banking	150
5.5 Theoretical and Practical Contribution	151
5.5.1 Theoretical Contribution	151
5.5.2 Implications of the Study for Banking Industry	152
5.6 Recommendations	152
5.7 Limitations of the Study	152
5.8 Suggestions for Further Research	153
5.9 Conclusion	153

<b>References</b>	155-167
<b>Bibliography</b>	168
<b>Appendices</b>	169-181
A. Questionnaire	169
B. Presentations and Publications	178
<b>Plagiarism Report - Similarity Report</b>	182

## LIST OF TABLES

<b>Table No</b>	<b>Title of the Table</b>	<b>Page No</b>
Table-2.5.1	Customer Experience Definitions	22
Table-2.6.1	Summary of the Literature Reviewed for Customer Experience	25
Table-2.8.1	Summary of the Articles Reviewed for Gaps Identification	34
Table-3.6.1	Proposed Sample Size	46
Table-3.6.2	Sample Response Rate	47
Table-3.16.1	Recommended Model Fit Values	58
Table-4.6.1.1	ATM Banking Users City-Wise Sample Distribution	64
Table-4.6.1.2	ATM Banking Users Age-Wise Sample Distribution	65
Table-4.6.1.3	ATM Banking Users Gender-Wise Sample Distribution	66
Table-4.6.1.4	ATM Banking Users Education-Wise Sample Distribution	67
Table-4.6.1.5	ATM Banking Users Marital Status-Wise Sample Distribution	68
Table-4.6.1.6	ATM Banking Users Monthly Income-Wise Sample Distribution	69
Table-4.6.1.7	ATM Banking Users Occupation-Wise Sample Distribution	70
Table-4.6.3.1	ATM-Banking Experience Reliability Statistics	72
Table 4.6.3.2	ATM-Banking Experience KMO and Bartlett's Test	72
Table-4.6.3.3	ATM-Banking Experience Total Variance Explained	73
Table-4.6.3.4	ATM-Banking Experience Rotated Component Matrix	73
Table-4.6.3.5	Reliability of the Scales derived from EFA	76
Table-4.6.4.1.1	ATM Banking Experience Model Fit Statistics for Measurement Model	77

Table-4.6.4.1.2	Confirmatory Factor Analysis (CFA) of ATM-Banking Experience	79
Table-4.6.10.1	ATM-Banking Experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value	81
Table-4.6.11.1	ATM Banking Experience Convergent and Discriminant Validity & correlation Matrix	83
Table-4.6.12.1	Structural Model of Overall ATM-Banking Experience	85
Table-4.6.12.2	Model fit Statistics for Structural Model	87
Table-4.6.13.1	Regression Weights and the significance of relationship between construct	88
Table-4.6.13.2	Summary of Hypotheses of Overall ATM-Banking Experience	88
Table-4.6.15.1	Relative Importance of the Factors for ATM Banking Experience	92
Table-4.6.16.1	ANOVA results for ATM-banking experience by City	93
Table-4.6.17.1	Independent Samples test results for ATM-banking experience by Gender	94
Table-4.6.18.1	ANOVA results for ATM-banking experience by Education	94
Table-4.6.18.2	Post Hoc test results for Education regarding ATM-banking experience	95
Table-4.6.19.1	Independent Sample test for ATM-banking experience by Marital Status	96
Table-4.6.20.1	ANOVA results for ATM-banking experience by Occupation	97
Table-4.6.20.2	Post Hoc test results for Occupation regarding ATM-banking experience	97

Table-4.6.21.1	ANOVA results for ATM-banking experience by Age	98
Table-4.6.21.2	Post Hoc test results for Age regarding ATM-banking experience	99
Table-4.6.22.1	ANOVA results for ATM-banking experience by Income	99
Table-4.6.22.2	Post Hoc test results for Income regarding ATM-banking experience	100
Table-4.6.23	Summary of Test of Hypotheses for ANOVA with Post Hoc ( <i>Duncan</i> ) on overall ATM banking experience	101
Table-4.6.24	Summary of Test of Hypotheses for Independent Samples T-test on Overall ATM Banking experience	103
Table-4.7.1.1	Internet Banking (IB) Users City-Wise Sample Distribution	104
Table-4.7.1.2	Internet Banking (IB) Users Gender-Wise Sample Distribution	105
Table-4.7.1.3	Internet Banking (IB) Users Marital Status-Wise Sample Distribution	105
Table-4.7.1.4	Internet Banking (IB) Users Age-Wise Sample Distribution	106
Table-4.7.1.5	Internet Banking (IB) Users Education-Wise Sample Distribution	107
Table-4.7.1.6	Internet Banking (IB) Users Monthly Income-Wise Sample Distribution	108
Table-4.7.1.7	Internet Banking (IB) Users Occupation-Wise Sample Distribution	109
Table-4.7.2.1	Internet-Banking Experience Reliability Statistics	111
Table-4.7.2.2	Internet-Banking Experience KMO and Bartlett's Test	111
Table-4.7.2.3	Internet-Banking Experience Total Variance Explained	111
Table-4.7.2.4	Internet-Banking Experience Rotated Component Matrix	112

Table-4.7.2.5	Reliability of the Scales derived from EFA	115
Table-4.7.3.1.1	Internet Banking Experience Model Fit Statistics for the Measurement Model	116
Table-4.7.3.2	Internet Banking Experience - Confirmatory Factor Analysis	118
Table-4.7.9.1	Internet Banking Experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value	121
Table-4.7.10.1	Internet Banking Experience Convergent, Discriminant Validity & Correlation matrix	122
Table-4.7.11.1	Structural Model of Overall Internet Banking Experience	124
Table-4.7.11.2	Model fit Statistics for Structural Model	126
Table-4.7.12.1	Regression Weights and the significance of relationship between construct	127
Table-4.7.12.2	Summary of Hypotheses of Overall Internet-Banking Experience	127
Table-4.7.14.1	Internet Banking Experience relative importance of the factors	131
Table-4.7.15.1	ANOVA results for Internet-banking experience by City	132
Table-4.7.16.1	Independent sample test results for Internet-banking experience by Gender	133
Table-4.7.17.1	ANOVA results for Internet-banking experience by Education	133
Table-4.7.17.2	Post Hoc test results for Education regarding ATM-banking experience	134
Table-4.7.18.1	Independent Sample test for Internet-banking experience by Marital Status	135

Table-4.7.19.1	ANOVA results for Internet-banking experience by Occupation	136
Table-4.7.19.2	Post Hoc test results for Occupation regarding ATM-banking experience	136
Table-4.7.20.1	ANOVA results for Internet-banking experience by Age	137
Table-4.7.20.2	Post Hoc test results for Age regarding Internet-banking experience	138
Table-4.7.21.1	ANOVA results for Internet-banking experience by Income	139
Table-4.7.21.2	Post Hoc test results for Income regarding ATM-banking experience	139
Table-4.7.22	Summary of Test of Hypotheses for ANOVA with Post Hoc (Duncan) on Overall Internet banking experience	140
Table-4.7.23	Summary of Test of Hypotheses for Independent Sample T-test on Overall Internet Banking Experience	142
Table-5.3.1	Relative Importance of the Factors for ATM Banking Experience	148
Table-5.3.2	Relative Importance of the Factors for ATM Banking Experience	149

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## LIST OF FIGURES

<b>Figure No</b>	<b>Title of the Figure</b>	<b>Page No</b>
Figure-1.7.1.1	Images of Automated Teller Machine (ATMs)	11
Figure-1.7.1.2	Growth trends in Automated Teller Machine (ATMs) Usage	12
Figure-1.7.2.1	Images of Internet Banking	13
Figure-2.2.1	The Progression of Economic Value-Experience Creates Value	18
Figure-2.3.1	Strategic Experiential Modules (SEMs)	20
Figure-2.4.1	Clue Influence on Customer Perceptions of the Experience	21
Figure-2.11.1	Conceptual Model of Overall ATM Banking Experience	38
Figure-2.11.2	Conceptual Model of Overall Internet Banking Experience	38
Figure-3.8.1	ATM Banking Experience Scale Development Procedure	52
Figure-3.8.2	Internet Banking Experience Scale Development Procedure	53
Figure-3.15.1	The Seven Steps of Structural Equation Modeling (Indicated by Hair et al., (1998))	57
Figure-4.6.1.1	Graphical Representation of Citi-Wise Sample Distribution of ATM	65

## Banking Sample

Figure-4.6.1.2	Graphical Representation of ATM Banking Age-Wise Sample Distribution	66
Figure-4.6.1.3	Graphical Representation of Gender-Wise Sample Distribution of ATM Banking	67
Figure-4.6.1.4	Graphical Representation of Education-Wise Sample Distribution of ATM Banking	68
Figure-4.6.1.5	Graphical Representation of Marital Status-Wise Sample Distribution of ATM Banking	69
Figure-4.6.1.6	Graphical Representation of Monthly Income-Wise Sample Distribution of ATM Banking	70
Figure-4.6.1.7	Graphical Representation of Occupation-Wise Sample Distribution of ATM Banking	71
Figure-4.6.4.1	Confirmatory Factor Analysis (CFA) of ATM-Banking Experience	78
Figure-4.6.12.1	Structural Model of Overall ATM-Banking Experience	84
Figure-4.6.13.1	Final Model Tested for Overall ATM Banking Experience	90
Figure-4.7.1.1	Graphical Representation of Citi-Wise Sample Distribution of IB	104
Figure-4.7.1.2	Graphical Representation of Gender-Wise Sample Distribution of IB	105
Figure-4.7.1.3	Graphical Representation of Marital Status-Wise Sample Distribution of IB	106

Figure-4.7.1.4	Graphical Representation of Age-Wise Sample Distribution of IB	107
Figure-4.7.1.5	Graphical Representation of Education-Wise Sample Distribution of IB	108
Figure-4.7.1.6	Graphical Representation of Monthly Income-Wise Sample Distribution of IB	109
Figure-4.7.1.7	Graphical Representation of Occupation-Wise Sample Distribution of IB	110
Figure-4.7.3.1	Internet Banking Experience - Confirmatory Factor Analysis (CFA)	117
Figure-4.7.11.1	Structural Model of Overall Internet-banking experience	123
Figure-4.7.12.2	Final model tested for overall Internet Banking experience	129

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## ACRONYMS AND ABBREVIATIONS

<b>S. No</b>	<b>Acronym /</b>	<b>Full Form / Meaning</b>
	<b>Abbreviations</b>	
1.	AGFI	Adjusted Goodness of Fit Indices
2.	AMOS	Analysis of Moment Structures
3.	ANOVA	Analysis of Variance
4.	ATM	Automated Teller Machine
5.	AVEs	Average Variance Extracted
6.	B2B	Business-to-Business
7.	CE	Customer Experience
8.	CEI	Customer Experience Index
9.	CFA	Confirmatory Factor Analysis
10.	CFI	Comparative Fit Index
11.	CI	Consistency Index
12.	CII	Confederation of Indian Industry
13.	CON	Convenience
14.	CR	Consistency Ratio
15.	CS	Core Service
16.	CUS	Customization
17.	EBSCO	Business Source Premier
18.	EFA	Exploratory Factor Analysis

19.	EFT	Electronic Fund Transfer
	GDP	Gross Domestic Product
20.	GFI	Goodness of fit indices
21.	IB	Internet Banking
22.	NFI	Normed Fit Index
23.	OAE	Online Aesthetic Elements
24.	OHE	Online Hedonic Elements
25.	PNFI	Parsimonious Normed Fit Index
26.	RFI	Relative Fit Index
27.	RMSEA	Root Mean Square Error of Approximation
28.	RSA	Range of Services Available
29.	RSP	Reliable Service Process
30.	SP	Speed
31.	SS	Servicescape
32.	SSD	Screen Size of the Device
33.	SSP	Secured Service Process
34.	TI	Technological Interface
35.	TLI	Tucker-Lewis Index
36.	TR	Transactional Reliability
37.	TS	Transactional Security

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## SYMBOLS USED IN THE STUDY

%.....	Percentage
\$.....	Dollar
>.....	Greater than
<.....	Less than
$\geq$ .....	greater than equal to
$\leq$ .....	Less than equal to
H.....	Hypothesis
$R^2$ .....	Root Mean Square
$\chi^2$ .....	Chi-Square

**CHAPTER - I**  
**INTRODUCTION**

“[...] What people really desire are not products, but satisfying experiences. People want products because they want the experience which they hope the products will render.”

- “Lawrence Abbott (1955)”.

## **1. Introduction**

The innovations in the information and related technologies have resulted in the growth of services sector and made it one of the key drivers of India’s economic growth. Service organizations realized that offering quality services is no longer adequate for establishing a long-lasting competitive advantage. In today’s rapidly changing economic and competitive environment, survival is no longer confined to low costs and innovative products/services. To compete, the organizations need to recognize the uniqueness of each customer. In this world, each customer has different attitudes, values, preferences, beliefs, personalities, backgrounds etc. Therefore, each person gains experiences through his/her lens. In the phase of post modernity, these experiences of the customers have a key role in the growth and survival of an organization. To compete effectively, the business organizations have entered an era of “customer experience” which originates with the direct or indirect interaction between a customer and an organization and appeals to the sensory, cognitive, behavioral and relational levels of the customer.

Banks in India are financial intermediaries that act as financial resource mobilization units in the economy. They are the means for channelizing of much-required funds by business and households from surplus spending sectors to deficit spending areas in the economy. A well developed and efficient banking system facilitates the rapid economic growth of a nation’s economy. To enhance depositors’ convenience, there is need to introduce self-service

technology strategy which will ensure an efficient, competitive advantage in their businesses that eventually impacts positive performance and sustainable growth of the sector.

### **1.1 The Role of Banking in Indian Economy**

Globalization and liberalization of the economy have resulted in several new prospects and challenges for the banking industry. The banking sector is at the crossroads and is continually advancing by adopting to the changes brought in by the innovations in technology. Retail banking sector has witnessed enormous growth and emerged as a major driver of the overall banking industry. This sector gives banking services to the individual customers. At present, Indian financial players are adopting innovative approaches to enhance their customer base and enhance market share. To gain competitive advantage and to meet the new challenges, organizations need to focus on customer experiences. Many service sectors have realized the significance of customer experience and are tremendously working in this field.

Banks play a significant role in a nation's economic advancement. In the era of liberalization, privatization, and globalization (LPG) banks assume a dynamic role in contributing to the economic development of the nation. Some of the important contributions of banking sector to the economy include:

- Promoting Capital Formation
- Encouraging Innovation
- Monetization
- To Influence Economic Activity
- Facilitator for Monetary Policy

## **1.2 Significance of Banking Sector**

Service sector has emerged as the most dynamic sector of the world economy, contributing to almost one-third of world gross value added, half of the world employment, one-fifth of global trade and more than half of the world foreign direct investment flows. It remains the key driver of India's economic growth, contributing almost 66.1 percent of its gross value-added growth in 2015-2016. As observed by CSO (Central Statistical Organization) banking sector has contributed around more than 10 percent of the total service sector share in national GDP. Given this context it is apt to consider Indian banking sector as a case point in this study.

## **1.3 The Impact of Information Technology on Banks**

The liberalization brought in 1991 has swept the economic landscape of the country. The Self-Service Technologies (SSTs) facilitate access to keeping money exchanges by utilization of innovative technology as medium (Zolani, 2009). Technology empowers customers to perform exchanges without going to bank's office. SSTs make banking accessible for the customers thereby providing convenience and comfort. (Meuter and Bitner, 2008).

According to Devlin (2010) the banking industry is amongst pioneers in the adoption of automation services. Banks have executed the SSTs of several types which are availed to customers independently to meet their needs without them having to interact specifically with any bank representatives (Meuter et al., 2010).

## **1.4 Retail Banking- An Introduction**

According to Gopinath (2005) Retail banking refers to the dealing of commercial banks with individual customers, both on liabilities and asset sides of the balance sheet. Fixed,

current/savings accounts on the liabilities side; and mortgages, loans (e.g., personal, housing, auto, and educational) on the asset side, are the more important of the products offered by banks.

Related ancillary services include credit cards or depository services.

According to Reserve Bank of India, retail banking segment is characterized by three essential characteristics. These are mentioned below:

- Multiple products (deposits, credit cards, insurance, investment, and securities)
- Multiple channels of distribution (Call Center, branch, the Internet, and kiosk); and
- Multiple customer groups (consumer, small business, and corporate).

#### **1.4.1 Customer Experience in Retail Banking**

Customer experience played a key role in the development and vivid deployment of the various retail banking self-service technologies across different cross sections of the society. As specified over, the principal challenge in the Indian retail banking sector is related to the retention of the customer.

According to Gerpott et al., (2001), the phenomenon of customer retention encompasses a degree of positive customer experience which may lead to superior customer experience. It is linked to customer satisfaction and customer loyalty. (Homburg and Bruhn, 1998).

As observed by Meyer and Schwager, (2007), customer satisfaction is the resultant of the good minus the bad experiences from an organization. Subsequently, if any customer possesses positive experiences from an organization, he/she will be highly satisfied with the products/services delivered by that organization. This, in turn, makes him/her loyal towards that organization, and he/she will remain with that organization on a long-lasting basis. This observation suggests that customer retention is associated with customer experience.

## **1.5 Customer Experience – An Overview**

Customer experience, as a concept got attention in the middle of 1980s. In addition to the conventional theories of consumer behavior which consider the customer as a rational decision maker, an innovative approach to consumer behavior has emerged, known as experience approach (Holbrook and Hirschman, 1982). In the 1990s the focus of the companies shifted from products to services. The concept of consumption experience has been modified to the concept of customer experience. Several researchers and scholars have treated this new concept of customer experience in their own ways, but three approaches, i.e., experience economy, experiential marketing, and managing customer experience approaches have given an exclusive pathway to this context.

In Oxford English dictionary, the experience is described as an event or occurrence which leaves an impression on one. According to Gentile et al., (2007), the touch points (contact points) that exist between an organization and a customer create experiences which are acknowledged as customer experience. The customer experience is the resultant that depends upon the set of interactions occurring between a customer and an organization (Lasalle and Britton, 2003; Shaw & Iven 2002).

Positive customer experience could play a vital role in the creation of competitive advantage to the firms. In turn, it would create sustainable growth of the organization. On the other hand, it also results in the form of satisfied and loyal customers with positive word of mouth, improved retention and reduced complaints. Creating and delivering superior customer experience has become one of the prime objectives of organizations (Verhoef et al., 2009).

## **1.6 Self-Service Technologies (SSTs) - An Introduction**

Self-service is a process of producing the service to customers without service person or employee's physical presence. According to Bitner (2000), the conventional "high-touch and low-tech" personal interactions supplemented by the "high-tech and low-touch" technology interfaces result in self-service. Within technology based self-services, man to man interaction to a greater extent is substituted by man to machine interaction (Mueter, Bitner & Brown 2000). The banking sector has been witnessing a new paradigm known as technology-based self-services which include online banking, ATM banking, mobile banking, etc.

The term 'self-service' is used to differentiate between interactions that involve the consumer and the provider (personal service) and interactions that involve the consumer and a non-human agent, possibly a computer-enabled device, (self-service) (Meuter et al. 2000). Few examples of self-service include ATMs, pay-at-the-pump petrol stations, self-check-in for airlines and self-registration at Hotels. From the providers' viewpoint, access to their products (banking, petrol, seating, and accommodation) is made available without requiring a person to be present, thus increasing sales and decreasing costs; meanwhile the consumer benefits from an increased availability of product and convenience (Walker and Johnson 2006).

Benefits of Self-services include:

- ease of use
- avoidance of service personnel
- saving time
- availability of the service when and where the consumer requires it

- saving money

In this context, it is quite important and interesting to understand the experiences created while customers used self-service technologies (SSTs). It has been imperative to understand the role and importance of SSTs and to consider the experience factors concerning the usage of SSTs (Chiara Gentile, Nicola Spiller, Giuliani Nucci, 2007).

### **1.6.1 Significance of the Self-Service Technologies (SSTs)**

Information technology progression is changing the marketing landscape of delivering goods and services to end customer, service sectors like banks have expanded the utilization of self-service technologies. (Vargo and Lusch, 2004). Technology has appealed to service providers due to efficient service delivery, low labor costs and reduction and extended choice for convenience options for delivery of services to the customer. SSTs are technological interfaces which enable consumers to get services without direct service employee involvement, SSTs are expected to increase a firm's level of competitiveness, cost efficiency, improvement of service quality and attraction of new customers as compared to companies that will not have adopted the SSTs strategy for service delivery.

Meuter et al. (2000) describe SSTs as technological interfaces that enable customers to produce a service independent of direct service employee involvement .

Meuter et al. (2000) distinguished between SSTs using two factors: 1. SST purpose, such as for customer service versus transactions, and 2. The technological method, such as via interactive telephone or the internet. It is important to note that Meuter et al. (2000) emphasize technological medium and treat customers as partial employees.

According to Meuter et al. (2000), previous research on SSTs primarily focuses on a single technology in a given study. They also note that earlier studies such as Bateson (1985) or Langeard, Bateson, Lovelock, and Eiglier (1981) focus primarily on low-technology self-service.

According to the information technology and Innovation Foundation (ITIF), electronic kiosks are stand-alone solutions which provide information or services to customers. The most popular form of the electronic kiosk is the Automated Teller Machine (ATM). Through ATMs, customers can check balances as well as withdraw and deposit money.

According to Fisher (1998), SSTs have been implementing in the delivery of service as an aid to the front-line employees who interact with the customer. SST innovations rely on bankers' strategy of influencing customers to adopt technology. Across various industries, SSTs are replacing many face to face interactions with a reason for making service-related transactions more helpful, speedier, convenient, faster, and accurate.

The banking sector has come a long way, and the mechanization of this area has added fuel to the entire process of transformation of the industry, which now aspires to serve the world instead of confining itself to a sector (Dabholkar and Bagozzi 2010). Subsequently, in a world with a cut-throat competition which is characterized by an enlightened customer base, banks can use technology-based service delivery platforms to increase their customer satisfaction levels and therefore, enhance their competitiveness in comparison with the other players in the market.

Technology-based self-service channels have the ability to remove the constraints related to communication, distance, and time. Adoption of SSTs in Indian banking sector has been slow due to more complicated and less compatible systems that are not consistent with the existing behaviors of consumers. This indicates that some customers perceive greater benefits from SSTs,

while others perceive more significant benefits from banking through face-to-face interaction (Bateson, 2010).

The digital divide in India SSTs has revolutionized the way of delivering services to provide maximum benefits at marginal cost. Across the globe, the adoption of SSTs in the service industry is showing a continuous upward trend, along with the constant improvement in IT infrastructure and support from governments. Eventually, various sections of customers in India started the use of SSTs in the service sector. ATMs, internet banking, mobile banking, self-service vending machines, e-commerce or m-commerce, interactive kiosks etc. services provide more fulfilling, comfortable and convenient services at an optimum cost.

## **1.7 Importance of the ATM Banking and Internet Banking**

### **1.7.1. ATM Banking**

The first automated teller machine (ATM) was introduced in the year 1967 by Barclays Bank in Enfield Town in North London. In India HSBC (Hong Kong and Shanghai Banking Corporation) bank was the pioneer to introduce ATMs in Mumbai (1987). Extension for facilities such as fund transfer, account maintenance and bill payment at ATM stations has reduced the need for visiting branch banking. All banks in India now provide ATM facility to their customers.

Since November 1<sup>st</sup>, 2014, the Reserve Bank of India has come up with a policy of putting a cap on the ATM transaction for the customers of the metropolitan cities. Previously, the customers could perform unlimited ATMs and five non-home ATM transactions for free, after which per non-home ATM transactions would cost Rs.20 for financial transaction and Rs.9 for the non-financial transaction. This rule remains the same for the customers who do not reside in metropolitan cities. The reform says that customers could perform five home bank ATM

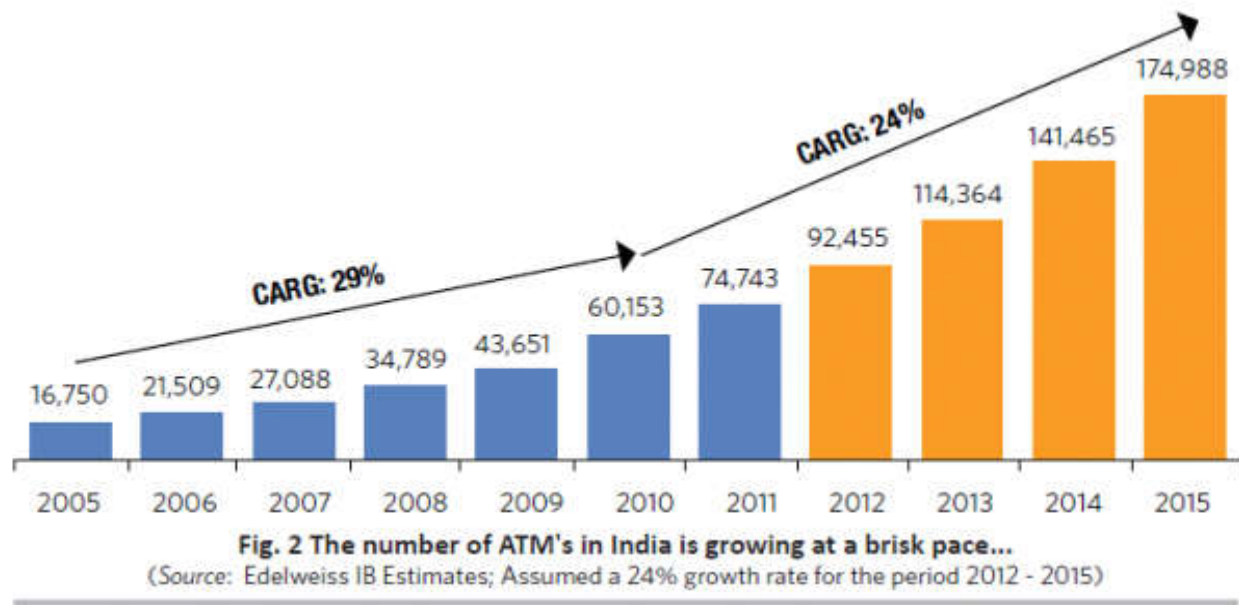
transactions and three non-home transactions for free in a month, after which per transaction would cost Rs.20 and additional taxes, which amount to Rs.22 to Rs.24.

ATMs have gained prominence as a delivery channel for banking transactions in India. Banks have been deploying ATMs to increase their reach. More people are now moving towards using the ATMs for their banking needs. According to a survey by Bank Net India, 95% people now prefer this modern channel to the traditional mode of banking. Almost 60% people use an ATM at least once a week.

**Figure-1.7.1.1: Images of Automated Teller Machines (ATMs)**



**Figure-1.7.1.2: Growth trends in Automated Teller Machine (ATMs) Usage**



### 1.7.2. Internet Banking

Internet plays a vital role between banks and customers to receive and deliver information, this form of banking is described as Internet banking (Reserve Bank of India, 2001). The process in which internet and computer device are used as a medium to facilitate banking services is termed as Internet banking. Internet banking is a web-based service that enables the banks to authorize customers to access their account information. It permits the customers to log on to the bank's website with the help of bank's issued identification and personal identification number (PIN).

Online services were started in New York in 1981 by Citi bank, Chase Manhattan, Chemical & Manufacturers Hanover offered home banking services using the videotext system. In India, ICICI (Industrial Credit and Investment Corporation) was the pioneer to introduce E-banking in 1997.

In internet banking system, the bank has a centralized database that is web-enabled. All the services that the bank has permitted on the internet are displayed in the menu. Any of the permitted services can be selected, and further interaction is directed by the nature of service. It would a borderless entity permitting anytime, and anywhere and anyhow banking.

Internet banking provides a number of benefits to its customers. Some of the benefits are as follows:

It removes the traditional geographical barriers for customers. The customer can access their account anytime, and from any part of the world, Due to new innovative and convenient facility it attracts new customers who are using traditional banking system so far, It facilitates the offering of more services because this is internet based services which is time saving and customer can access and regulate his/her account himself/herself. However, regardless of the fact, it is vital on the part of every customer to undertake few precautionary measures while transacting online.

According to a report drafted by Facebook and the Boston Consulting Group (BCG), the number of users opting for online banking is expected to double to reach 150 million mark by 2020, from the current 45 million active urban online banking users in India. (Financial Express June 22, 2017)



**Figure-1.7.2.1: Images of Internet Banking**

## **1.8 Chapter Conclusion**

This chapter discussed the concept of customer experience and its relevance in the context of retail banking self-service technologies (SSTs) in India. The Indian banking sector has undergone a significant transformation during the last twenty years. Technology has played a key role in this transformation. The chapter also discussed role of banking in the Indian economy, understanding customer experience in retail banking, the impact of information technology on banking, the significance of SSTs, the importance of the ATM banking and Internet banking usage in India.

**CHAPTER - II**  
**REVIEW OF LITERATURE**

## **2. Introduction**

This chapter discusses the concepts of customer experience, experience economy, experiential marketing and customer experience management. This chapter also presents the review of literature relevant to customer experience. The review of literature helps in understanding the major factors, dimensions considered by a customer while interacting with the banking self-service technologies (SSTs).

### **2.1 Customer Experience - The Evolution**

In the current scenario, the concept of customer experience is getting more attention and is being practiced widely in the organizations particularly in the service sector. Customer experience got attention because of increased competition and rapid upgrading of technological environment of the business. Organizations have centered their focus on the hasty and altering requirements of the customers (Al-Eisa and Alhemoud, 2009). To make competitive success and better growth in current and future times, it has become imperative for the organizations to focus on areas like 'customer experience,' which would ensure enhancement of customer value. Around 40 years ago, for a similar purpose, the researchers turned out to the idea of consumer behavior. As indicated by them, organizations could manage their long-lasting competitive advantage by widely working on the behavior of the consumers (Gentile et al., 2007; Laros and Steenkamp, 2005).

Prior to this, the utilitarian part of consumer behavior was considered by the researchers, according to which the buyer acts as a rational decision-maker. These rational decisions of the consumers were mainly centered on the tangible features of the product.

The advent of 'experience' quickened when Hirschman and Holbrook, (1982) introduced strategies, methods, ideas, concepts, and prepositions based on consumer behavior. The products

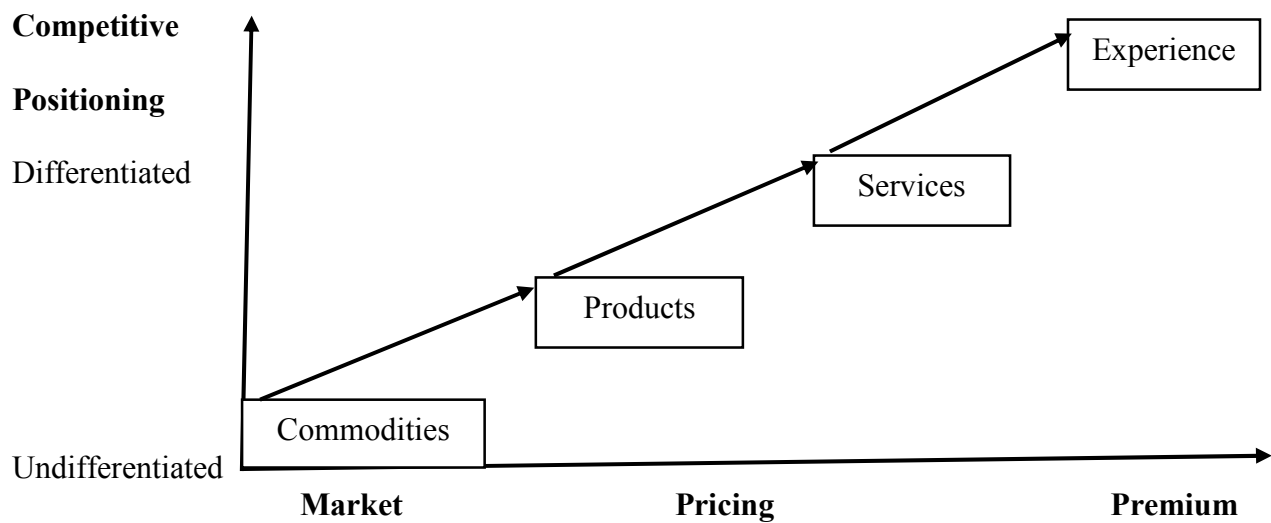
were dealt with subjective symbols instead of considering them as objective entities. The authors had extended their work in which they proposed the experiential parts of consumption. i.e., fun, fantasies, and feelings of the consumers (Hirschman and Holbrook, 1982). The hedonic experiences generated from the products possess strong propensity to induce heightened levels of enjoyment, fantasies, and feeling of pleasure. Holbrook, (1999b), defended the importance of both the subjective and objective aspects of consumption experience by prescribing the interaction between them. This idea was additionally extended by Addis and Holbrook, (2001).

## **2.2 Experience Economy**

In the 1990s, because of intense competition, it was difficult for the organizations to survive by solely working on the products and services. Therefore, to keep up the competitive, focused edge of the commodity business, organizations need to attempt endeavors for improving the total customer experience (Pine and Gilmore, 1998).

As Indicated by Pine and Gilmore, (1998, 1999), the experience is something which is exceptionally personal to an individual and despite all other monetary offerings; it is natural for any element. These are the occasions which draw the customers in an individual way, and for such reason, the organization uses products and services as a stage. The contrast between commodities, goods, services, and experiences is that commodities are fungible, goods are tangible, services are intangible, and experiences are memorable. Along these lines, the experiences which rise from the services, goods, products and so forth, attain a unique economic value and act as a next step in the 'progression of economic value' (figure-2.2.1). organizations stage an experience whenever they engage customers, associating with them in an individual, memorable and noteworthy way (Pine and Gilmore, 1999).

**Figure-2.2.1: The Progression of Economic Value-Experience Creates Value.**  
 (Source: Pine and Gilmore, 1998)



Pine and Gilmore, (1998) describe the experience with two dimensions. The first dimension is the customer participation (in light of the gamut of passive and active involvement of the customer), and the second one is environmental relationship or association (in view on the spectrum of immersion or absorption into an action). In the scope of two dimensions, the experience gets arranged into four classes/domains or categories/realms. To start with first is entertainment experience; in this, the customer is latently or passively watching the action without getting submerged into it (listening in to music, watching T.V.). Second is an educational experience, which connects with the brains or minds of the customers, as they effectively take part in the activity but stay outside. For example, attending cookery class or taking some other demonstrations. The third dimension is an aesthetic experience. In this sort of experience, customers interpret the physical surroundings around them. This can occur by their involvement in the environment but without influencing it through their presence, i.e., visiting a heritage or art

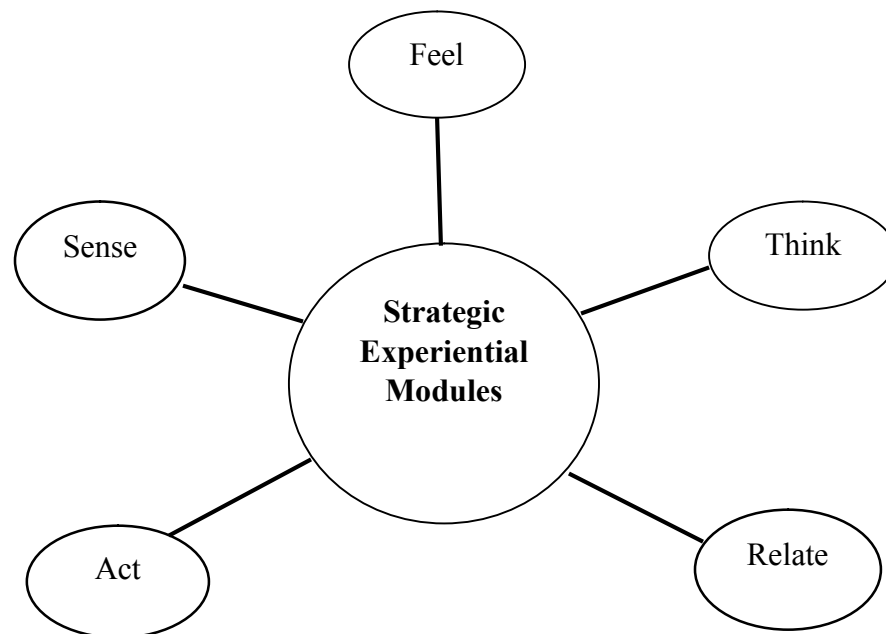
gallery. Finally, the fourth dimension is escapist experience, in which the customers get totally involved and immersed in the action like pretending in the show, role-playing in the drama, visiting the adventurous land, etc. All these four realms consolidate to frame an ideal customer experience. With the progression of time, numerous researchers have connected this concept to various segments and acknowledged the pertinence of experience economy concept.

### **2.3 Experiential Marketing**

A diverse approach to the existing marketing philosophies, i.e. 'Experiential Marketing' has been introduced by Schmitt, (1999). The crux of this philosophy was to enhance the experiences of a customer. In an aggressive competitive scenario, the ordinary methodologies guided by conventional marketing concepts (features and benefits) were just not adequate. Subsequently, the conventional marketing concept, social behavior theory, and psychology of the consumer theory were integrated, and the concept of experiential marketing was formulated. In experiential marketing, an individual customer, after direct observation of or participation in events, feels certain stimulus that initiates intentions and generates identified thoughts or consuming behavior (Schmitt, 1999).

Experiential marketing propagates two primary concepts, i.e., strategic experiential modules (SEM) and experience providers (ExPros). These SEMs include five particular sorts of experiences, i.e., sense (experience made through sense organs), feel (appeals to the inner emotions and feelings), think (convergent and divergent engagement through intrigue, surprise and provocation), act (lifestyles, interactions and bodily experiences) and relate (relating to self, with other peoples or with culture). These are depicted in figure 2.3.1.

**Figure-2.3.1: Strategic Experiential Modules (SEMs)**

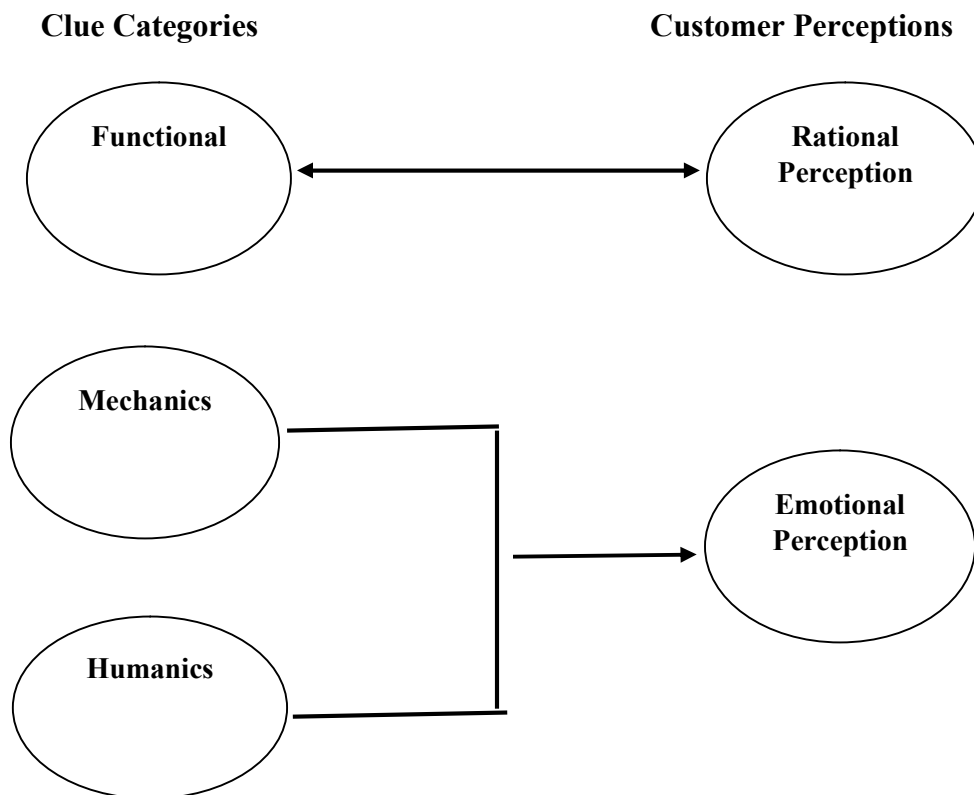


## **2.4 Managing Customer Experience**

Berry et al., (2002) and Haeckel et al., (2003) focused on another part of customer experience, i.e. ‘managing with the total experiences of the customers. As Indicated by them merely making value through the experiences was not adequate. Dealing with the aggregate experiences of the customers is something beyond simply entertaining and engaging them in a memorable manner.

Organizations need to suitably handle the experiential component of the customers similar to the fashion they manage various functional aspects of the products and services. The steps in managing customer experience include Identification of the clues (anything that can be perceived or sensed or recognized by its absence is an experience clue) and classifying them into any of three categories namely mechanics, humans and functional clues (figure-2.4.1). The total customer experience is built up on the sum of these three clues.

**Figure-2.4.1: Clue Influence on Customer Perceptions of the Experience**  
(Source: Berry and Seltman, 2007)



The diversified perspectives of various researchers and scholars who worked in the area of customer experience are presented in section 2.5.

## **2.5 Customer Experience Definitions**

Several researchers and academics defined the term 'customer experience'. Some of these definitions are presented below to have a better understanding of the concept of customer experience.

**Table-2.5.1: Customer Experience Definitions**

References	Definition of Customer Experience
<b>Holbrook and Hirschman (1982)</b>	Consumption experience is a steady flow of fantasies, feelings, and fun.
<b>Carbone and Haeckel (1994)</b>	The experience is a takeaway impression from people's encounter with products, services, and businesses – a perception produced when humans consolidate sensory information.
<b>Otto and Ritchie (1996)</b>	During a service encounter, the experience can be defined as the subjective mental state felt by participants.
<b>Pine and Gilmore (1998)</b>	Experiences are a distinct economic offering, as different from services are goods. An experience occurs when a company intentionally uses services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event.
<b>Schmitt (1999)</b>	Experiences are the result of encountering, undergoing or living through situations. They have triggered stimulations to the senses, the heart, and the mind. Experiences also connect the company and the brand to the customer's lifestyle and link individual customer actions and the purchase occasion in a broader social context. In sum, experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values.
<b>Bergmann (1999)</b>	Experience is the specific knowledge that has been acquired by an agent during past problem-solving. Experience is therefore always situated in a certain, problem-solving context. Therefore, experiences are stored knowledge.

**Gupta and Vajic (2000)** Experience is an emergent phenomenon. It is the outcome of participation in a set of activities within a social context.

**Lewis and Chambers (2000)** Consumer experience is the total result to the customer from the combination of environment, goods and services purchased.

**Seybold et al. (2001)** An overall customer experience is a consistent representation and flawless execution, across distribution channels and relationship you want your customers to have with your brand.

**Haeckel et al. (2003)** By total experiences we mean the feelings customers take away from their interaction with a firm's goods, services, and atmosphere's stimuli.

**Harris et al. (2003)** Total customer experience emphasize the importance of all contacts that a consumer has with an organization and the consumer's holistic experience.

**Paulson and Kale (2004)** Customer experience acts as an engaging act of co-creation between a provider and a consumer wherein the consumer perceives value in the encounter and in the subsequent memory of that encounter.

**Hogan et al. (2005)** A brand is the customer's experiences with the product of a company. An efficient customer experience program analyses rich customer feedback to determine not just what customer say, but also what they do.

**Shaw (2005)** A customer experience is an interaction between an organization and a customer. It is a blend of an organization's physical performance, the senses stimulated, and emotions evoked, each intuitively measured against customer expectations across all moments of contact.

**Mascarenhas et al. (2006)** Total customer experience is a totally positive, engaging, enduring, and socially fulfilling physical and emotional customer experience across all the key levels of one's consumption chain and one that is brought about by a distinct market offering that calls for active interaction between consumers and providers.

**Ghose (2009)** Customer experience acts as the user's interpretation of his or her total interaction with the brand.

**Meyer and Schwager (2007)** Customer experience are the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact occurs during purchase, use, and service and usually initiated by the customer. Indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands, and takes the form of word of mouth recommendations or criticisms, advertising, news reports, reviews, and so forth.

**Gentile et al. (2007)** Customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and implies the involvement of the client at various levels (rational, emotional, sensorial, physical, and spiritual).

**Sundbo and Hagedom-Rasmussens (2009)** The customer experience is a mental journey that leaves the customer with memories of having performed something special, having learned something or just having fun.

**Verhoef et al. (2009)** Customer experience is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer. This experience is created not only by those factors that the retailer can control (e.g., service interface, retail

atmosphere, assortment, price) but also by factors outside of the retailer’s control (e.g., influence of others, purpose of shopping).

**Walter et al. (2010)** A customer experience is defined as the customer’s direct and indirect experience of the service process, the organization, the facilities and how the customer interacts with service firm’s representatives and other customers. These, in turn, creates the customer’s cognitive, emotional and behavioral responses and leave the customer with memories of the experience.

## 2.6 Overview of the Literature Reviewed for Customer Experience

Table 2.6.1 Explaining the Summary of the Literature Reviewed for Customer Experience

**Table-2.6.1: Summary of the Literature Reviewed for Customer Experience**

<b>S. No.</b>	<b>Author of the Study</b>	<b>Year of the Study</b>	<b>Area of application, Statistical methods used and Sampling</b>	<b>Focus on the Study</b>	<b>Dimens ions of the Study</b>	<b>Factors Identified in the Study</b>	<b>Conseq since/s of the Study</b>
1	Rowley D.B.	1994	Library, case studies	Identified the factors that influence the customer experience.	-	Quality service Technology, Value-Adding Life Style, Choice, Age, Convenience, Discounting, Speed	Customer Satisfacti on
2	J.E. Otto & J.R.B. Riche	1997	Tourism/Van couver, factor analysis, random sampling sample size- 399	Measuring customer satisfaction with service experience in the tourism industry.	Stimulat ion Comfort Novelty Interacti ve Safety Hedonic	Human Interaction, Service Delivery, Servicescape	Customer Satisfacti on
3	Johnson C. &	1997	Fast food restaurant, t-	Measure the expectations	-	Specific to Person.	Customer Satisfacti

	Mathews B.P.		test, random sampling sample size-389	of customers to evaluate quality dimensions of service.			on
4	S.J. Grove & Fisk R.P.	1997	Tourism, "Critical incident analysis," 486	Identify positive and negative effects of the presence of other customers on the service experience.	-	Demographic Variables, Service, Social Interaction, Waiting Lines, Presence of Others.	Customer Satisfaction
5	Sarel D. & Marmorstein H.	1999	Bank, Ancova, Sample size 170	Analyze reaction to consumer service delay.	-	Employee Apology, Perceived Employee Behavior, Prior Waiting Experience.	Customer Satisfaction
6	Rowley J.	1999	Museum, two case studies	Identified the factors which influence customer experience	-	Discounting, Quality Technology Service, Value-Adding Lifestyle, Choice, Age, Convenience, Speed.	Customer Satisfaction
7	M. M. Tseng Quinghai M. & C.J. Su	1999	General study, Conceptual	Identified improvement in service operations which mapping service experiences of customers.	-	Service Process, Service Personnel, Other customers, Physical Environment.	Customer Satisfaction
8	McIntosh A. J.	1999	Heritage, Structured Interviews & Case Studies, sample size-1200	Identified value attained through the visitor's experience dimensions.	Cognitive, Reflective, Affective	Environment, Presence of Other Visitors.	Quick & Sustainable Benefits, Insightfulness

9	Johnson W.	1999	General, two case studies	Identified service design techniques to know the quality of service processes from customers' point of view.	-	Speed, Employee Behavior, Service Process	Customer Satisfaction
10	B. Schmitt	1999	General, conceptual	Aim to provide a new approach to marketing-Experiential Marketing.	Relate, Act, Think, Feel, Sense	-	New Opportunities
11	T.P. Novak, D. L. Hoffman & Y.F. Young	2000	Online, Survey-Structured modeling, sample size 147	Measuring Customer Experience.	-	Focused Attention, Time Distortion, Telepresence, Interactivity, Involvement, Control, Challenge, Arousal, Skill	Explorative Behavior and Positive effect
12	R.K. Fulbright, C.J. Skudlar, P. Gore & B. E. Wexler	2001	Pain/conceptual study	Proposed a model which identify whether pain experience includes sensory and affective components.	Cognitive, Sensory Affective	-	Balance pain
13	W. Sun	2002	Online Shopping/conceptual ethnographic content analysis	To identify experiential dimensions of online shopping.	Consumer Affective Responses, Flow Experiences	-	Customer Loyalty, Sensory Stimulation, Social gains
14	Grass & O' Cass	2004	Bank/ mall intercept, in-depth interviews/C	To identify the impact of service experience on	-	Employee Service, Core Service,	Satisfaction Aroused feelings,

			FA, SEM/ Sample size- 254	satisfaction aroused feelings and brand attitude.			Brand attitude.
15	Constanti nides	2004	Web/ conceptual study	To identify and classify the web experience elements.	-	Aesthetics, Trust, Marketing mix Interactivity, Usability,	Customer s Online Buying Behavior.
16	Knutson & Beck	2004	General/ conceptual study	To develop a model to incorporate the components of experience construct.	-	Extrinsic- Intrinsic, Functional, Emotional, Absorption- Immersion, Real-Virtual, Active, Passive, Mass-produced, Novelty, Customized Interaction.	Satisfacti on, Loyalty.
17	Arnold, Reynold, Ponder & Lueg	2005	Retail/ critical incident analysis with open structured interviews/sa mple size- 113	To identify the customer delight in a retail shopping context.	-	Other customers, Salesperson, Customer timing or mood Atmosphere, product,	Patronag e, Complain ts, Convenie nce, Voice, WOM.
18	Rahman	2006	Banks/questi onnaire survey, sample size- 100 customers & 21 employees	To identify the customers' ratings regarding automated telling machines (ATMs) and employees.	Cogniti ve, Physical Emotion al	Speed, Availability of Facilities, Environment, Employees, Working condition of equipment.	Loyalty, Profitabil ity.
19	Oh, Fiore & Jeoung	2007	Bread & Breakfast Industry/self - administered questionnair	To develop the scale to test the model of experience economy concept.	Escapist Entertai nment, Esthetic Educati onal	-	Customer Satisfacti on, Arousal, memories Overall

			e through survey/ sample size- 95 operators & 419 guests				quality.
20	Gentile, Spiller, & Noci.	2007	General/structured questionnaire through survey/sample size-200	To provide a model which will be helpful for the managers to understand the complex experiences of the customers regarding their products.	Relational, Sensory, Cognitive, Emotional, Pragmatic, Life style.	-	Loyalty, Value
21	Verhoef et al.,	2009	Retail/conceptual study	Creation of the customer experience, a conceptual model has been proposed along with the determinants and moderators that influence the customer experience.	Cognitive, Physical, Affective, Social	Social Environment, Service Interface, Price Atmosphere, Channels Experience, Assortment,	-
22	Jain & Bagdare	2009	Retail/India Survey, convenience sampling, factor analysis, sample size-218	To identify the determinants of customer experience in the new format retail stores.	Physical Cognitive, Social, Behavioral, Emotional	Customer Service, Physical Environment, Value Added Service, Customer Delight, Convenience, Merchandise, Amenities, Audio Visual.	
23	Brakus, Schmitt & Zarantonello	2009	Retail/conceptual	To identify the contribution of seven articles on	-	Economic, Promotion, Price, Political, Supply chain, Location,	Customer Satisfaction

						Merchandise	
24	Hosany & Gilbert	2009	Holiday/ Destination/ questionnaire Survey, EFA, CFA, Sample size-200, Purposive sampling	retail customer experience. To identify significant dimensions of tourism emotional experiences.	Love, Joy, Positive Surprise	-	Customer Satisfaction,
25	Zarantonello & Schmitt	2010	Brand/questionnaire survey/sample size-10 cities	To develop a typology of consumers with different experiential profiles and examine differences related to the attitudes intention relationship.	Senior Behavioral Intellectual Affective	-	Brand Attitude Purchase Intentions
26	Kim et al.,	2011	General/web-based survey/sample size-506	To develop a customer index to authenticate the dimensionality aspect of the experience constructs.	-	Convenience, Environment, Benefit, Accessibility, Incentive, Utility	Customer Satisfaction
27	Garg et al.,	2012	Bank/ survey method	To identify and rank the critical success factors of customer experience in banks.	Affective Sensory Behavioral, Cognitive, Relational.	-	-
28	Bagdare, S & Jain R.	2013	Retail/ survey method/ sample size-	Developed retail customer experience	-	-	-

29	Garg et al.,	2014	Bank/survey method & SEM/sample size-612	scale. To measure customer experience in banks: scale development and validation.	Affective, Sensory, Behavioral, Cognitive, Relational	Service Process, Core Service, Speed, Value Addition, Convenience, Service, Employees, Presence of Other Customers, Customer Interaction.	Customer Satisfaction
30	Chahal, H & Dutta, K	2015	Banking	Developed a scale consisting of three dimensions.	Sense, Feel, Relate	-	-
31	Khan, Imran, Rahman, Zillur Fatma, Mobin	2016	Brand experience/empirical study	Customer engagement and experience in online context.	-	-	Brand Engagement.
32	Ladhari, Riadh, Souiden, Nizar Dufour	2017	Retail experience/empirical study	Investigating the effects of customers' perceptions of service quality and servicescape on their emotional reactions, and their perceptions of product quality and subsequent behavioral intentions.	-	-	Behavioral Intention

Berry et al. (2002), observed that the composite of touch points make up the aggregate customer experience. The author recommends an 'Experience Audit' where customers are asked how they

feel about their experience and conclude that customer experience management strengthens customer loyalty.

Meyer and Schwager (2007) defined customer experience as customer's internal and subjective reaction to any direct or indirect contact with the organization over various touch points.

The viewpoint of Berry et al. (2002) resembles those of Meyer et al. (2007) and Mascarenhas, Kesavan, and Bernacchi (2006). As demonstrated by Mascarenhas et al. (2006), total customer experience included both physical and emotional components that surface at all stages of the value chain, are holistic and evolve from interaction with the customer.

The position of Mascarenhas et al., (2006) support prior argument by Macmillan and McGrath (1997) that understanding customer experience each stage of the value chain presents an opportunity to identify new ways to create value.

However, Macmillan et al. (1997) prescribe that insights from productive employees of organizations be used to generate an understanding of the customers.

Prahalad and Ramaswamy (2004) are additionally of the view that customers need to shape and become co-create of their experiences. The authors also claim that the experiences customers receive from using company services depends on the customer's need or peculiar circumstances and should be personalized. Furthermore, they argue that products are services generate experiences that transcend beyond the offering.

According to Gilmore et al. (2002), customer experience to be effective as a marketing tool, it needs to be engaging, robust, compelling and memorable (Gilmore and Pine, 2002). Such robustness suggests a holistic view of experience. Valhoun (2001) argue that customer experience must be viewed from a holistic perspective, which involves simultaneously improving product and service offering and concludes that loyalty is defined by the sum of customer's experience across all touch points.

## **2.7 Statement of the Problem**

Over the last decade, self-service technologies (SST) usage has increased rapidly. Today, technology-based service plays a significant role, compared to traditional forms of service typically provided by a person. SSTs take a variety of forms and can be found in a wide range of environments. These service-related innovations can provide unique value to customers. In banks, SSTs are necessary due to the promise of cost efficiencies, improved service quality and attraction of new customers as compared to other modes of service. With regards to our economy, banking self-service technologies are emerging as one of the significant infrastructural constituents. The nature of service encounter is highly significant to the customers. Due to intangible nature of the delivered services the customer just does not purchase the service but also accumulate the experience (Bateson, 1995).

In the current scenario of increasing penetration of internet, widespread deployment of ATMs preference of smartphones by users and developments in information technology, self-service technologies (SST) are bound to play a significant role in producing superior customer experience. Therefore, understanding the factors contributing to customer experience gains importance in the present context.

## **2.8 Articles Reviewed for Gaps Identification**

The present study has been reviewed below mentioned article for gaps identification. The summary of the article was explaining detailed in table 2.7.1.

**Table-2.8.1: Summary of the Articles Reviewed for Gaps Identification**

S. No.	Reference (s)	Focus on the Study	Methodology/Approach	Gaps identified
1	Garg et al., (2014)	Developing a validated tool to measure the experiences of banks' customers	<ul style="list-style-type: none"> <li>• Questionnaire-based survey</li> <li>• One-way ANOVA and factor analysis (explorative and confirmatory) with structural equation modeling has been applied</li> </ul>	<ul style="list-style-type: none"> <li>• There is a need to measure customer experience which captures all the constructs.</li> </ul>
2	Kim <i>et al.</i> , (2011)	To develop and test the consumer experience index (CEI)	<ul style="list-style-type: none"> <li>• Questionnaire survey.</li> <li>• EFA and CFA technique has been applied for index development</li> </ul>	<ul style="list-style-type: none"> <li>• As each sector has its characteristics, so there is a need to develop a sector-specific scale for measuring customer experience as in banks, healthcare, restaurants, airlines, and retailers.</li> </ul>
3	Walls <i>et al.</i> , (2010)	To propose a conceptual framework for the better understanding of the composition of tourism and hospitality consumer experience.	<ul style="list-style-type: none"> <li>• An extensive review of the literature of customer experience has been presented.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a need to identify the specific dimensions of customer experience.</li> <li>• There is a need to focus on the interaction between the factors of customer experience.</li> <li>• There is a need to weigh the importance of</li> </ul>

4	Walter <i>et al.</i> , (2010)	To identify and analyze the drivers which influence the customers' experiences.	<ul style="list-style-type: none"> <li>The critical incident technique has been applied.</li> </ul>	<p>each factor concerning customer experience.</p> <ul style="list-style-type: none"> <li>There is a need to investigate the interdependency among the factors of customer experience and moreover their roles in generating customer experiences.</li> </ul>
5	Verhoef <i>et al.</i> , (2009)	For the creation of customer experience, a conceptual model has been proposed.	<ul style="list-style-type: none"> <li>An overview of a literature review on customer experience has been presented.</li> </ul>	<ul style="list-style-type: none"> <li>There is a need to measure customer experience which captures all the constructs.</li> </ul>
6	Yi and Gong, (2009)	To identify the moderating role of customer experience in customer social exchange relationship with customer satisfaction.	<ul style="list-style-type: none"> <li>Questionnaire-based survey</li> <li>Partial least Squares (PLS) Structural Equation Modelling (SEM) using LISREL has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>To understand the exact nature of customer experience, it is needed to focus on its measurement issues.</li> </ul>
7	Gentile <i>et al.</i> , (2007)	The purpose of the research is to provide a model which will be helpful for the managers to understand the complex experiences of the customers regarding their products.	<ul style="list-style-type: none"> <li>Questionnaire survey.</li> <li>Factor analysis and cluster analysis technique has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>An interpretive model is required to highlight the interactions among the factors of complex experiences.</li> <li>A scale is needed for measuring each experiential component.</li> </ul>
8	Constantinides,	To identify and	<ul style="list-style-type: none"> <li>Critical analysis</li> </ul>	<ul style="list-style-type: none"> <li>There is a need</li> </ul>

(2004)	classify the web experiences elements.	of 48 academic papers has been done.	to study the exact way that how the customer experience factors interact with each other? <ul style="list-style-type: none"> <li>• There is a need to investigate the importance and individual weight of each factor of customer experience.</li> </ul>
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After reviewing the above studies as shown in the table, certain gaps have been identified. These gaps highlight the abundant scope of research in the field of customer experience in banking sector.

## 2.9 Research Gaps

Most of the previous studies in the context of SSTs have focused on:

**1. Adoption Of SSTs:** Studies done by Dabholkar and Bagozzi (2002), Curran, Meuter, and Surprenant (2003), Montoya-Weiss, Voss, and Grewal (2003), Meuter et al. (2005), and Falk et al. (2007) etc. focussed on the adoption of the self-service technologies.

**2. Attitude Towards SSTs:** Certain studies have been carried out focusing on customer attitude towards SSTs. Examples include studies by Simon & Usunier 2007; Dabholkar & Bagozzi 2002; Bobbit & Dabholkar 2001; Dabholkar 1996, etc.

**3. Users Choice Of SSTs:** Studies by Black et al. 2002; Howcroft et al. 2002, etc. have focused on user choice of SSTs.

Though a number of studies were carried out focussing on several prospective issues and application of customer experience, still some potential issues like factors affecting customer experience, and role of demographics in experience outcome remain unaddressed. Therefore, these gaps highlight the abundant scope of research in the field of customer experience in the usage of SST's in the retail banking sector.

### **2.10 Research Questions**

There is limited empirical research on customer experience concerning the usage of self-service technologies (SST's) in retail banking in the Indian context. Based on the gaps found in the literature the following research questions were framed.

- What are the factors that affect customer experience while using SSTs?
- How these factors influence the experience of the retail bank customers, while they use SSTs?
- Does Demographics play a role in customer experience with regards to usage of SSTs?

### **2.11 Research Objectives**

The following research objectives have been arrived at based on the research gaps and research questions .

#### **Main Objective**

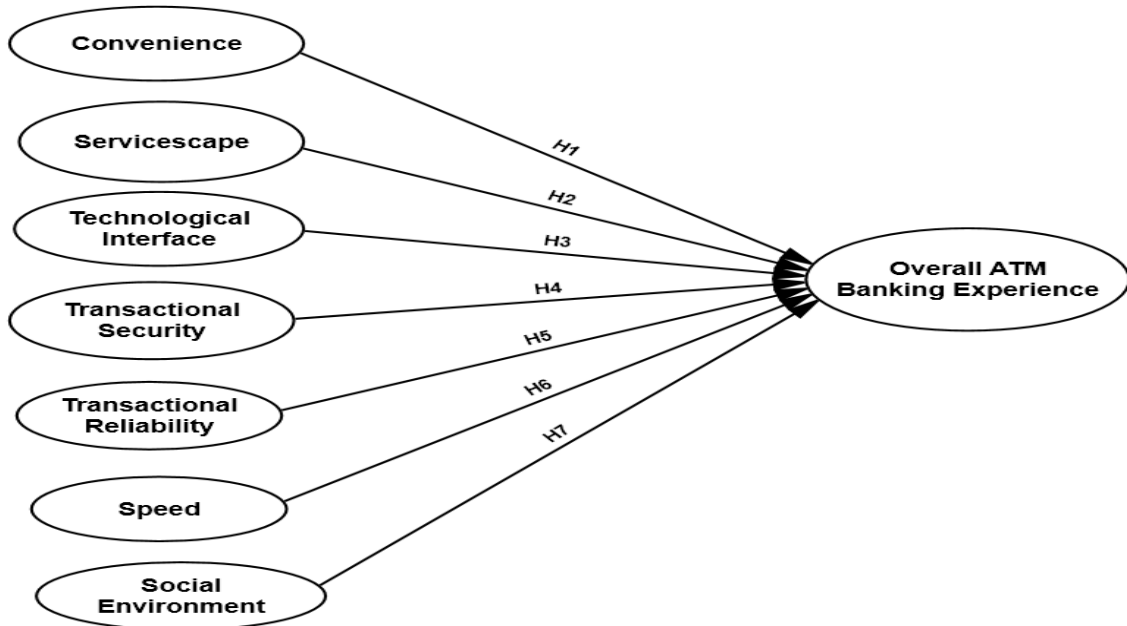
- To identify the factors that affect overall customer experience in the usage of self-service technologies (SST) in the retail banking sector.

#### **Sub-Objective**

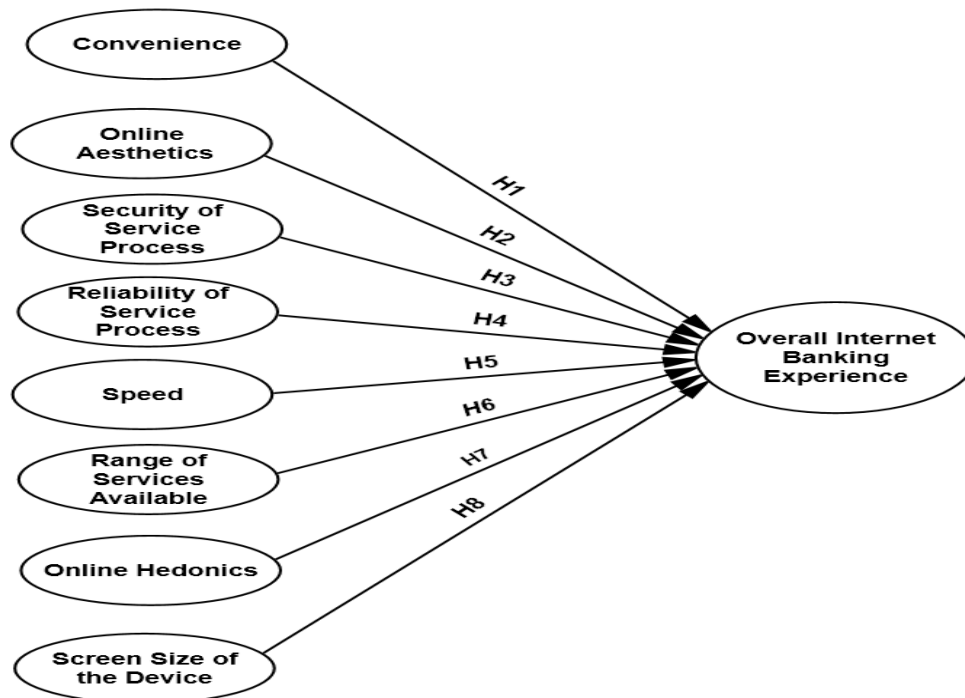
1. To analyze the effect of the identified factors on overall customer experience.
2. To rank the critical success factors in creating the superior overall customer experience.

3. To examine the role of demographics on overall customer experience in the usage of self-service technologies (SSTs).

**Figure-2.11.1: Conceptual Model of Overall ATM Banking Experience**



**Figure-2.11.2: Conceptual Model of Overall Internet Banking Experience**



## 2.12 Research Hypotheses

### 2.12.1 SST-I: ATM-Banking Hypotheses

Seven Hypotheses were drawn from the overall ATM banking experience these are mentioned below:

- H1:** The Convenience of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.
- H2:** The Servicescape of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.
- H3:** The Technological Interface of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.
- H4:** The Transactional Security of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience

- H5:** The Speed of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.
- H6:** The Transactional Reliability of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.
- H7:** The Social Environment of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.

### **2.12.2 SST-II: Internet-Banking Hypotheses**

Eight Hypotheses were drawn from the overall Internet Banking Experience these were mentioned below:

- H1:** The Convenience of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.
- H2:** The Aesthetics of the Internet banking website as perceived by the customer has a significant effect on overall Internet banking experience.
- H3:** The Security of the Internet banking service process as perceived by the customer has a significant effect on overall Internet banking experience.
- H4:** The Reliability of the Internet banking service process as perceived by the customer has a significant effect on overall Internet banking experience.
- H5:** The Speed of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience
- H6:** The Range of the Services Available in Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.

- H7:** The Hedonics of the Internet banking website as perceived by the customer has a significant effect on overall Internet banking experience.
- H8:** The Screen Size of Device used by the customer in Internet banking has a significant effect on overall Internet banking experience.

### **2.13 Chapter Conclusion**

In the present chapter discussed the literature contribution of scholars, practitioners, and academicians in the domain of the customer experience concerning the banking self-service technologies in India as well as abroad. The review of the literature has revealed that majority of the studies have been conducted outside the country (India). There are every few studies that were conducted in the Indian context. Most of the studies have focused on the adoption of SSTs, while some of the studies focused on attitude towards SSTs and few more studies have been focused on user choice of SSTs. It is evident that customer experience is a multidimensional construct measured through various factors. Though a lot of researchers and practitioners have worked on several prospective issues and applications of customer experience, still some potential issues like factors affecting customer experience, and role of demographics in experience outcome remain unaddressed.

**CHAPTER - III**  
**RESEARCH METHODOLOGY**

### **3. Introduction**

Research methodology gives the directions to the researchers and guides the steps to attain the objectives of the research work (Antony et al., 2002; Tsang and Antony, 2001; Gill and Johnson, 2002). It acts as a baseline to answer the research questions.

The purpose of this chapter is to portray the process and the strategy driving this investigation. It provides the rationale for the research approach and a description of the conduct of the research study. The present chapter also contains the research design of the study, a description of the population identified for the research and the sampling techniques used in the study. The rationale for arriving at the size of the sample, the method used for the collection of the data and the instrument (questionnaire) used in the survey are also discussed. The section that deals with the questionnaire discusses the type of scale employed during the study. The procedure adopted to collect the data, the statistical tools and techniques used in the study for the analysis of the data collected are also presented in this chapter.

### **3.1 Research Design**

As indicated by Yin, (1994) a research design is the logical sequence that connects the empirical data to the study's initial research and ultimately its conclusions.

According to Malhotra and Dash, (2010) in marketing research, the study design is classified into three categories, i.e., exploratory, descriptive and causal. Research design describes the steps involved in obtaining the information needed to address the research questions.

To achieve the research objectives exploratory and descriptive research designs have been adopted. In the first place, exploratory research design (Parker et al., 2002) has been used to assist the researcher in exploring and identifying the underlying factors of customer experience. The exploratory design has been considered as most pertinent to achieve the first objective of the current study. Second, the research design was also descriptive. The study has used multiple cross-sectional research design. As per research design, data collection was done from different sample elements only once. The descriptive research is a type of conclusive research. The major difference between exploratory and descriptive research is that descriptive research is characterized by the prior formulation of specific hypotheses, information needed is defined, and the research is formal and structured". "The sample for this research is large and representative. The data analysis is quantitative, and the findings of this research are used as input into decision-making. Both the research designs are appropriate approaches for the current research context.

### **3.2 Inductive Research VS. Deductive Research**

The deductive method works from general theory to specific. It is also called as a top-down approach to research that allows the researcher to establish a hypothesis by using theory, while

inductive research is flexible with no requirement of pre-determined theory to collect data and information. The inductive research approach is moving from specific observation to broader generalizations and theories. This is also called a bottom-up approach. The inductive method involves a certain degree of uncertainty. The current research relies on deductive reasoning as it draws an understanding of wider aspects of customer experience for the application of self-service technologies (SST) in retail banking with regards to the Indian context.

### **3.3 Target Population of the Study**

The target population of the survey comprised users of both ATMs and Internet banking. The banks include scheduled commercial banks that comprise public sector banks, private banks, foreign banks, rural regional banks, and co-operative banks. The users who have been actively engaged in ATM and internet banking for a minimum period of two years were considered as the target population for the study.

### **3.4 Justification for the Target Population**

The wide scope and ease of ATM banking and internet/online banking has led to a paradigm shift from traditional branch banking to net banking. According to RBI report (2016), around 44% of retail banking customers are using internet banking, which remains the most favorite mode of payment among internet users in India (7% in 2011). India is adding three internet users every second consistently and is now already the second-largest internet market globally with the expected potential of 730 million internet users (anticipated in the country by 2020) as indicated by NASSCOM report of 2016. Extension for facilities such as fund transfer, account maintenance and bill payment at ATM stations have reduced need for visiting branch banking.

The increase in number of ATMs would lead to increase in the number of ATMs per million population from 202 thousand units' in 2016 about 300 thousand units by 2017 (IBEF report, 2016). In this context understanding the customer experiences while using banking self-service technologies assumes significance.

### **3.5 Sampling Technique**

It is impractical to adopt random sampling technique due to unavailability of the entire ATM banking and Internet banking customer list. Thus, the study adopted non-probability sampling technique such as purposive sampling.

### **3.6 Sample Size**

The current study was designed to collect data from across India. Purposive sampling is used in identifying the respondents of the study. The data collection is carried out across four metropolitan cities in India which include Hyderabad, Mumbai, Delhi, and Kolkata. The proposed (targeted) sample size in each city ATM banking-120, Internet banking-120 totaling to 960 (480 for ATM users and 480 for internet banking users) respondents for the study. After the data entry and purification, the valid samples for ATM banking totaled 437 respondents (Hyderabad -111, Delhi -109, Mumbai-107, and Kolkata -110). On the other hand, the valid samples for Internet banking totaled 417 respondents. Hyderabad (105), New Delhi (105), Mumbai (104), and Kolkata (104) totaling to 417 respondents.

The data analysis involved dimension reduction through factor analysis. The collected data has been divided into two parts to carry out Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA).

**Table-3.6.1: Proposed Sample Size**

<b>S. No.</b>	<b>Place (Metro Cities)</b>	<b>ATM banking</b>	<b>Internet banking</b>	<b>Total</b>
<b>1</b>	<b>Hyderabad</b>	120	120	240
<b>2</b>	<b>Delhi</b>	120	120	240
<b>3</b>	<b>Mumbai</b>	120	120	240
<b>4</b>	<b>Kolkata</b>	120	120	240
	<b>Total</b>	<b>480</b>	<b>480</b>	<b>960</b>

**Table-3.6.2: Sample Response Rate**

<b>S. No.</b>	<b>SSTs</b>	<b>Questionnaire Distributed</b>	<b>Questionnaire Returned</b>	<b>Valid Questionnaire</b>	<b>Invalid Questionnaire</b>
1	ATM banking	588	462	437 (78.5%)	25
2	Internet banking	610	445	417 (72.9%)	28

Table 3.6.2 presents the sample response rate for the study. 558 ATM-banking questionnaires were distributed out of which 462 questionnaires were returned. 437 (78.5%) questionnaires were valid, remaining 25 questionnaires were invalid due to unfilled questions in the questionnaire. In case of Internet-banking 610 questionnaires were distributed, out of which 445 questionnaires were returned. 417 (72.9%) questionnaires were valid, remaining 28 questionnaires were invalid due to unfilled questions in the questionnaire.

### **3.7 Survey Instrument**

The questionnaire (Data collection / survey instrument) is comprised of Part-I and Part-II. Part-I of the questionnaire was related to ATM banking. It was segregated into three sections: A, B, and C. Section-A comprised a demographic profile of the respondents (e.g., gender, age, education, occupation, income, etc.). Section-B covered 35 items related to customer usage of ATM banking with semantic differential format scale that had a range from 1-5, with 1 indicating 'Not at all Important' 2 indicating 'Not Important' 3 indicating 'Can't say,' 4 indicating 'Important' and 5 indicating 'Very Important. Section-C dealt with 35 items with customer experience of ATM banking. All the items were measured on Likert five-point format scale. The range of the scale varied from 1 representing 'Strongly Disagree' to 5 representing 'Strongly Agree.' Part-II of the questionnaire was related to Internet banking which was segregated into three sections: A, B, and C. Section-A comprised of questions related to Demographic profile of the respondents (e.g., gender, age, education, occupation, income, etc.). Section-B covered 36 items related to customer usage of internet banking with semantic differential format scale ranging from 1-5 with 1 indicating 'Not at all Important' 2 indicating 'Not Important' 3 indicating 'Can't say,' 4 indicating 'Important' and 5 indicating 'Very Important. Section-C dealt with 36 items related to customer experience of self-service technologies (SST's) All the items were measured on Likert five-point format scale. The range of the scale varied from 1 representing 'Strongly Disagree' to 5 representing 'Strongly Agree.' Section D constituted open-ended questions.

### **3.8 Scale Development (ATM Banking Experience and Internet Banking Experience)**

The present study adopted scale development procedure recommended by the Churchill (1979), Anderson and Garbing (1982), Benter and Bonnet (1980), Nunnally and Bernstein (1994) and Hinkin (1985) and Arnold and Reynolds (2003). Development of scale is based on the idea that multiple items or statements all together help in the measurement of a construct. There are three phases were used for the development and validation of the scale:

Phase 1: Item Generation and Selection

Phase 2: Scale Refinement

Phase 3: Scale Validation

### **Phase 1: Item generation and Selection**

One of the challenges in the design of the questionnaire is the identification of items that would reflect the proposed measurement variable. Scholarly articles published in international and national journals were reviewed to identify the item pool on the subject related to customer experience concerning the usage of self-service technologies (SSTs). The study also used the information available through various sources like RBI websites, various reports on SSTs, and the reports by Internet and Mobile Association of India (IAMAI) for modifying the identified items pooled from the literature review. The next phase included discussions with subject experts on the items pooled for the study. Seven factors were identified from 35 items scale for the ATM banking experience scale namely convenience (6 items), servscape (6 items), technology interface (5 items), transactional security (5 items), transactional reliability (5 items), speed (4

items), social environment (4 items). Internet banking experience scale has eight factors that were identified from 36 items related to Internet banking experience i.e. Convenience (5 items), online aesthetics (5 items), secured service process (5 items), reliable service process (5 items), speed (5 items), the range of services available (4 items), online hedonics (4 items), the screen size of the device (3 items). Finally, a total of 35 items have been identified for seven factors in ATM banking experience and 36 items for Internet banking experience.

### **Phase 2: Scale Refinement**

This phase covers the pilot testing and purification stage. For pilot testing, a questionnaire was developed for ATM banking experience and Internet banking experience separately to be evaluated by the five-point Likert scale and Semantic differential scale for the study of factors affecting customer experience in the usage of self-service technologies (SSTs). The pre-testing of the scale was done to make sure that the items elicit appropriate responses; confusing wording was modified, redundancy in the scale is eliminated as the final study had to be conducted on a large sample size. For conducting pilot testing, 160 ATM banking and 160 Internet banking customers from Hyderabad were contacted. Some of the items have been removed after pilot testing due to repeated items, improper wording, and confusing statements.

### **Item Analysis**

As recommended by the Churchill (1979) the first step in refining the scale (ATM and Internet banking separately) is the computation of Cronbach's alpha. According to Nunnally (1980) criterion, the minimum threshold value for Cronbach's alpha is 0.7. Therefore, to improve the value of Cronbach's alpha items having low factor loadings were deleted.

### **Exploratory Factor Analysis**

After item analysis, the next step is the Exploratory Factor Analysis (EFA) which uses a data reduction technique. The EFA aims to determine the relationship between the latent and observed variables, for which Principal Component Analysis (PCA) was used. For performing EFA, SPSS 21.0 software used. The EFA is applied on 35 items scale of ATM banking and 36 items scale of Internet banking separately. Seven factors were identified from 35 items scale for the ATM banking experience scale namely convenience (6 items), servscape (6 items), technology interface (5 items), transactional security (5 items), transactional reliability (5 items), speed (4 items), social environment (4 items) whereas, Internet banking experience scale eight factors were identified from 36 items scale for the Internet banking experience scale i.e. Convenience (5 items), online aesthetics (5 items), secured service process (5 items), reliable service process (5 items), speed (5 items), the range of services available (4 items), online hedonics (4 items), the screen size of the device (3 items). Finally, a total of 35 items have been identified for seven factors in ATM banking experience and 36 items for Internet banking experience. The reliability test was run to determine the internal consistency of the scale; SPSS 21.0 software package was used for the data analysis. The proposed sample size was 960 from four the selected cities like Hyderabad, Delhi, Mumbai, and Kolkata. The value of Cronbach's alpha was found to be 0.803 for ATM banking experience and 0.845 for Internet banking experience. These values indicate good internal consistency, as the minimum alpha value of .70 is acceptable for using the scale for further analysis. (Hair, Black, Babin, Anderson, & Tatham, 2006).

### **Confirmatory Factor Analysis**

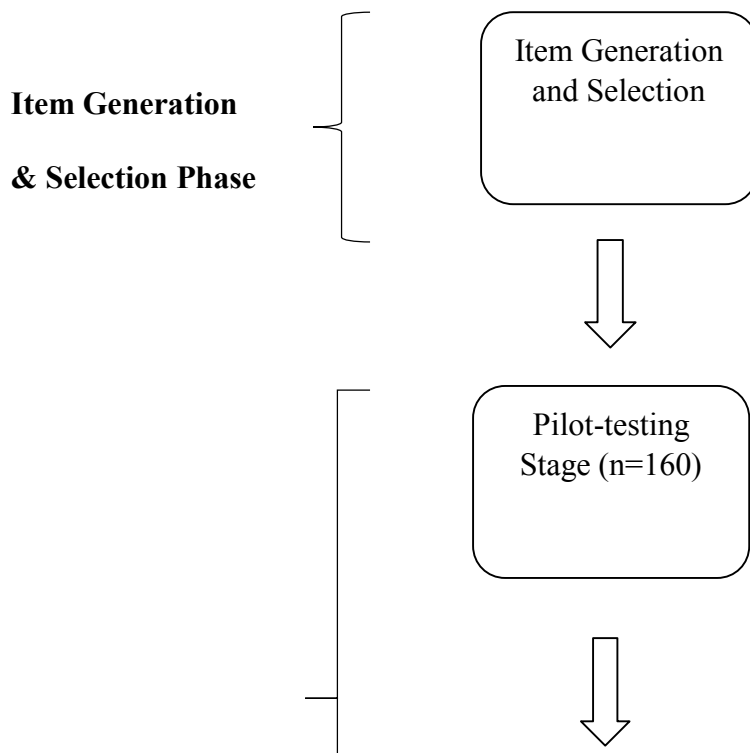
After pilot testing the next step is Confirmatory Factor Analysis (CFA). The confirmatory factor analysis (CFA) is used for the purification of the items. The CFA is a special case of SEM which

is also known as linear structural equation model. In the case of ATM banking (Convenience-4 items, service-3 items, technology interface-4 items, transactional security-4 items, transactional reliability-4 items, speed-4 items, social environment-3 items) 26 items were retained and in the case of Internet banking (Convenience-4 items, online hedonic elements-4 items, secured service process-4 items, reliable service process-4 items, speed-4 items, the range of services available-4 items, online hedonic elements-3 items, the screen size of the device-4 items) 31 items were retained from confirmatory factor analysis.

### Phase 3: Scale Validation

The last step after the scale refinement (purification) phase was the validation of the scale. It is the replication of the confirmatory factor analysis. Scale validation checked through unidimensional and reliability assessment of the variables and further process comprised an assessment of convergent and divergent validity followed by the nomological validity of overall ATM and Internet banking experience scales separately on different samples.

**Figure 3.8.1: ATM Banking Experience Scale Development Procedure**



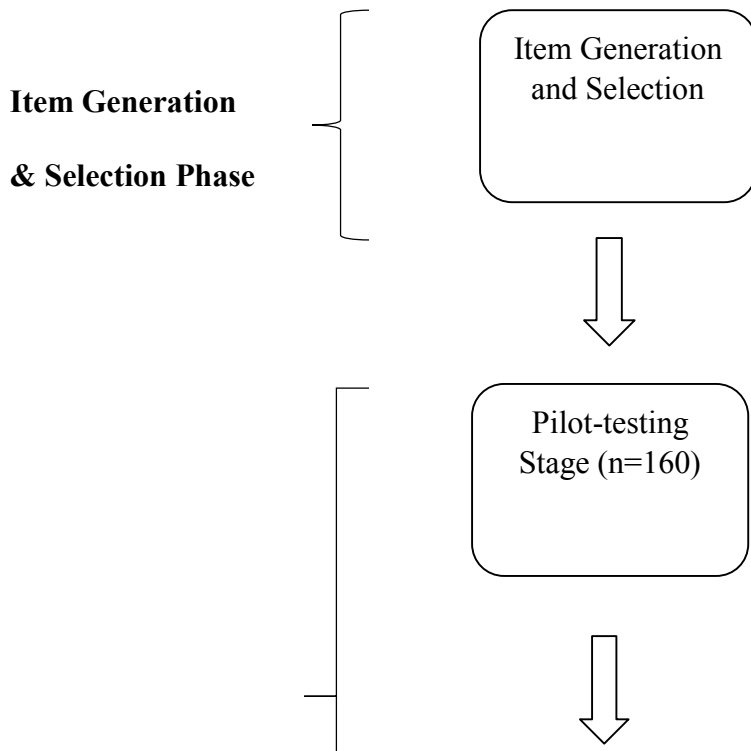
**Scale Refinement**

**Phase**

**Scale Validation**

**Phase**

**Figure 3.8.2: Internet Banking Experience Scale Development Procedure**



## **Scale Refinement**

### **Phase**

## **Scale Validation**

### **Phase**

### **3.9 Methods and Procedures Employed in Data Collection**

The study adopted survey method for data collection, and the survey was conducted in the four selected cities in India which are Hyderabad, Delhi, Mumbai, and Kolkata. Purposive sampling technique was adopted for the collection of data. Self-administered questionnaires were distributed among the users of ATM banking as well as Internet banking from the selected cities like Hyderabad, Mumbai, Delhi and Kolkata. “To purify the scale items and to check the feasibility a pilot study was initially carried out”. The pilot study was conducted in Hyderabad with a sample size of 240 (120 ATM users and 120 internet banking users). Moreover, the final

study was done with a sample size of 854 (437 ATM users and 417 Internet banking users) from the selected metropolitan cities namely, Hyderabad, Mumbai, Delhi and Kolkata in India.

### **3.10 Sample Size Justification**

According to Grossnickle and Raskin (2000), Sample size should be representative of the target population and should be sufficiently large in number to minimize the sampling error. Since the study required structured equation modeling for the data analysis, the size of the sample should be large enough to estimate the model fit indices (Hair, Black, Babin & Anderson, 2010). There should be at least 200 subjects for performing structural equation modeling (Kelloway, 1998).

Hair, Black, Babin, and Anderson (2010) stated that the size of the sample should be determined based on the number of attributes of the study and suggested that there should be five subjects for each attribute. In both ATM and Internet banking, the final sample sizes were chosen to meet the criteria mentioned above, thereby justifying the sample size. The total valid sample size of the study in case of ATM banking is 437 and Internet banking is 417.

### **3.11 Data Analysis Methods**

Statistical techniques were used for data analysis, i.e., Descriptive Statistics, ANOVA, independent samples t-test, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM). The software was used for data analysis “MS Excel”, “Statistical Package for Social Science” (SPSS 21.0) and Analysis of a Moment Structure (Amos 21).

### **3.12 Descriptive Statistics**

The Descriptive statistics were used to summarize data in a meaningful manner for easy understanding. Numerical and graphical methods were used for summarizing data. Descriptive statistics were used to examine respondents' profile (demographic data) which was presented through graphs, frequency, and percentages tables.

### **3.13 Exploratory Factor Analysis (EFA)**

The aim of the exploratory factor analysis (EFA) was to determine the condition where links between the latent and observed variables are uncertain are unknown and principal component analysis (PCA) along with varimax rotation was executed for extracting factors (Costello and Osborne, 2005; Prasad et al., 2010) through SPSS 21.0 software. A minimum cut-off criterion for factor loadings is ( $<0.50$ ) (Karatepe et al., 2005), cross-loadings ( $>0.40$ ), (Hair et al., 2005). The appropriateness of the analysis was determined by the examination of Kaiser-Meyer-Olkin (KMO) statistic of sampling adequacy. For good factor analysis, the value of KMO must be at least 0.60 and above (Tabachnick and Fidell, 2001). The results of the ATM banking analysis revealed that eigenvalues of all seven factors was greater than 1. Therefore, none of the factors can be eliminated from the study. In case of Internet banking also, analysis revealed that eigenvalue of all eight factors was greater than 1. Henceforth none of the factors can be eliminated from the study.

### **3.14 Confirmatory Factor Analysis (CFA)**

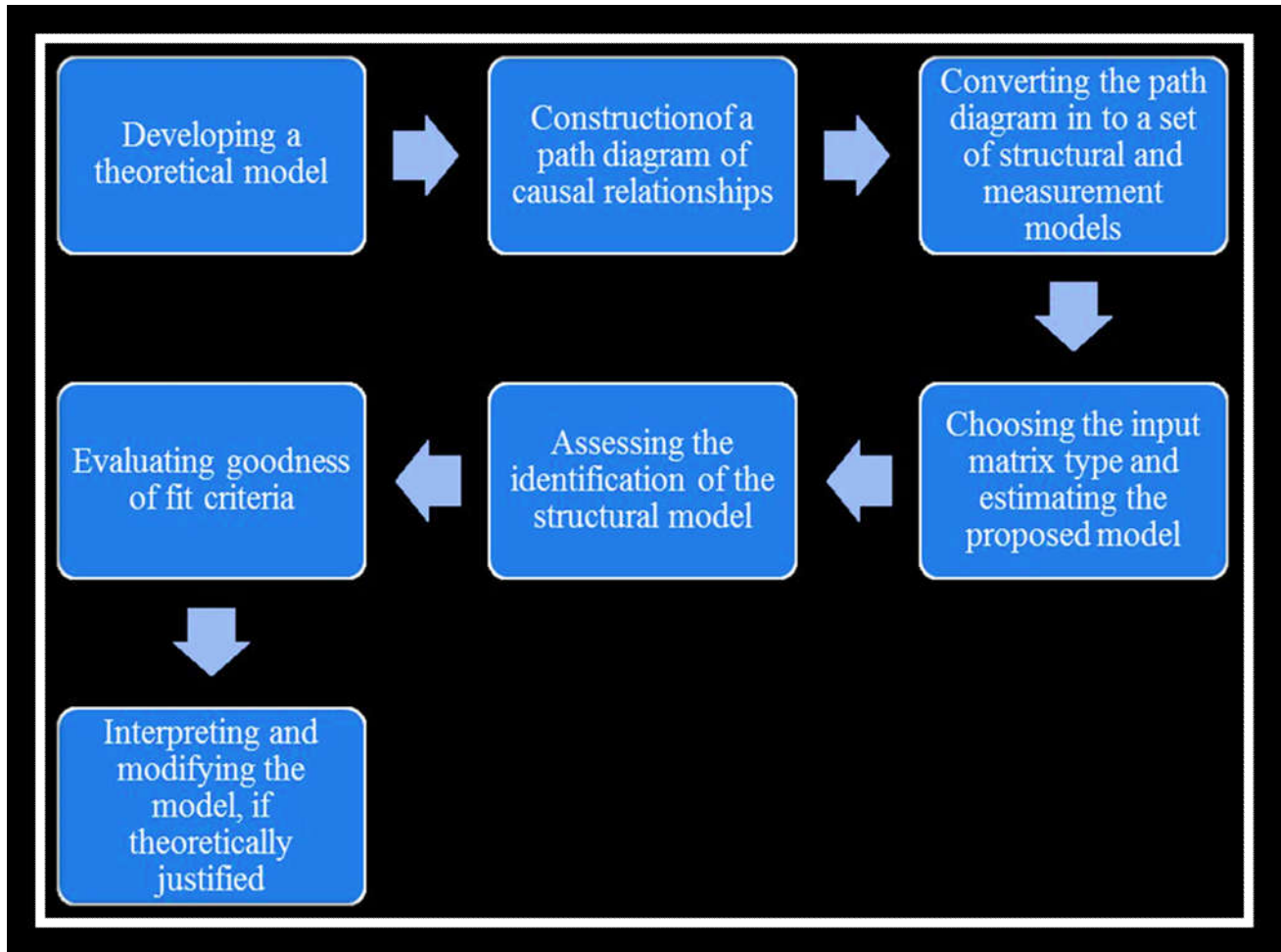
After initial refinement stage, next step was to purify the items. In purification stage, confirmatory factor analysis (CFA) was performed on the remaining set of items. CFA is a special case of structural equation modeling (SEM), which is also known as linear structural

relationship model (Joreskog and Sorbom, 2004) or covariance structure (McDonald, 1978). It is a multivariate technique applied when the researcher possesses some information about the underlying latent variable structure. CFA is used to examine the relationships between the manifest variables and the latent variables (Byrne, 2001).

### **3.15 Structural Equation Modelling (SEM)**

The Structural Equation Modelling (SEM) was first used by the Sewell Wright (1897-1988) in his first paper 1920. Structural Equation Modelling (SEM) has two stages of testing the theoretical models. First, the measurement model which identifies the relationship between independent and latent variables by Confirmatory Factor Analysis approach. Second, structural model examines the causal relationships among the specified constructs. The relationship specifies either direct or indirect relationship or both between one latent construct to the other latent constructs (Byrne, 2001). Based on the extensive review of the literature, the theoretical model was developed, specified causal path diagram and the number of indicators of the measurement and Structural models were examined. Maximum Likelihood estimation method was used, to estimate the covariance matrix, since the multivariate data were under the assumption of normal distribution. Goodness of fit criteria was used to evaluate the models. Specifying the intensity of a model's prediction is tough. Model fit indices were developed from three major perspectives; absolute, incremental and parsimonious fit measures (Hair, Anderson, Tatham, & Black, 1998).

#### **Figure-3.15.1: The Seven Steps of Structural Equation Modeling (Hair et al., (1998)**



### 3.16 Model Fit Indices

The model fit indices are derived from the Chi-Square value. Recommended model fit indices are presented in Table- 3.16.1.

**Table-3.16.1: Recommended Model Fit Values**

S. No	Model fit Indices Name	Recommended Value
1.	CMIN/df	Below two is preferred but

---

		between 2 and 5 considered
		acceptable
2.	Goodness of Fit Index (GFI)	Above .90
3.	Adjusted Goodness of Fit Index (AGFI)	Above .90
4.	Normed Fit Index (NFI)	Above .90
5.	RFI	Larger Value (0 -1.0) are better
6.	IFI (Incremental Fit Index)	Larger Value (0 -1.0) are better
7.	Tucker Lewis Index (TLI) Non-Normed Fit Index (NNFI)	Above .90
8.	Root Mean Square Error of Approximation(RMSEA)	Is less than .08 and ideally less than .05
9.	Comparative fit Index (CFI)	Above .90

---

**Source: Byrne (1994) Shumacker & Lomax (2004)**

### 3.17 Absolute Fit Measures

These appropriate steps were used to determine how well the model fits the sample data for measurement and structural models. The overall fit was determined by following standard criteria” (Hair, Anderson, Tatham, & Black, 1998; Byrne, 2001; Chang, & Chen, 2008; Kelloway, 1998). The criteria are as follows:

- The ratio of  $\chi^2$  to degrees of freedom ( $\chi^2/df$ ) 2 to 5
- Goodness-of-fit index (GFI) > .90
- Root mean square slip from claiming close estimation (RMSEA)  $\leq$  .08

### 3.18 Incremental Fit Measures

The incremental tests are useful in the comparison of the proposed and primary baseline models. The following standard criteria determined the additional test fit (Byrne, 2010; Chang, & Chen, 2008; Hair, Black, Babin, Anderson, & Tatham, 2008).

- The Adjusted Goodness-of-Fit Index (AGFI) should be  $> .90$
- The Tucker-Lewis Index (TLI) Non-Normed Fit Index (NNFI) be  $> .90$
- The Normed Fit Index (NFI) threshold should be  $> .90$
- The Comparative Fit Index (CFI) threshold should be  $> .90$

### **3.19 Parsimonious Fit Measures**

These measures were deployed to analyze the model fit in case the data is over fitting with many coefficients. In general, Parsimonious Normed Fit Index (PNFI) and Parsimonious Goodness-of-Fit Index (PGFI) are used for relevant criteria. The values for both PNFI and PGFI range from 0 to 1, and a higher value indicates that tight fit is achieved. In this study, based on the model fit index the results of measurement and structural models were interpreted. Finally, reliability and validity of the model were tested as presented below:

- Construct reliability should be greater than or equal to  $.7$  (Fornell & Larcker, 1981pp. 382-388, Churchill, 1992; Hair, Black, Babin, Anderson, & Tatham, 2008)
- Convergent validity provided with average variance extracted (AVE)  $\geq .5$ , “factor loadings  $\geq .7$  (Fornell & Lacker, 1981pp. 382-388; Hair, Black, Babin, Anderson, & Tatham, 2008)
- Nomological validity (Churchill, 1992) ensured with significant correlations between the constructs.

- Predictive validity (Churchill, 1992) ensured by regression analysis for each construct (e.g., all ATM banking and Internet banking experience dimensions should be significant with overall customer experience).
- Discriminant validity (Fornell & Lacker, 1981pp. 382-388; Hair, Black, Babin, Anderson, & Tatham, 2008) ensured by checking  $AVE > \text{squared inter-construct correlations}$ .
- Construct validity (Churchill, 1992) guaranteed with convergent, discriminant and nomological validity.

### **3.20 Chapter Conclusion**

The Current chapter discussed the methodology used in the study. Various aspects related to research design, sample size and its justification, sampling techniques, data collection methods and procedures, design and development of survey instrument, and methods of data analysis were explained in detail. The next chapter presents the analysis of the data.

**CHAPTER - IV**  
**DATA ANALYSIS, INTERPRETATION AND FINDINGS**

#### **4. Introduction**

The primary objective of this chapter is to present the data analysis and interpretation of the findings. It discusses the data analysis techniques, inferences drawn based on the findings of the analysis and summarization of the research results. The techniques used in the data analysis are selected such that they address the research objectives, and the hypotheses developed in the previous chapter. Therefore, this chapter will provide the data summary as well the different statistical tests used, like descriptive statistics, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM), and Analysis of variance (ANOVA). Reliability and validity of the scales were tested, and the results were presented. Demographic characteristics of the respondents were also discussed.

##### **4.1 Data Tabulation, Coding, and Purification**

The data was entered into the Microsoft Excel software. The various columns had the information details, and each row contained the data for a respondent. The data was imported into SPSS 21.0 for purification and finalization. Data purification is a critical step in the data analysis. The data has to be complete for each respondent for the specific theory to be studied. It should also have a normal distribution for the use of normality tests such as Independent samples t-test and ANOVA. The normality of the data is tested using skewness and Kurtosis for the particular data item. A skewness and Kurtosis range between -2 and +2 is considered sufficient for the test of normality of the data (Field, 2013). Outliers in the data for each construct studied in case of different theories were identified, and the concerned respondents were deleted from the study. All the data items, as well as the constructs, had normality as required.

## **4.2 Software Used**

The data analysis for the current research used Microsoft excel 2007, IBM Statistical Package for Social Sciences (21.0) and IBM Analysis of Moment Structures (AMOS) (20.0). The ‘Stats Package’ developed by James Gaskin (2016) is used to test the convergent and discriminant validity of the factors derived from exploratory factor analysis and confirmed by confirmatory factor analysis.

## **4.3 Data Analysis**

The data analysis carried out for the current study has two different parts. The first part dealt with ATM-banking analysis. The second part dealt with Internet-banking analysis. Exploratory, and confirmatory factor analysis is conducted followed by model validation using structural equation modeling (SEM).

## **4.4 Reliability of the Scales**

The reliability of the scale developed to measure the underlying construct has to be verified to ensure that the measurement is useful for the research. Cronbach Alpha is a reliability measure which will explain the internal consistency of the scale items. The construct ‘ATM-Banking Experience’ with seven factors has a reliability with a Cronbach alpha of .803. Whereas, Internet-banking experience has a Cronbach alpha of .845. Since the reliability score of ATM-banking construct and Internet-banking construct is more than 0.7, the scale is accepted as a reliable measure and therefore used in the analysis (Nunnally et al.).

#### 4.5 Tests of Hypotheses

Different tests of hypotheses were used to examine the role of demographics in SSTs experience (ATM banking and Internet banking). The test of independent samples is used when the sample groups are two, and ANOVA is used when the sample groups are more than two groups. Post Hoc test (Duncan) is used to draw inferences after conducting ANOVA.

#### 4.6 PART-I: ATM BANKING EXPERIENCE RESULTS & DISCUSSIONS

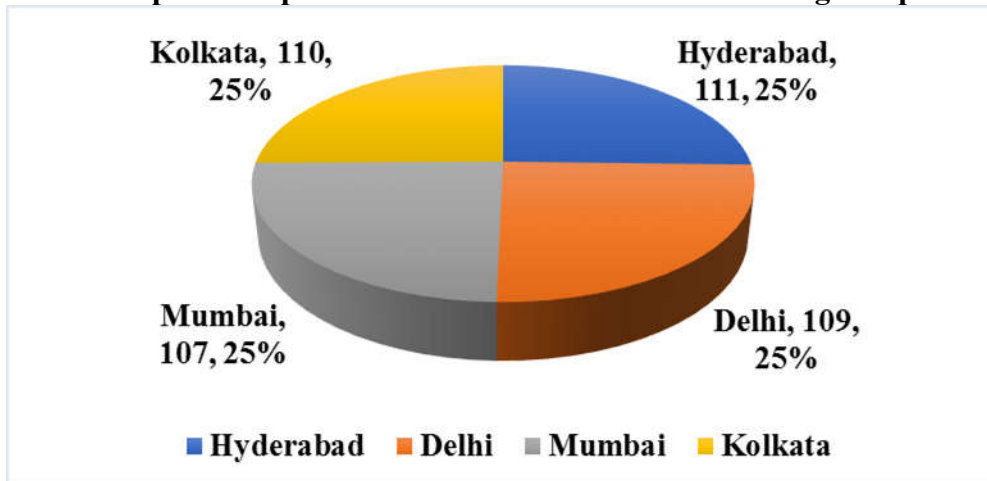
##### 4.6.1 Demographic Profile Analysis of ATM Banking

<b>Table- ATM Users Wise</b>	<b>City</b>	<b>Frequency</b>	<b>Percent</b>	<b>4.6.1.1: Banking City- Sample</b>
	Hyderabad	111	25.4	
	Delhi	109	24.9	
	Mumbai	107	24.4	
	Kolkata	110	25.1	
	Total	437	100	

##### **Distribution**

**Interpretation:** Table 4.6.1.1 represents the city wise sample distribution of ATM-banking users in four select cities in India. The Distribution results indicate that approximately 25% of samples are drawn from each of the cities. Hyderabad 111 (25.4%), Delhi 109 (24.9%), Mumbai 107 (24.4%) and Kolkata 110 (25.1%).

**Figure-4.6.1.1: Graphical Representation of Citi-Wise ATM Banking Sample Distribution**



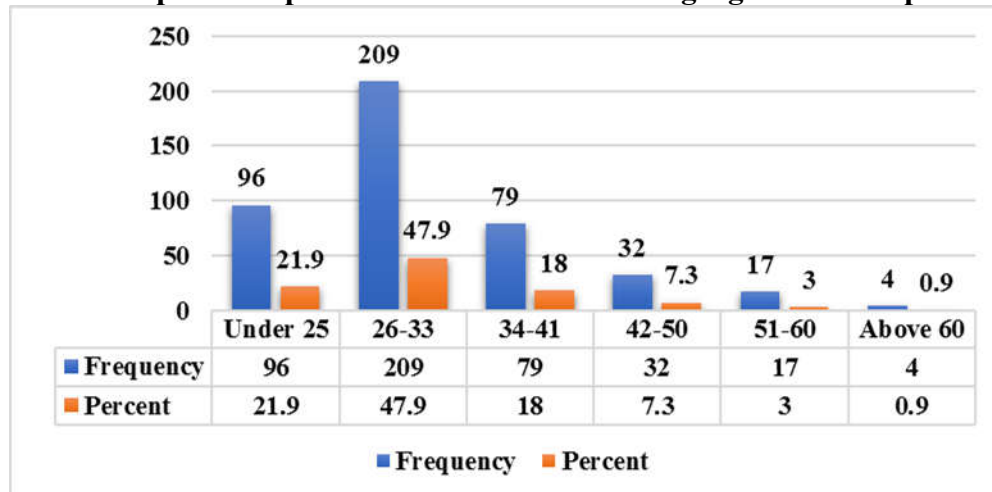
**Table-4.6.1.2: ATM Banking Users Age-Wise Sample Distribution**

Age	Frequency	Percent
Under 25	96	21.9
26-33	209	47.9
34-41	79	18.0
42-50	32	7.3

51-60	17	3.0
Above 60	4	0.9
Total	437	100

**Interpretation:** Table 4.6.1.2 represents age wise sample distribution of ATM users in four select cities in India. A majority of the respondents (47.95%) belong to the age group 26 years to 33 years followed by 21.9% of respondents belonging to the age group under 25 years and 18% belonging to the age group 34-41 years. Rest of the respondents were spread across age groups 42-50 years, 51-60 years and above 60 years.

**Figure-4.6.1.2: Graphical Representation of ATM Banking Age-Wise Sample Distribution**

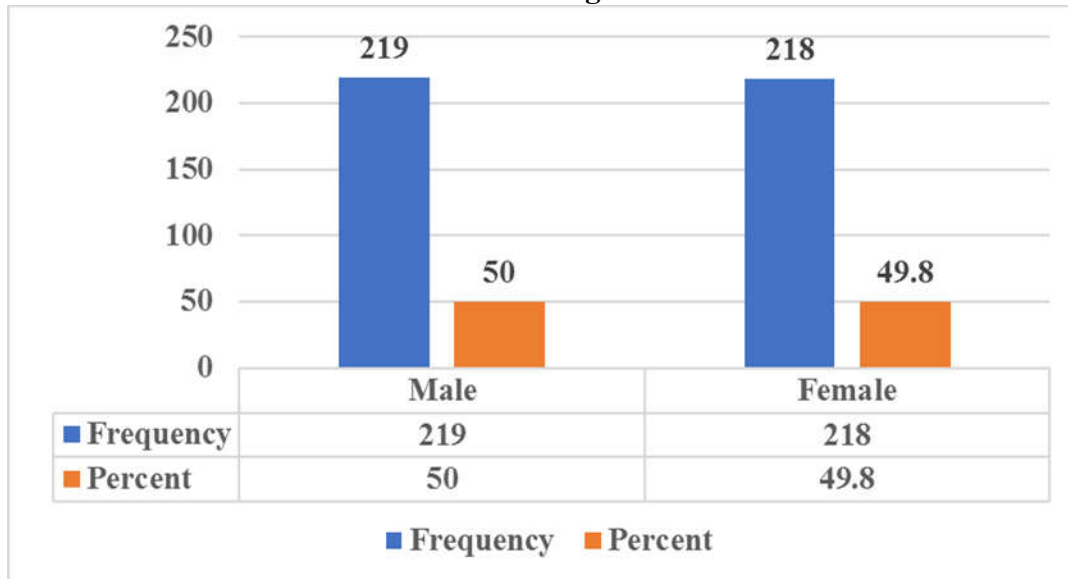


**Table-4.6.1.3: ATM Banking Users Gender-Wise Sample Distribution**

Gender	Frequency	Percent
Male	219	50.2
Female	218	49.8
Total	437	100

**Interpretation:** Table 4.6.1.3 represents the gender wise sample distribution of ATM users in four select cities in India. The distribution indicates 219 male (50.2%) and 218 female (49.8%) respondents.

**Figure-4.6.1.3: Graphical Representation of Gender-Wise Sample Distribution of ATM Banking**



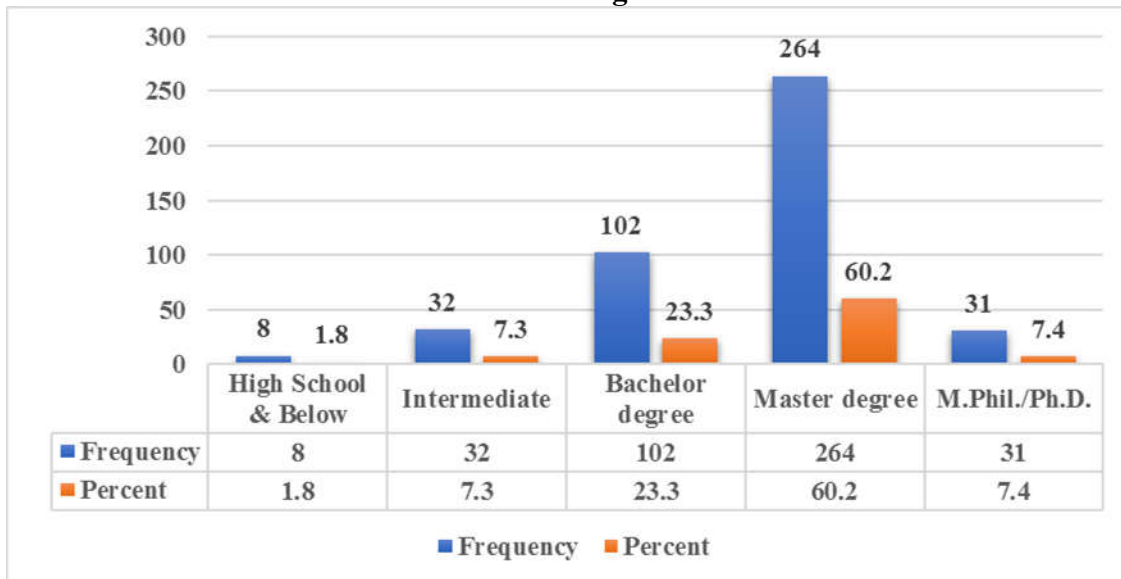
**Table-4.6.1.4: ATM Banking Users Education-Wise Sample Distribution**

Education	Frequency	Percent
High School & Below	8	1.8
Intermediate	32	7.3
Bachelor degree	102	23.3

Master degree	264	60.2
M.Phil./Ph.D.	31	7.4
Total	437	100

**Interpretation** Table 4.6.1.4 represents education wise sample distribution of ATM users in four select cities in India. A majority of the respondents (60.2%) belong to the master degree holders followed by 23.3% of respondents belonging to the bachelor degree holders and 7.4% belonging to the M.Phil./Ph.D. Rest of the respondents were spread across (7.3%) Intermediate, (1.8%) high school & below.

**Figure-4.6.1.4: Graphical Representation of Education-Wise Sample Distribution of ATM Banking**



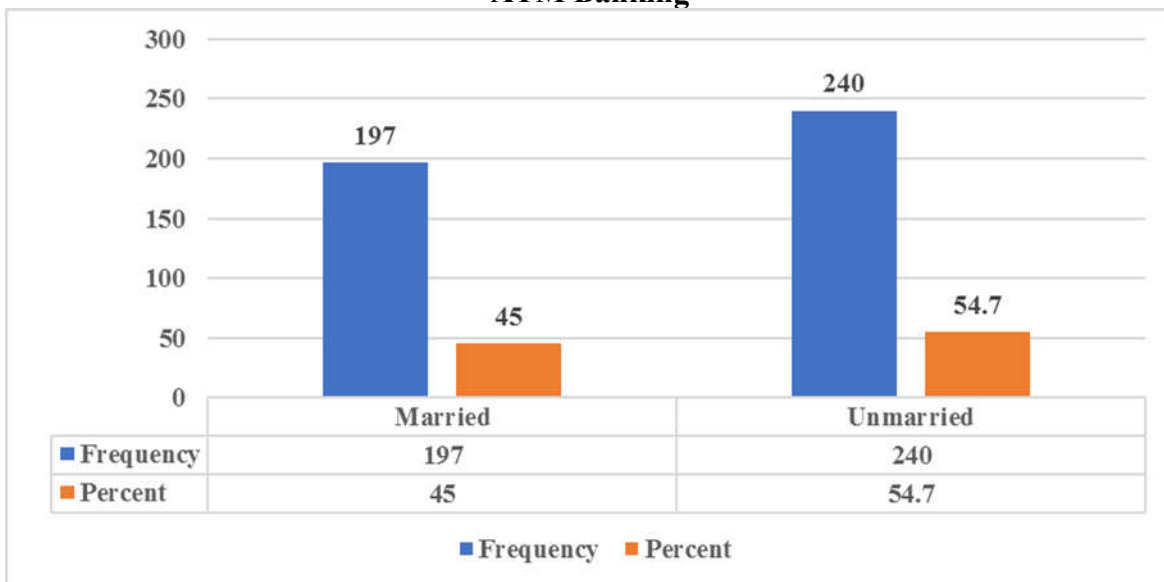
**Table-4.6.1.5: ATM Banking Users Marital Status-Wise Sample Distribution**

Marital Status	Frequency	Percent
----------------	-----------	---------

Married	197	45.3
Unmarried	240	54.7
Total	437	100

**Interpretation:** Table 4.6.1.5 represents the Marital Status-wise sample distribution of ATM users in four select cities in India. The distribution indicates 197 married (45.3%) and 240 Unmarried (54.7%) respondents.

**Figure-4.6.1.5: Graphical Representation of Marital Status-Wise Sample Distribution of ATM Banking**



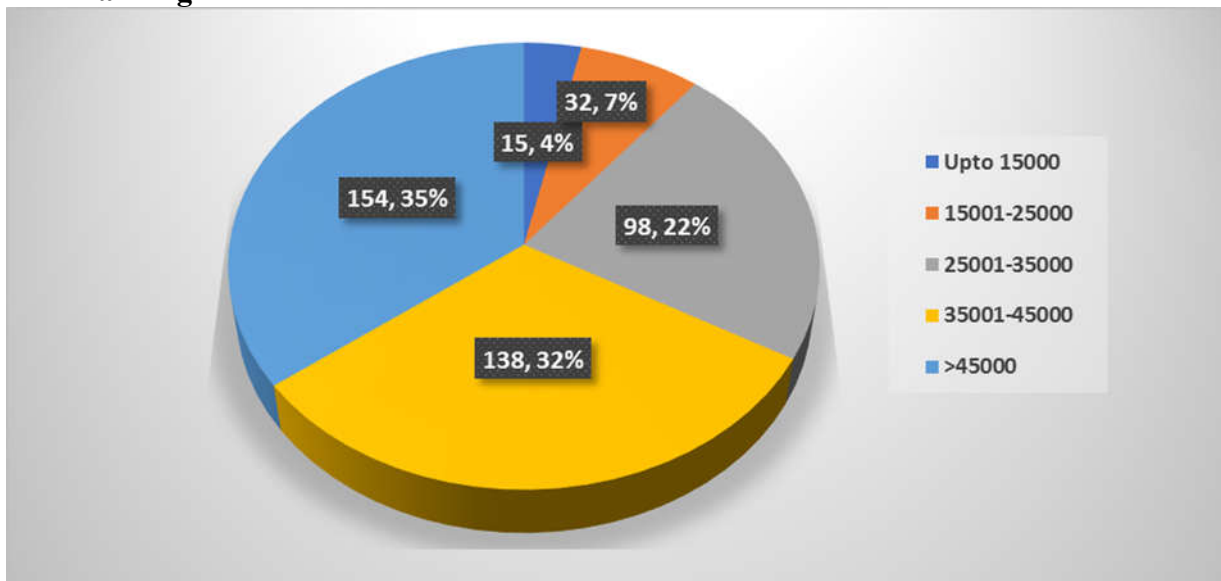
**Table-4.6.1.6: ATM Banking Users Monthly Income-Wise Sample Distribution**

Income	Frequency	Percent
Up to 15000	15	3.4
15001-25000	32	7.3

25001-35000	98	22.3
35001-45000	138	31.5
>45000	154	35.3
Total	437	100

**Interpretation:** Table 4.6.1.6 represents monthly Income-wise sample distribution of ATM users in four select cities in India. A majority of the respondents (35.3%) belong to the income group of Rs.>45,000 group followed by 31.5% of the respondents belonging to the income group of Rs. 35,001-Rs. 45,000 followed by 22.3% of the respondents belonging to the income group of Rs. 25, 001-Rs.35000. Rest of the respondents were spread across income groups of (7.3%) Rs. 15,001-25,000 (3.4%) up to Rs. 15,000.

**Figure-4.6.1.6: Graphical Representation of Monthly Income-Wise Sample Distribution of ATM Banking**



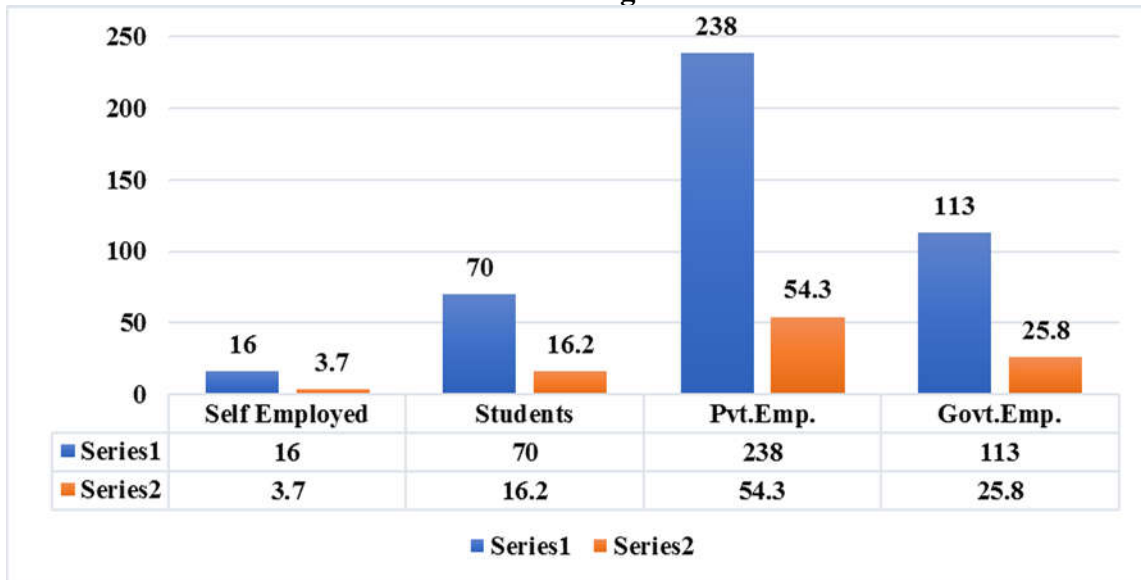
**Table-4.6.1.7: ATM Banking Users Occupation-Wise Sample Distribution**

Income	Frequency	Percent
--------	-----------	---------

Self employed	16	3.7
Students	70	16.2
Pvt.Emp.	238	54.3
Govt.Emp.	113	25.8
Total	437	100

**Interpretation:** Table 4.6.1.7 represents occupation wise sample distribution of ATM users in four select cities in India. A majority of the respondents (54.3%) belong to the private employees followed by (25.8%) of the respondents belonging to the government employees and (16.3%) belonging to the students. Rest of the respondents (3.7%) belonging to self-employed.

**Figure-4.6.1.7: Graphical Representation of Occupation-Wise Sample Distribution of ATM Banking**



#### 4.6.2 Factor Analysis (FA)

The factor analysis is a widely used method in research studies for data reduction. The factor analysis helps to identify one or more factors underlying many variables. There are two popular

methods in factor analysis namely Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The EFA deals with theory building, and CFA deals with testing the theory.

#### **4.6.3 Exploratory Factor Analysis (EFA) on ATM Banking Experience**

Exploratory factor analysis is undertaken to group the items into the different variables empirically. Though few of the constructs and items are theoretically defined in the literature, the need for EFA is felt as the scale for a specific purpose is being developed. The EFA is carried out using principal components analysis and Varimax with Kaiser Normalization rotation.

The KMO Bartlett's test performed on the data has resulted in a sample adequacy of 0.775, which is more than the required threshold (0.7) value. The threshold for factor loading is kept at 0.1 since the number of respondents is above 400 (Hair et al., 2006). The total variance explained is 61.096 percent.

The KMO measure of sampling adequacy value of 0.775 indicates that the sample size is adequate. The Bartlett's test of Sphericity has a significance of .000 with a chi-square of 8952.805 at 703 degrees of freedom indicating that the factor analysis can be conducted on this data.

The extraction method used for EFA is principal component analysis (PCA) and the rotation method used is Varimax. Since the items are expected not to correlate Varimax is chosen. The rotation is normalized to 5 rotations and seven factors. The seven factors are named Convenience (CON), Servicescape (SS), Technological Interface (TI), Transactional Security (TS), Transactional Reliability (TR), speed (SP), Social Environment (SE). The rotated component matrix is given as table 4.6.9 followed by the table 4.6.13 detailing the item descriptions along with the reliability scores for the variable.

**Table-4.6.3.1: ATM-Banking Experience Reliability Statistics**

SST	Reliability Statistics	Cronbach's Alpha
1	ATM-Banking Experience	.803

The above table represents the reliability statistics of ATM banking experience. The Cronbach's alpha value is .803.

**Table-4.6.3.2: ATM-Banking Experience KMO and Bartlett's Test**

Kaiser-Meyer- Olkin Measure of Sampling Adequacy		.775
Bartlett's Test of Sphericity	Approx. Chi-Square	8952.805
	df	703
	Sig.	.000

**Table-4.6.3.3: ATM-Banking Experience Total Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.805	12.645	12.645	4.121	10.843	12.653
2	4.253	11.193	23.838	4.048	10.653	21.497
3	3.719	9.788	33.626	3.421	9.002	30.499
4	3.297	8.677	42.303	3.350	8.817	39.316
5	2.844	7.484	49.787	3.347	8.808	48.124
6	2.657	6.993	56.780	2.631	6.925	55.048

7            1.836            5.484            62.264            2.585            6.802            61.096

---

**Extraction Method:** Principal Component Analysis.

**Table-4.6.3.4: ATM-Banking Experience Rotated Component Matrix**

Factors		Component						
		1	2	3	4	5	6	7
<b><i>FACTOR 1</i></b>	Item1	.878						
<b>CONVENIENCE</b>	Item2	.856						
<b>(CON)</b>	Item3	.840						
	Item4	.797						
	Item5	.795						
	Item6	.737						
<b><i>FACTOR 2</i></b>	Item7		.891					
<b>SERVICESCAPE</b>	Item8		.876					
<b>(SS)</b>	Item9		.809					
	Item10		.767					
	Item11		.765					
	Item12		.749					
<b><i>FACTOR 3</i></b>	Item13			.878				
<b>TECHNOLOGY INTERFACE</b>	Item14			.828				
<b>(TI)</b>	Item15			.815				
	Item16			.806				

	Item17	.783						
<b>FACTOR 4</b>	Item18	.864						
<b>TRANSACTIONAL SECURITY</b>	Item19	.808						
<b>(TS)</b>	Item20	.794						
	Item21	.793						
	Item22	.776						
<b>FACTOR 5</b>	Item23	.865						
<b>TRANSACTIONAL</b>	Item24	.813						
<b>RELIABILITY</b>								
<b>(TR)</b>	Item25	.802						
	Item26	.785						
	Item27	.758						
<b>FACTOR 6</b>	Item28	.850						
<b>SPEED</b>	Item29	.797						
<b>(SP)</b>	Item30	.785						
	Item31	.762						
<b>FACTOR 7</b>	Item32	.848						
<b>SOCIAL ENVIRONMENT</b>	Item33	.793						
<b>(SE)</b>	Item34	.750						
	Item35	.750						
Eigen Value		4.80	4.25	3.71	3.29	2.84	2.08	1.83
Cumulative % of Variance		12.65	21.49	30.49	39.31	48.12	55.04	61.85

Explained							
Cronbach's Alpha	0.90	0.89	0.87	0.88	0.87	0.82	0.80

---

**Extraction Method:** Principal Component Analysis. **Rotation Method:** Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations.

The reliability measure for all the seven factors is above 0.7 which is an acceptable value (threshold value is 0.7). A summary of various factors and reliability measures are provided in Table 4.6.3.5

**Table-4.6.3.5: Reliability of the Scales Derived from EFA**

Factor / Variable	Number of Items	Cronbach's Alpha
Convenience (CON)	6	0.90
Serviscape (SS)	6	0.89
Technological Interface (TI)	5	0.87
Transactional Security (TS)	5	0.88
Transactional Reliability (TR)	5	0.87
Speed (SP)	4	0.82
Social Environment (SE)	4	0.80

---

All the reliabilities are above 0.7 which is the threshold limit suggested in the literature for scale development (Hair et al., 2006).

#### **4.6.4 Confirmatory Factor Analysis (CFA) on ATM Banking Experience**

Confirmatory factor analysis was carried out using AMOS 20.0 for the data related to ATM banking. The confirmatory factor analysis helps to verify the measurement model and test the validity of the constructs. The discriminant and the convergent validity is tested using the measurement model. The nomological validity is tested using the structural model explaining the relationships between different variables. The face validity is tested through expert opinions and has been done both at the time of instrument development as well as finalization of the scale.

##### **4.6.4.1 ATM Banking Experience Model Fit Summary for Measurement Model**

Model fit statistics of the measurement model for ATM banking experience construct will provide us with an empirical validation of the variables and the items falling under these constructs. Table 4.6.4.1.1 provides the model fit statistics for the measurement model.

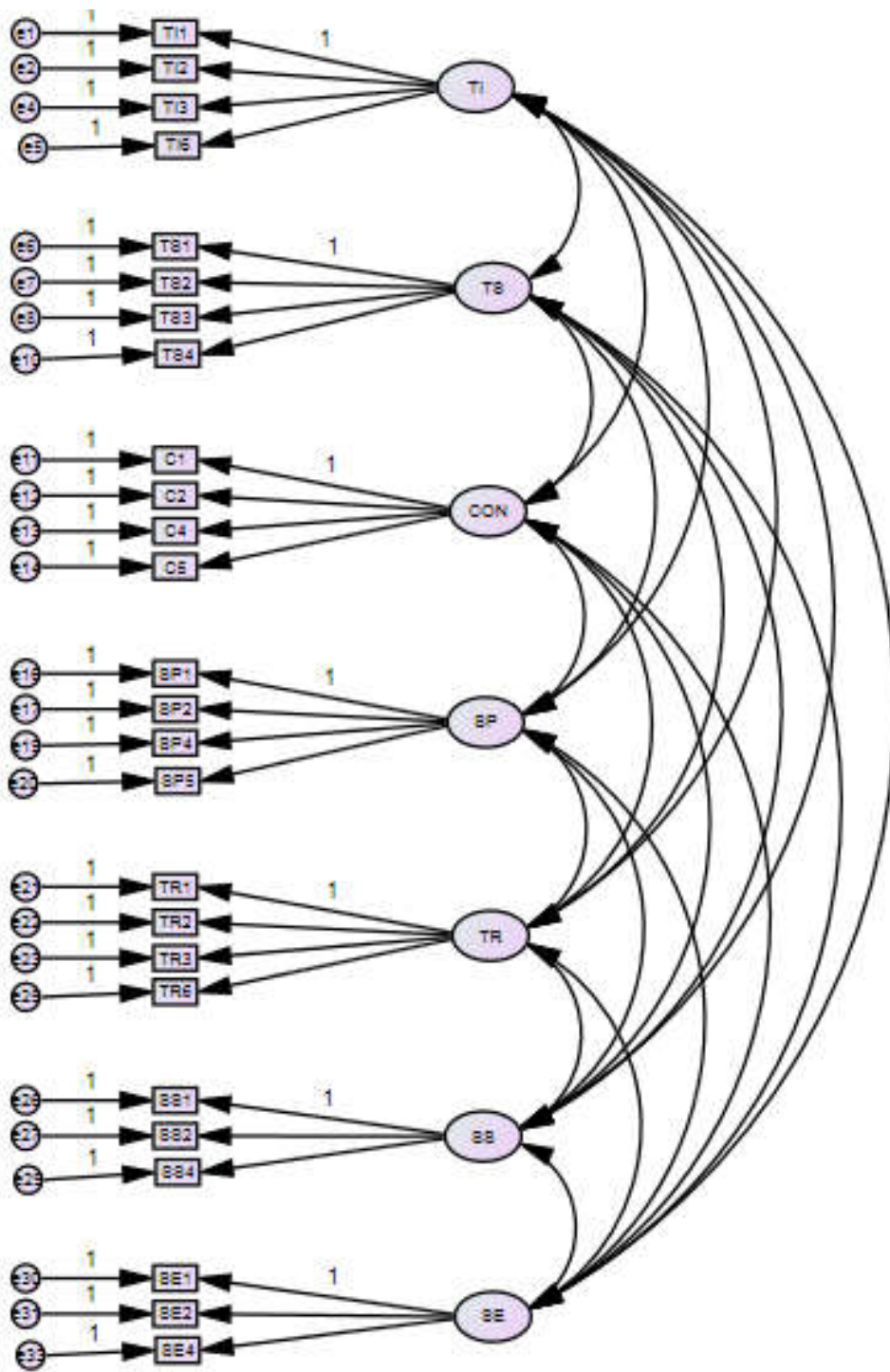
**Table-4.6.4.1.1: ATM Banking Experience Model Fit Statistics for Measurement Model**

<b>Measure</b>	<b>Actual value</b>	<b>Threshold</b>	<b>Source</b>
Cmin/df	2.233	<3.0	(Hair et al., 2006)

CFI	0.928	>0.95 great
GFI	0.941	>0.9 good
AGFI	0.912	>0.80 good
IFI	0.908	>0.9 good
RMR	0.903	>0.09 good
RMSEA	0.048	<0.05 good
Pclose	0.765	>0.05 good

**Note:** DF-degrees of freedom, CFI- Comparative Fit Index, GFI-Goodness of Fit Index, AGFI-adjusted Goodness of Fit Index, TLI-Tucker-Lewis Index, IFI- Incremental Fit Index, RMSEA-Root Mean Square Error of Approximation.

**Figure-4.6.4.1: Confirmatory Factor Analysis (CFA) of ATM-Banking Experience**



**Table-4.6.4.1.2: Confirmatory Factor Analysis (CFA) of ATM-Banking Experience**

Factors	Item	loadings	Factors	Item	loadings
---------	------	----------	---------	------	----------

TI	TI1	0.893	TS	TS1	0.838
	TI2	0.717		TS2	0.849
	TI3	0.747		TS3	0.785
	TI6	0.865		TS4	0.766
CON	CON1	0.870	SP	SP1	0.880
	CON2	0.771		SP2	0.790
	CON4	0.762		SP4	0.790
	CON5	0.790		SP5	0.807
TR	TR1	0.875	SS	SS1	0.828
	TR2	0.751		SS2	0.710
	TR3	0.769		SS4	0.729
	TR5	0.812			
SE	SE1	0.830			
	SE2	0.663			
	SE4	0.680			

**Note:** TI=Technological Interface, TS=Transactional Security, CON=Convenience, SP=Speed, TR=Transactional Reliability, SS=Servicescape, SE=Social Environment.

From the Table 4.6.4.1.2, it can be observed that for factor 1 (Technological Interface -TI) loadings are ranging from 0.717 to 0.893, for factor 2 (Transactional Security -TS) loadings are ranging from 0.766 to 0.838, for factor 3, (Convenience-CON) loadings are ranging from 0.762 to 0.870, for factor 4 (Speed-SP) loadings are ranging from 0.790 to 0.880, for factor 5 (Transactional Reliability -TR) loadings are ranging from 0.751 to 0.875, for factor

6,(Servicescape-SS) loadings are ranging from 0.710 to 0.819, and finally for factor 7, (Social Environment -SE) loadings are ranging from 0.663 to 0.830.

Confirmatory factor analysis model fit indices are as follows:

Chi-square ( $\chi^2$ ) =779.391; Degrees of Freedom = 349; CMIN/DF = 2.233; CFI = 0.928; GFI = 0.941; TLI = 0.916; IFI = 0.908; NFI = 0.901; RMR = 0.903; RFI = 0.860; RMSEA = 0.048; Pclose =0.765. As model, fit indices are satisfying the threshold values, the model indicates good fit.

#### **4.6.5 Content Validity of ATM Banking Experience Scale**

The content validity of the construct was examined through subject experts, practitioners, and banking employees. The item statement which are the part of the constructs derived out of the EFA were checked for the face or content validity (Kaplan & Sacuzzo, 1993; Churchill, 1992; Sarah, Benson, & Schroeder, 1989). The content validity is an important measure to logically examine the relevance of the item statement to the underlying construct defined for the research purpose.

#### **4.6.6 Convergent Validity of ATM Banking Experience Scale**

The convergent validity examined through the estimates of the standardized loading which were more than the 0.7 threshold value (Hair, Black, Babin, Anderson & Tatham, 2006) for all the scale items and Average Variance Extracted ( $AVE \geq 0.5$ ) was ranging from all the items (Fornell & Lacker, 1981; Hair, Black, Anderson, & Tatham, 2008). Therefore, the scale of ATM banking experience has convergent validity.

#### **4.6.7 Discriminant Validity of ATM Banking Experience Scale**

Discriminant validity examined that the Average Variance Extracted (AVE) values. These values are greater than the squared correlations for each pair of the respondents. It indicates the scale of the overall ATM banking experience has discriminant validity (Fornell and Larcker, 1981).

#### **4.6.8 Nomological Validity of ATM Banking Experience Scale**

The Nomological validity examines whether the correlations between the constructs in the measurement are significant. The correlations between each pair of constructs were significant ( $p < .01$ ) and it indicates that the overall, ATM banking experience scale of has Nomological validity (Churchill, 1992).

#### **4.6.9 Construct Validity of ATM Banking Experience Scale**

The construct validity is one of the most commonly used validity measures in social sciences. The construct validity tries to establish the agreement between the measuring instrument and the theoretical concept. For establishing construct validity, one must first establish a theoretical relationship and examine the empirical relationship. Since the criteria related to content validity, convergent and discriminant validity as well as nomological validity are satisfied, the overall, ATM banking experience scale has construct validity (Churchill, 1992; Gerbing and Anderson, 1988; Hair et al., 2006).

#### 4.6.10 ATM-Banking Experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value

**Table-4.6.10.1: ATM-Banking Experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value**

Factors	CR value	AVE	Alpha value
Technological Interface (TI)	0.88	0.65	0.87
Transactional Security (TS)	0.88	0.65	0.88
Convenience (CON)	0.88	0.64	0.90
Speed (SP)	0.89	0.69	0.82
Transactional Reliability (TR)	0.88	0.64	0.87
Servicescape (SS)	0.80	0.57	0.89
Social Environment (SE)	0.77	0.53	0.72

From the Table 4.6.10.1 it can be observed that, Composite Reliability (CR), Cronbach's Alpha values are above 0.7 and Average Variance Extracted (AVE) is  $\geq 0.5$ . Hence, the measurement criteria of overall, ATM banking experience scale has been satisfied.

#### 4.6.11 ATM Banking Experience Convergent Validity, Discriminant Validity & Correlation Matrix

The convergent and the discriminant validity of the variables is examined and the correlation among the variables is computed. A useful excel macro developed by James Gaskin available on Statwiki is used for this purpose (Gaskin, 2016). Table 4.6.22 provides the validity and reliability of the constructs.

**Table-4.6.11.1 ATM Banking Experience Convergent, Discriminant Validity & Correlation Matrix**

<b>Factors</b>	<b>AVE</b>	<b>MSV</b>	<b>ASV</b>	<b>TI</b>	<b>TS</b>	<b>CON</b>	<b>SP</b>	<b>TR</b>	<b>SS</b>	<b>SE</b>
TI	0.65	0.04	0.02	<b>0.81</b>						
TS	0.65	0.09	0.03	.101	<b>0.81</b>					
CON	0.64	0.09	0.04	.165	.265	<b>0.80</b>				
SP	0.69	0.06	0.02	.103	.149	.226	<b>0.82</b>			
TR	0.64	0.09	0.03	.154	.254	.141	.104	<b>0.80</b>		
SS	0.57	0.12	0.03	.168	.019	.005	.074	.067	<b>0.76</b>	
SE	0.53	0.12	0.03	.074	-.041	-.037	-.026	.123	.284	<b>0.73</b>

**Note:** bold values indicate square root of AVE

**Note:** Average Variance Extracted (AVE), Maximum Shared Variance (MSV), Average Shared Variance (ASV), Technological Interface (TI), Transactional Security (TS), Convenience (CON), Speed (SP), Transactional Reliability (TR), Servicescape (SS), Social Environment (SE). The validity and reliability measures are calculated using the Stats Tools package of excel macro developed by Gaskin (available on Stat Wiki site maintained by the support of Doctor of Management Program at Case Western Reserve University and by Brigham Young University).

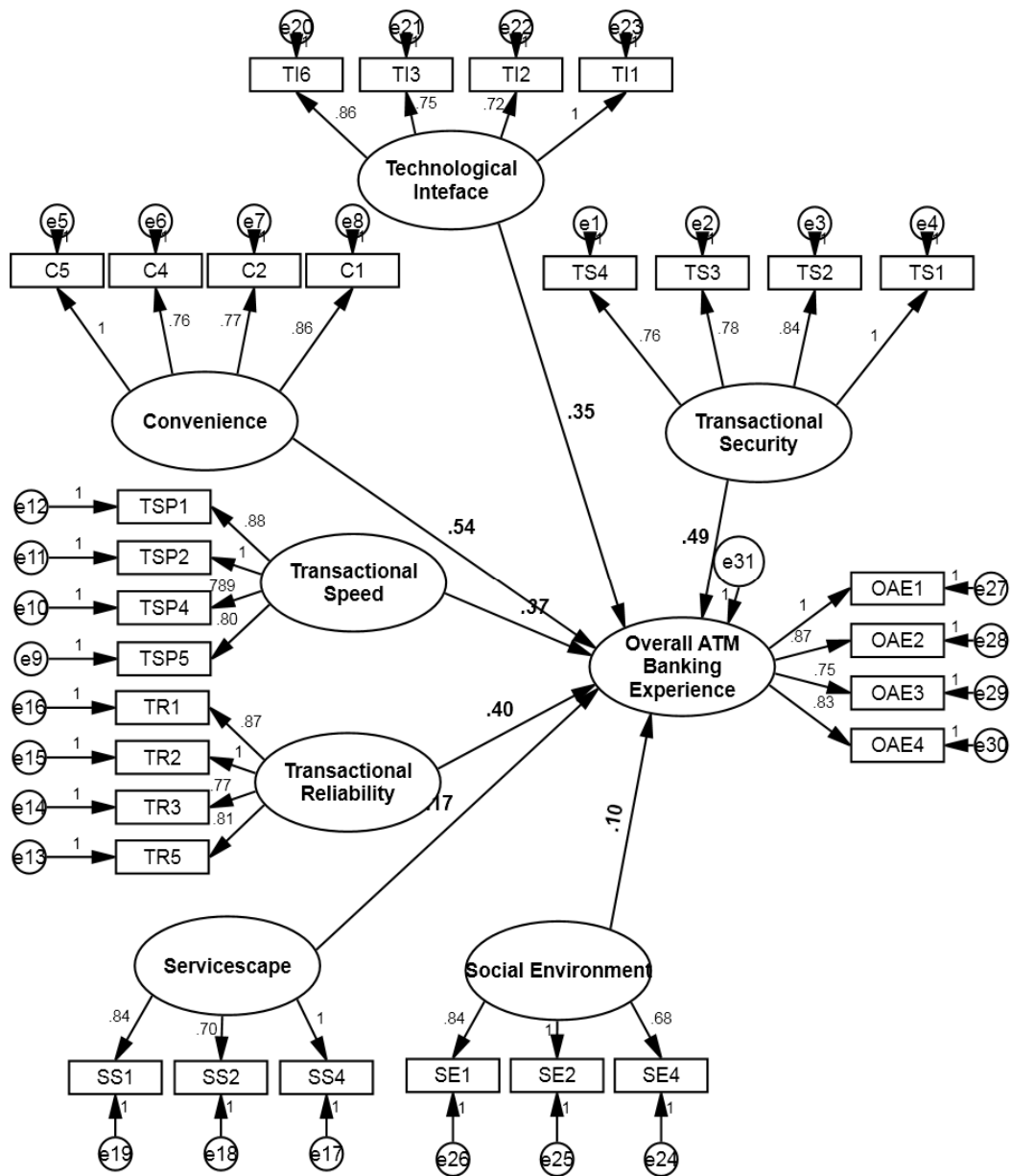
- From the Table 4.6.11.1, it can be observed, that MSV & ASV are less than AVE. This indicates that discriminant and convergent validity requirements are met.
- Square of AVE is greater than correlation loadings of other constructs.

Therefore, the ‘Overall ATM Banking Experience’ scale has satisfied the criteria of convergent and discriminant validity.

#### 4.6.12 Structural Model of Overall ATM-Banking Experience

The next step in the factor analysis is to verify the structural model, i.e., the relationships among the different variables. This is done through Amos 20.0. The structural model for evaluating the respondents' ATM banking experience is represented in figure 4.6.12.1

Figure-4.6.12.1 Structural Model of Overall ATM-Banking Experience



**Table-4.6.12.1 Structural Model of Overall ATM-Banking Experience**

Factors	Item	Standard Estimate	P Value	Factors	Item	Standard Estimate	P Value
TI	TI1	.893	***	TS	TS1	.839	***
	TI2	.717	***		TS2	.846	***
	TI3	.748	***		TS3	.785	***
	TI6	.864	***		TS4	.768	***
CON	C1	.868	***	SP	SP1	.880	***
	C2	.771	***		SP2	.791	***
	C4	.763	***		SP4	.789	***
	C5	.792	***		SP5	.807	***
TR	TR1	.873	***	SS	SS1	.841	***
	TR2	.755	***		SS2	.703	***
	TR3	.768	***		SS4	.721	***
	TR5	.812	***				
SE	SE1	.844	***				
	SE2	.649	***				
	SE4	.676	***				
Relation	Standard Estimate	R <sup>2</sup>	P - value				
TI → ATM	0.351	0.123	***				
TS → ATM	0.490	0.240	***				
CON →	0.542	0.294	***				

---

ATM			
SP→ ATM	0.376	0.142	***
TR→ ATM	0.402	0.162	***
SS→ ATM	0.172	0.029	0.034
SE→ ATM	0.104	0.011	0.178

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**Note: \*\*\* Indicates p-value less than 0.001**

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From the Table 4.6.12.1, it can be observed that for factor 1 (Technological Interface -TI) standard estimates are ranging from 0.717 to 0.893, for factor 2 (Transactional Security -TS) Standard estimates are ranging from 0.768 to 0.846, for factor 3 Convenience (CON) Standard estimates are ranging from 0.763 to 0.868, for factor 4 Speed (SP) standard estimates are ranging from 0.789 to 0.880, for factor 5 Transactional Reliability (TR) standard estimates are ranging from 0.755 to 0.873, for factor 6 Servicescape (SS) standard estimates are ranging from 0.703 to 0.841, and finally for factor 7 Social Environment (SE) standard estimates are ranging from 0.649 to 0.844.

The results indicate that seven factors, namely Technological Interface (TI), Transactional Security (TS), Convenience (CON), Speed (SP), Transactional Reliability (TR), Servicescape (SS), are identified as statistically significant with a p-value less than 0.05. Whereas, Social Environment (SE)) has been identified as insignificant with p-value 0.178.

From the observed R—square values factor Convenience (CON), has shown higher variation with 29.4 percentage. It is followed by the other factors like Transactional Security (TS), (24%), Transactional Reliability (TR), (16.2%), Speed (SP) (14.2%), Technological Interface (TI) (12.3%), (4.3%), Servicescape (SS) (2.9%), and Social Environment (1.1%).

Structural model fit indices are as follows:

Chi-square ( $\chi^2$ ) = 854.919; Degrees of freedom = 369, CMIN/DF = 2.317; CFI = 0.918; GFI = 0.910; AGFI = 0.916; TLI = 0.910; IFI = 0.919; NFI = 0.904; RFI = 0.930; RMR = 0.0914; RMSEA = 0.045; Pclose = 0.756. As structural model fit indices are satisfying the threshold values, the model indicates good fit.

**Table-4.6.12.2: Model fit Statistics for Structural Model**

Measure	Actual value	Threshold	Source
Cmin/df	2.317	<3.0	(Hair et al., 2006)
CFI	0.918	>0.95 great	
GFI	0.910	>0.9 good	
AGFI	0.916	>0.80 good	
IFI	0.919	>0.9 good	
RMR	0.0914	>0.09 good	
RMSEA	0.045	<0.05 good	
Pclose	0.756	>0.05 good	

**Note:** DF-degrees of freedom, CFI- Comparative Fit Index, GFI-Goodness of Fit Index, AGFI-adjusted Goodness of Fit Index, TLI-Tucker-Lewis Index, IFI- Incremental Fit Index, RMSEA-Root Mean Square Error of Approximation.

#### 4.6.13 ATM Banking Experience Hypotheses Testing Results

The significance of relationships can be obtained from the AMOS output which provides the estimates as well as a significant value or p-value. Table-4.6.13.1 provides the regression weights as well as the significance levels, which are used to test the hypotheses regarding the

relationship among variable. Table-4.6.13.2 provides the research hypotheses and the decision taken about the relationships.

**Table-4.6.13.1: Regression Weights and the significance of relationship between construct**

Relation	Estimate	R <sup>2</sup>	P -value
TI → ATM	0.351	0.123	***
TS → ATM	0.490	0.240	***
CON → ATM	0.542	0.294	***
SP → ATM	0.376	0.142	***
TR → ATM	0.402	0.162	***
SS → ATM	0.172	0.029	0.034
SE → ATM	0.104	0.011	0.178

**Note: \*\*\* Indicates p-value less than 0.001**

**Table-4.6.13.2: Summary of Hypotheses of Overall ATM-Banking Experience**

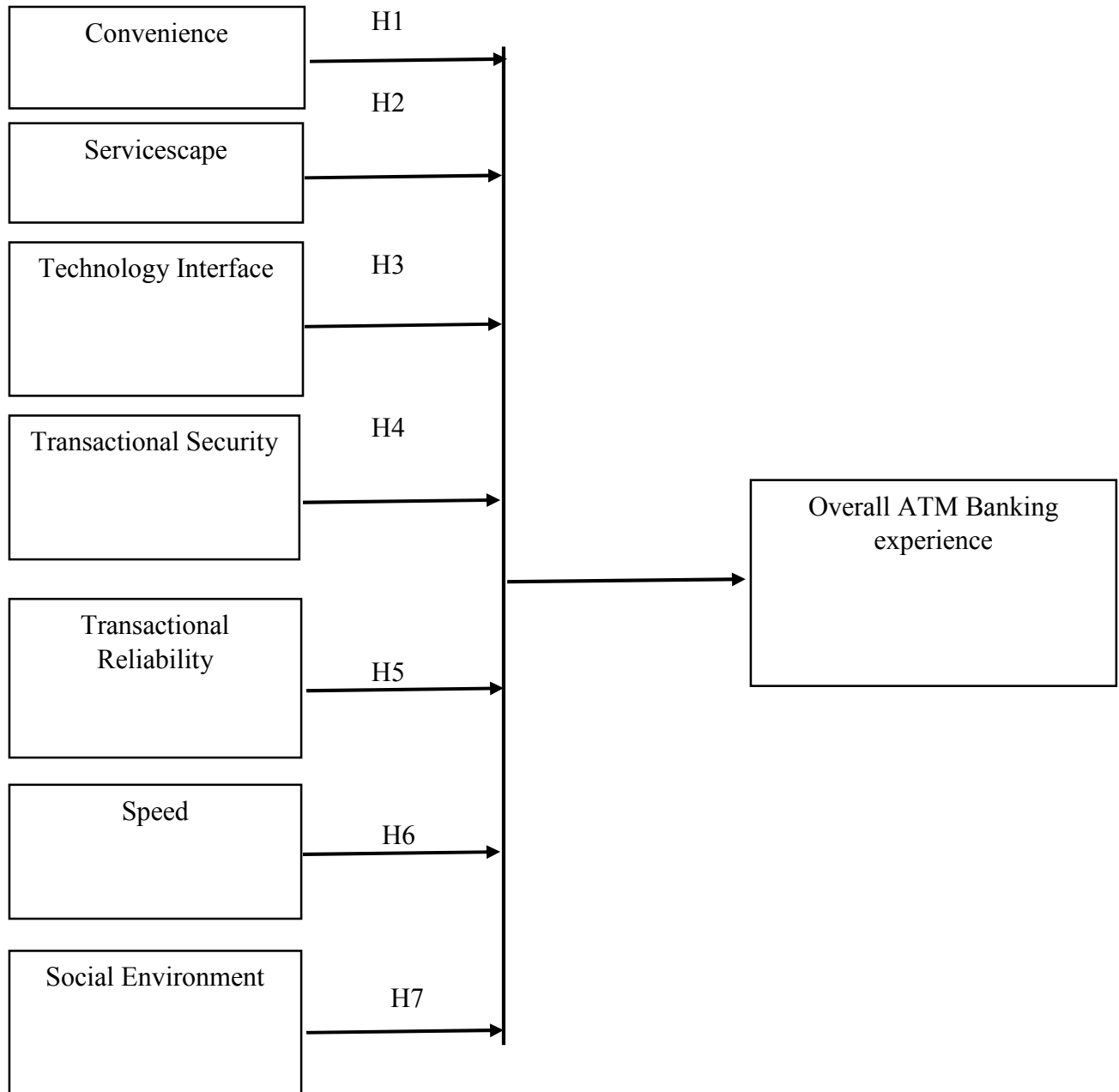
Hypotheses at 95 percent level of significance	Sig.	Decision
H1: The Convenience of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.	***	Supported
H2: The Servicescape of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.	0.034	Supported

H3: The Technology Interface of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.	***	Supported
H4: The Transactional Security of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience.	***	Supported
H5: The Transactional Reliability of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience	***	Supported
H6: The Speed of the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience	***	Supported
H7: The Social Environment in the ATM banking as perceived by the customer has a significant effect on overall ATM banking experience	1.78	Not supported

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The final model is drawn below also depicting the hypotheses tested and is illustrated in figure 4.6.13.1 below.

**Figure-4.6.13.1: Final Model for Overall ATM Banking Experience**



#### **4.6.14: Major Findings Related to ATM Banking Experience**

- The results indicate that convenience of the ATMs as perceived by the customers is statistically significant and has an effect on overall ATM banking experience with standardized coefficient value 0.542. The convenience of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM-banking experience goes up by 0.542.
- The results indicate that service compatibility of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.172. The servicescape compatibility of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM-banking experience goes up by 0.172.
- The results indicate that ease of usage of a technological interface of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.351. Ease of use of the technological interface of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.351.
- The transactional security of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.490. The transactional security of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.490.
- The transactional reliability of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.402. The transactional reliability of the ATM banking as perceived by the customer

goes up one-unit standard deviation as overall ATM banking experience goes up by 0.402.

- The transaction speed of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.376. The transaction speed of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.376.
- The social environment in the ATMs as perceived by the customer is statistically insignificant.

#### 4.6.15 ATM Banking Experience Relative Importance of the Factors

**Table-4.6.15.1 Relative Importance of the Factors for ATM Banking Experience**

<b>Factors</b>	<b>Standardized Coefficient</b>	<b>Customer Priority (Rank order)</b>
Convenience (CON)	0.542	1
Transactional Security (TS)	0.490	2
Transactional Reliability (TR)	0.402	3
Speed (SP)	0.376	4
Technology Interface (TI)	0.351	5
Servicescape (SS)	0.172	6

#### 4.6.15.1 Other Findings Related to ATM Banking Experience

As indicated in the above table ( Table 4.6.15.1) the important factors in ATM banking experience are identified by examining the standardized estimate values.

- Based on the standardized coefficient values, the previous table depicts the customer priority (rank order) of the factors. The factor Convenience (CON) has been found to be the most critical factor for creating superior overall ATM banking experience.
- Convenience was followed by the other factors namely Transactional Security (TS), Transactional Reliability (TR), Speed (SP), Technology Interface (TI) and Servicescape (SS).

#### 4.6.16 ATM Banking Experience - City Wise Analysis

**Table-4.6.16.1: ANOVA results for ATM-banking experience by City**

	Sum of				
	Squares	df	Mean Square	F	Sig.
Between Groups	180.961	3	60.320	.874	.454
Within Groups	29948.621	434	69.006		
Total	30129.582	437			

**Interpretation:** It is identified that there is no significant difference in ATM-banking experience among respondents of the cities in which the study was conducted. Hence, the Null hypothesis is accepted. It can be concluded that there is no significant difference in ATM-banking experience among respondents across various cities selected for the study. In simple terms, ATM-banking experience more or less same in the cities selected for the study.

**Inference:** ANOVA results show that the variance in ATM-banking experience city-wise is statistically insignificant. In other words, ATM-banking experience more or less same in case of four cities selected for the study.

#### 4.6.17 ATM Banking Experience – Gender Wise Analysis

**Table-4.6.17.1: Independent Samples test results for ATM-banking experience by Gender**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference
ATM EXPERIENCE	Equal variances assumed	5.044	.250	.938	436	.349	.74429
	Equal variances not assumed			.938	395.390	.349	.74429

**Interpretation:** It has been identified that there is no significant difference in ATM-banking experience based on the gender of the respondents. Hence, the Null hypothesis is accepted. It can be concluded that ATM-banking experience does not differ by gender. In simple terms, ATM-banking experience does not vary in terms, of male and female respondents.

**Inference:** Independent samples t-test results show that the mean difference in ATM-banking experience between male and female (gender) is statistically insignificant. In other words, ATM-banking experience does not vary between male and female customers.

#### 4.6.18 ATM Banking Experience – Education Wise Analysis

**Table-4.6.18.1: ANOVA results for ATM-banking experience by Education**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1437.735	3	479.245	7.249	.000
Within Groups	28691.848	434	66.110		
Total	30129.582	437			

**Interpretation:** It is identified that there is a significant difference in ATM-banking experience among respondents with different education levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is significant difference in ATM-banking experience among respondents across various education levels selected for the study. In simple terms, ATM-banking experience varies with different education levels selected for the study.

**Inference:** ANOVA results show that the variance in ATM-banking experience by education is statistically significant. In other words, ATM-banking experience varies with different educational levels in case of four cities selected for the study.

**Table-4.6.18.2: Post Hoc test results for Education regarding ATM-banking experience**

Education	N	Subset for alpha = 0.05		
		1	2	3
High School & Below	8	165.3233		
Intermediate	32	167.9524	167.9524	
Bachelor degree	102		168.3011	
M.Phil. /Ph.D.	31		170.8095	170.8095
Master degree	264			172.1560
Sig.		.100	.110	.424

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 46.660.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Inference:** There is a significant difference between the groups. Respondents with Master degree and above (M.Phil./Ph.D.) are scoring more than the respondents with lesser educational qualifications, Intermediate and Bachelor degree. Respondents who stopped education after completing High school or before completing high school scored less than the respondents with

Intermediate /Bachelor degree. Therefore, it has been concluded that ATM banking experience scores increase as the respondents' education levels increase.

#### 4.6.19 ATM Banking Experience – Marital Status Wise Analysis

**Table-4.6.19.1: Independent Sample test for ATM-banking experience by Marital Status**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference
ATM EXPERIENCE	Equal variances assumed	4.129	.430	.39	446	.740	.25497
	Equal variances not assumed			.340	361.077	.734	.25497

**Interpretation:** It has been identified that there is no significant difference in ATM-banking experience based on the respondents with different marital status. Hence, the Null hypothesis is accepted. It can be concluded that ATM-banking experience does not differ by marital status. In simple terms, ATM-banking experience does not vary in terms, of married and unmarried respondents.

**Inference:** Independent samples t-test results show that the mean difference in ATM-banking experience between marriage and unmarried (marital status) is statistically insignificant. In other words, ATM-banking experience does not vary with married and unmarried respondents.

#### 4.6.20 ATM-Banking Experience – Occupation Wise Analysis

**Table-4.6.20.1: ANOVA results for ATM-banking experience by Occupation**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8974.951	3	2991.650	61.376	.000
Within Groups	21154.631	434	48.743		
Total	30129.582	437			

**Interpretation:** It is identified that there is a significant difference in ATM-banking experience among respondents with different occupation levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is a significant difference in ATM-banking experience among respondents across various occupations selected for the study. In simple terms, ATM-banking experience varies with different occupation levels selected for the study.

**Inference:** ANOVA results show that the variance in ATM-banking experience by occupations is statistically significant. In other words, ATM-banking experience varies among the different occupations (professions) in case of four cities selected for the study.

**Table-4.6.20.2: Post Hoc test results for Occupation regarding ATM-banking experience**

Occupation	N	Subset for alpha = 0.05			
		1	2	3	4
Govt. Emp.	113	150.3333			
Pvt. Emp.	238		159.7000		
Student	70			172.0025	
Self Employed	16				183.3333
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 12.753.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Inference:** There is a significant difference in ATM banking experience among respondents with different occupations. Self-employed respondents' scores are high compared to respondents like Students, Pvt. Employees, and Govt. Employees. Therefore, it has been concluded that ATM banking experience was varying among different occupations under which self-employed respondents are scoring high experience compared to students, private employees, and government employees.

#### 4.6.21 ATM-Banking Experience – Age Wise Analysis

**Table-4.6.21.1: ANOVA results for ATM-banking experience by Age**

	Sum of				
	Squares	df	Mean Square	F	Sig.
Between	1668.961	3	556.320	8.483	.000
Groups					
Within Groups	28460.621	434	65.577		
Total	30129.582	437			

**Interpretation:** It is identified that there is a significant difference in ATM-banking experience among respondents with different Age levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is a significant difference in ATM-banking experience among respondents across various age groups selected for the study. In simple terms, ATM-banking experience varies with different age groups selected for the study.

**Inference:** ANOVA results show that the variance in ATM-banking experience by age is statistically significant. In other words, ATM-banking experience varies with different age groups in case of four cities selected for the study.

**Table-4.6.21.2: Post Hoc test results for Age regarding ATM-banking experience**

Age	N	Subset for alpha = 0.05		
		1	2	3
Above 50	21	161.2381		
42 to 50	32		166.2381	
34 to 41	79		170.1667	170.1667
26 to 33	209			171.5953
Under 25	96			172.0769
Sig.		1.003	2.010	.307

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 64.988.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Inference:** There is a significant difference between the age groups. Age Under 25 years and 26 to 33 years respondents have better score compare to rest of the age respondents. Therefore, it has been concluded that ATM banking experience scores decrease as the respondents' age groups increased. Age group of under 25 years have high experience, and 26 to 33 years respondents have moderate experience. And rest of the age respondents have low experiences.

#### 4.6.22 ATM-Banking Experience – Income Wise Analysis

**Table-4.6.22.1: ANOVA results for ATM-banking experience by Income**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6603.305	4	1650.826	30.383	.000
Within Groups	23526.277	433	54.333		
Total	30129.582	437			

**Interpretation:** It is identified that there is a significant difference in ATM-banking experience among respondents with different income levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is a significant difference in ATM-banking experience among respondents across various income levels selected for the study. In simple terms, ATM-banking experience varies with different income levels selected for the study.

**Inference:** ANOVA results show that the variance in ATM-banking experience by income is statistically significant. In other words, ATM-banking experience varies with different income levels in case of four cities selected for the study.

**Table-4.6.22.2: Post Hoc test results for Income regarding ATM-banking experience**

Monthly Income	N	Subset for alpha = 0.05		
		1	2	3
Upto15000	15	143.6667		
15001- 25000	32		163.6667	
25001- 35000	98		163.6667	
35001- 45000	138		166.4000	166.4000

>45000	154			171.9590
Sig.		1.000	.484	.128

---

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 8.185.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

**Inference:** There is a significant difference in ATM experience of respondents with different income levels. Respondents with monthly income levels >Rs.45, 000 and between Rs. 35, 000 and Rs.45, 000 have better score compared to rest of the income level respondents. Therefore, it has been concluded that ATM banking experience scores increase as the respondents' monthly income levels increase. Respondents with monthly income levels > Rs.45, 000 have significantly high score of ATM experience, and those with monthly income between Rs.35, 001 and Rs.45, 000 have moderate experience scores. Respondents with monthly income Rs.35, 000 and below have low experience scores.

**Table-4.6.23 Summary of Test of Hypotheses for ANOVA with Post Hoc (*Duncan*) on Overall ATM banking experience**

Research Hypotheses	Sig.	Decision
There is a significant difference among the respondents of different geographic locations in terms of overall ATM banking experience.	.454	Not Supported
There is a significant difference among the respondents with different levels of education in terms of overall ATM banking experience.	.000	Supported

There is a significant difference among the respondents with different occupations in terms of overall ATM banking experience.	.000	Supported
There is a significant difference among the respondents of various age groups in terms of overall ATM banking experience.	.000	Supported
There is a significant difference among the respondents with various income levels in terms of overall ATM banking experience.	.000	Supported

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#### **4.6.23 Demographic Profile Analysis Findings on Overall ATM Banking Experience**

- The results indicate that the variance in ATM banking experience by across various geographic locations is statistically insignificant.
- The results indicate that the variance in ATM banking experience by education is statistically significant. ATM banking experience varies with different educational levels. From the Post Hoc (Duncan) test it was found that ATM banking experience scores increase as the respondents' education levels increase.
- The results indicate that the variance in ATM banking experience by occupation is statistically significant. ATM banking experience varies with different occupations. From the Post Hoc (Duncan) test it was found that ATM banking experience score is high among self-employed compared to students, private employees, and government employees.
- The results indicate that the variance in ATM banking experience by age is statistically significant. ATM banking experience varies with different age groups. From the Post Hoc

(Duncan) test it was found that ATM banking experience scores decrease as the respondent's age increase.

- The results indicate that the variance in ATM banking experience by income is statistically significant. ATM banking experience varies with different income levels. From the Post Hoc (Duncan) test ATM banking experience scores increase as the respondent's monthly income levels increase.

**Table-4.6.24: Summary of Test of Hypotheses for Independent Samples T-test on Overall ATM Banking Experience**

Research Hypotheses	Sig.	Decision
There is a significant difference between male and female respondents in terms overall ATM banking experience.	.349	Not Supported
There is a significant difference between married and unmarried respondents in terms of overall ATM banking experience	.734	Not Supported

#### 4.6.24 Additional Findings of the Study

- The results indicate that gender does not have a significant impact on ATM banking experience.
- The results indicate that the mean scores of ATM banking experience by marital status is statistically insignificant.

## 4.7 PART-II: INTERNET BANKING EXPERIENCE RESULTS AND DISCUSSIONS

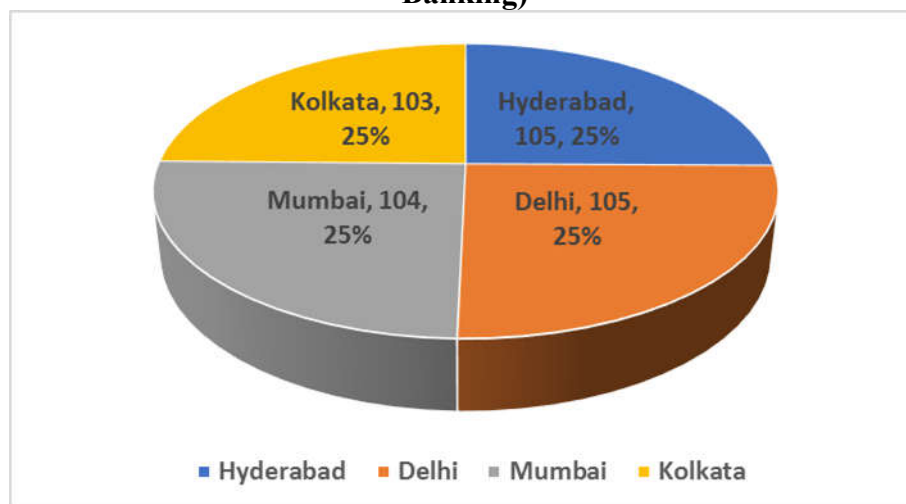
### 4.7.1 Demographic Profile Analysis of Internet Banking

**Table-4.7.1.1: Internet Banking (IB) Users City-Wise Sample Distribution**

City	Frequency	Percent
Hyderabad	105	25.1
Delhi	105	25.1
Mumbai	104	24.9
Kolkata	103	24.7
Total	417	100

**Interpretation:** Table 4.7.1.1 represents city wise sample distribution of internet banking users in the select four cities in India. The Distribution results indicate that approximately 25% of samples are drawn from each of the cities. Hyderabad 105 (25.1%), Delhi 105 (25.1%), Mumbai 104 (24.9%), Kolkata 103 (24.7%).

**Figure-4.7.1.1: Graphical Representation of Citi-Wise Sample Distribution (Internet Banking)**

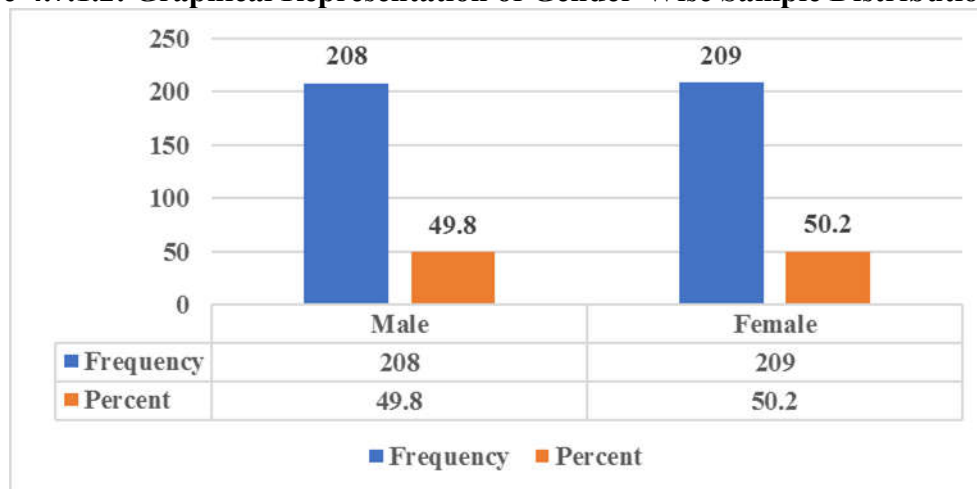


**Table-4.7.1.2: Internet Banking (IB) Users Gender-Wise Sample Distribution**

Gender	Frequency	Percent
Male	208	49.8
Female	209	50.2
Total	417	100

**Interpretation:** Table 4.7.1.2 represents gender wise sample distribution of Internet banking users in four select cities in India. The distribution indicates 208 male (49.8%), 210 female (50.2%) respondents.

**Figure-4.7.1.2: Graphical Representation of Gender-Wise Sample Distribution of IB**

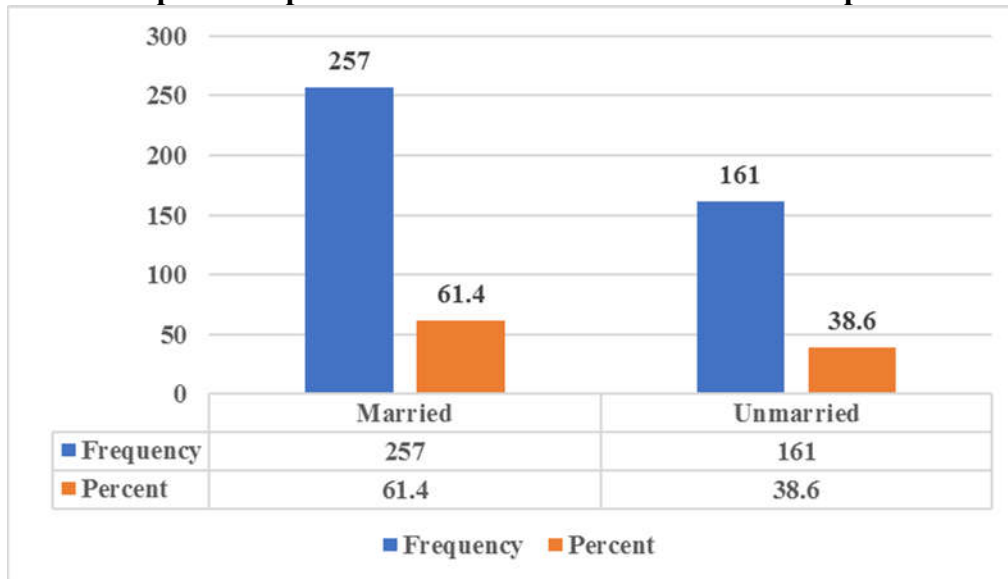


**Table-4.7.1.3: Internet Banking (IB) Users Marital Status-Wise Sample Distribution**

Marital Status	Frequency	Percent
Married	257	61.4
Unmarried	161	38.6

**Interpretation:** Table 4.7.1.3 represents marital status wise sample distribution of Internet banking users in four select cities in India. The distribution indicates 257 married (61.4%), and 161 Unmarried (38.9%) respondents.

**Figure-4.7.1.3: Graphical Representation of Marital Status-Wise Sample Distribution of IB**



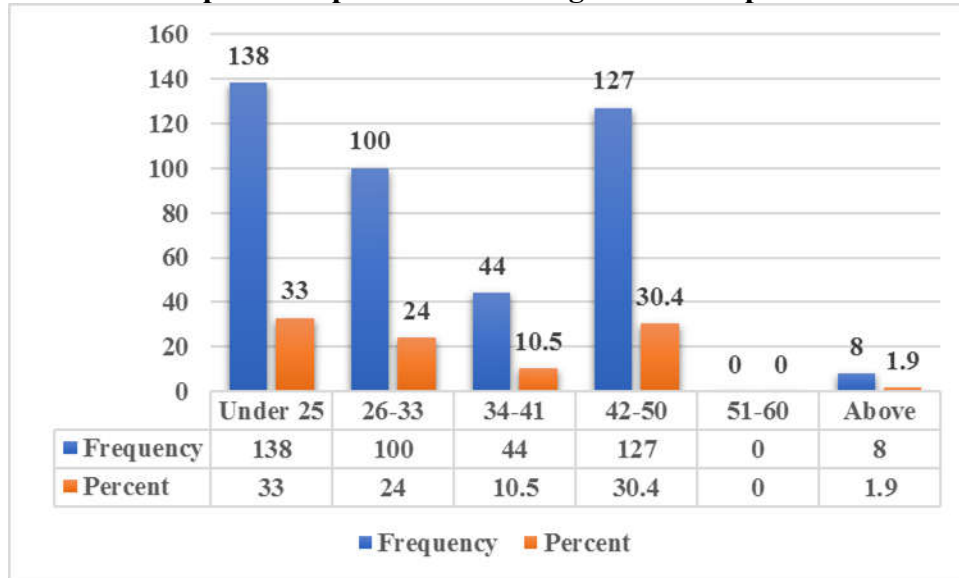
**Table-4.7.1.4: Internet Banking (IB) Users Age-Wise Sample Distribution**

Age	Frequency	Percent
Under 25	138	33.0
26-33	100	24.0
34-41	44	10.5
42-50	127	30.4
51-60	-	-
Above 60	8	1.9
Total	417	100

**Interpretation:** Table 4.7.1.4 represents age wise sample distribution of Internet banking users in four select cities in India. A majority of the respondents (33%) belong to the age group under 25 years followed by 30.4% of respondents belonging to the age group 42 years to 50 years and

24% belonging to the age group 26 years to 41 years. Rest of the respondents were spread across age groups 34-41 years, above 60 years.

**Figure-4.7.1.4: Graphical Representation of Age-Wise Sample Distribution of IB**

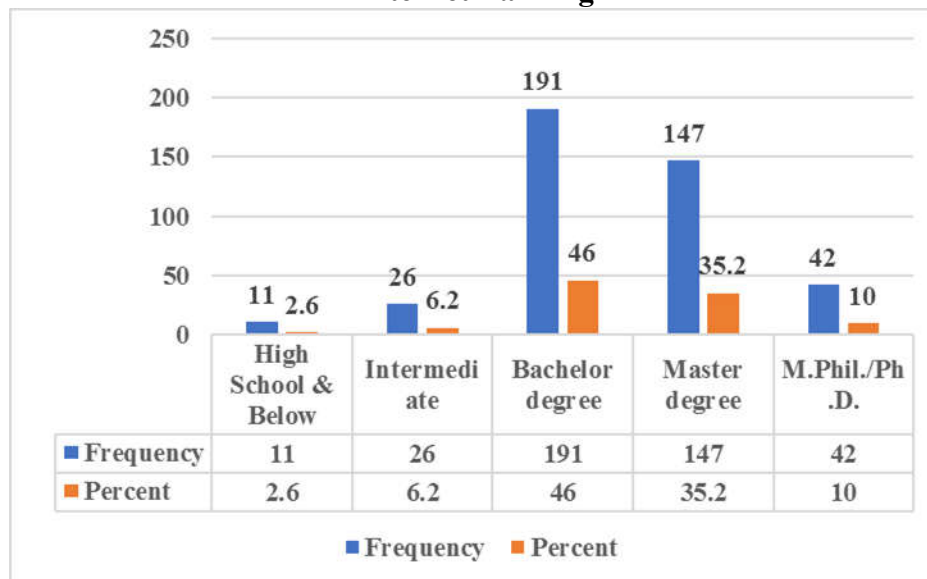


**Table-4.7.1.5: Internet Banking (IB) Users Education-Wise Sample Distribution**

Education	Frequency	Percent
High School & Below	11	2.6
Intermediate	26	6.2
Bachelor degree	191	46.0
Master degree	147	35.2
M.Phil./Ph.D.	42	10.0
Total	417	100

**Interpretation:** Table 4.7.1.5 represents education wise sample distribution of Internet banking users in four select cities in India. A majority of the respondents (46%) belong to the bachelor degree holders followed by 35.2% of respondents belonging to the master degree holders and 10% belonging to the M.Phil./Ph.D. Rest of the respondents were spread across (6.2%) Intermediate, (2.6%) High School & Below.

**Figure-4.7.1.5: Graphical Representation of Education-Wise Sample Distribution of Internet Banking**



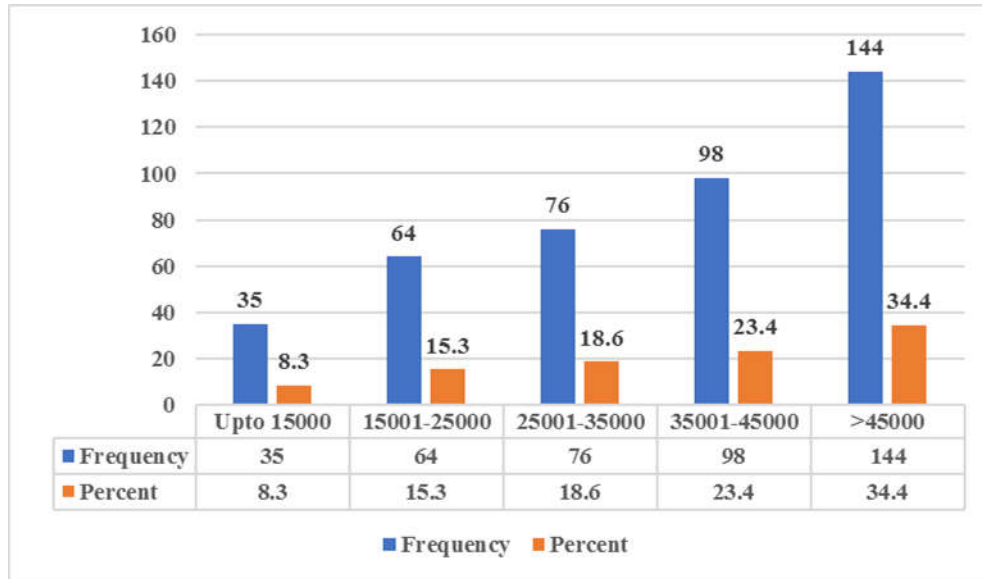
**Table-4.7.1.6: Internet Banking (IB) Users Monthly Income-Wise Sample Distribution**

Monthly Income	Frequency	Percent
Up to 15000	35	8.3
15001-25000	64	15.3
25001-35000	76	18.6
35001-45000	98	23.4
>45000	144	34.4
Total	417	100

**Interpretation:** Table 4.7.1.6 represents monthly income wise sample distribution of Internet banking users in four select cities in India. A majority of the respondents (34.4%) belong to the income group of > Rs.45, 000 followed by 23.4% of the respondents belonging to the income group of Rs.35, 001-Rs.45, 000 and 18.6% belonging to the income group of Rs. 25, 001-Rs. 35,

000. Rest of the respondents were spread across income groups of (15.3%) Rs.15, 001-Rs.25, 000 (8.3%) up to Rs. 15,000.

**Figure-4.7.1.6: Graphical Representation of Monthly Income-Wise Sample Distribution of IB**



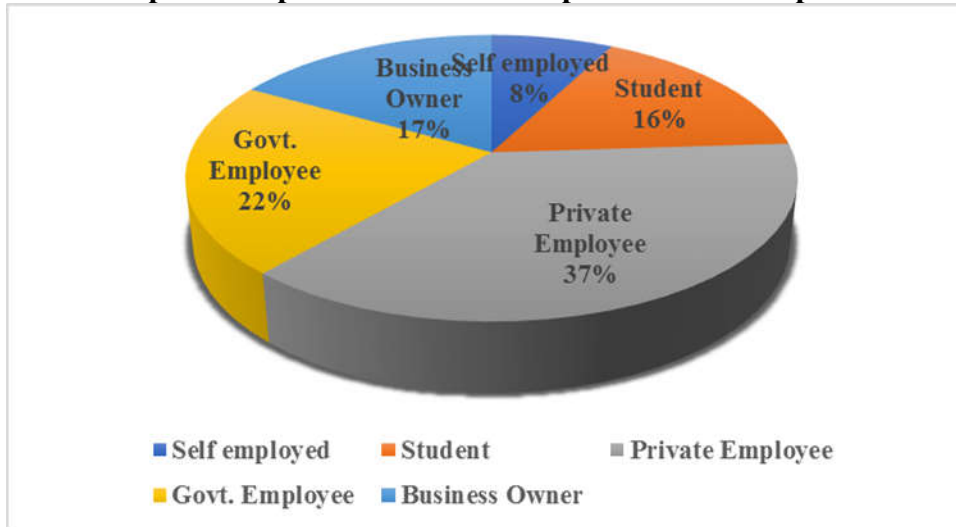
**Table-4.7.1.7: Internet Banking (IB) Users Occupation-Wise Sample Distribution**

Occupation	Frequency	Percent
Self-employed	32	7.6
Student	68	16.3
Private Employee	156	37.3
Govt. Employee	91	21.8
Business Owners	70	17.0
Total	417	100

**Interpretation:** Table 4.7.1.7 represents occupation wise sample distribution of Internet users in four select cities in India. A majority of the respondents (37.3%) belong to the private employees followed by (21.8%) of the respondents belonging to the government employees and (17%) were

business owners. Rest of the respondents (16.3%) were students and (7.6%) of the respondents belonging to the self-employed.

**Figure-4.7.1.7: Graphical Representation of Occupation-Wise Sample Distribution of IB**



#### **4.7.2 Exploratory Factor Analysis (EFA) on Internet Banking Experience**

Exploratory factor analysis is undertaken to group the items into the different variables empirically. Though few of the constructs and items are theoretically defined in the literature, the need for EFA is felt as the scale for a specific purpose is being developed. The EFA is carried out using principal components analysis and varimax with Kaiser normalization rotation.

The KMO Bartlett's test performed on the data has resulted in a sample adequacy of 0.800, which is more than the required threshold (0.7) value. The threshold for factor loading is kept at 0.1 since the number of respondents is above 400 (Hair et al., 2006). The total variance explained is 68.52 percent.

The KMO measure of sampling adequacy is 0.800 indicating that the sample size is adequate. The Bartlett's test of Sphericity has a significance of .000 with a chi-square of 8463.279 at 630 degrees of freedom indicating that the factor analysis can be conducted on this data.

The extraction method used for EFA is principal component analysis (PCA) and the rotation method used is Varimax. Since the items are expected not to correlate Varimax is chosen. The rotation normalized to 5 rotations 8 factors. The eight factors are named Convenience (CON), Online Aesthetic Elements (OAE), Security of Service Process (SSP), Reliability of Service Process (RSP), Speed (SP), Range of Services Available (RSA), Online Hedonic Elements (OHE), Screen size of Device (SSD). The rotated component matrix is given as Table 4.7.11 followed by the table 4.7.13 detailing the item descriptions along with the reliability scores for the variable.

**Table-4.7.2.1: Internet-Banking Experience Reliability Statistics**

SST	Reliability Statistics	Cronbach's Alpha
2	Internet Banking Experience	.845

The above table represents the reliability statistics of Internet banking experience. The Cronbach's alpha value is 0.845.

**Table-4.7.2.2: Internet-Banking Experience KMO and Bartlett's Test  
Source: Author Calculation (2017)**

Kaiser-Meyer- Olkin Measure of Sampling Adequacy		0.800
Bartlett's Test of Sphericity	Approx. Chi-Square	8463.279
	df	630
	Sig.	.000

**Table-4.7.2.3: Internet-Banking Experience Total Variance Explained**

Component	Initial Eigenvalues	Rotation Sums of Squared Loadings
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	<b>Total</b>	<b>% of</b>	<b>Cumulative</b>	<b>Total</b>	<b>% of</b>	<b>Cumulative</b>
		<b>Variance</b>	<b>%</b>		<b>Variance</b>	<b>%</b>
1	6.146	17.071	17.071	3.585	9.957	16.957
2	3.634	10.094	27.166	3.547	9.852	26.810
3	3.394	9.428	36.593	3.527	9.798	36.607
4	2.970	8.249	44.842	3.516	9.767	44.374
5	2.540	7.054	51.896	3.488	9.689	51.063
6	2.438	6.773	58.669	2.614	7.260	58.323
7	1.852	5.144	63.813	2.520	7.000	63.323
8	1.793	4.982	68.795	1.970	5.472	68.52

**Table-4.7.2.4: Internet-Banking Experience Rotated Component Matrix**

<b>Factors</b>		<b>Component</b>							
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b><i>FACTOR 1</i></b>	Item1	.893							
<b>CONVENIENCE</b>	Item2	.877							
<b>(CON)</b>	Item3	.815							
	Item4	.778							
	Item5	.750							
<b><i>FACTOR 2</i></b>	Item6		.849						
<b>ONLINE AESTHETICS</b>	Item7		.845						
<b>(OA)</b>	Item8		.815						
	Item9		.809						

	Item10	.761	
<b>FACTOR 3</b>	Item11	.870	
<b>SECURITY OF SERVICE</b>	Item12	.832	
<b>PROCESS</b>			
<b>(SSP)</b>	Item13	.827	
	Item14	.814	
	Item15	.772	
<b>FACTOR 4</b>	Item16	.860	
<b>RELIABILITY OF SERVICE</b>	Item17	.842	
<b>PROCESS</b>			
<b>(RSP)</b>	Item18	.825	
	Item19	.823	
	Item20	.786	
<b>FACTOR 5</b>	Item21	.876	
<b>SPEED</b>	Item22	.822	
<b>(SP)</b>	Item23	.799	
	Item24	.797	
	Item25	.794	
<b>FACTOR 6</b>	Item26	.855	
<b>RANGE OF SERVICES</b>	Item27	.814	
<b>AVAILABLE</b>			
<b>(RSA)</b>	Item28	.782	

	Item29								.765
<b>FACTOR 7</b>	Item30								.863
<b>ONLINE HEDONICS</b>	Item31								.801
<b>(OH)</b>	Item32								.782
	Item33								.765
<b>FACTOR 8</b>	Item34								.852
<b>SCREEN SIZE OF DEVICE</b>	Item35								.780
<b>(SSD)</b>	Item36								.746
Eigen Value		6.14	3.63	3.39	2.97	2.54	2.43	1.85	1.79
Cumulative % of Variance									68.52
Explained		16.95	26.81	36.60	44.37	51.06	58.32	63.32	
Cronbach's Alpha		.892	.890	.882	.889	.885	.827	.805	.728

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**Extraction Method:** Principal Component Analysis. **Rotation Method:** Varimax with Kaiser

Normalization. a. Rotation converged in 5 iterations.

The reliability measures for all the eight factors is above 0.7 which is an acceptable value (threshold value is 0.7). A summary of various factors and reliability measures are provided in Table 4.7.2.5.

**Table-4.7.2.5: Internet Banking Experience Reliability of the Scales derived from EFA**

<b>Factor / Variable</b>	<b>Number of Items</b>	<b>Cronbach's Alpha</b>
Convenience	5	.892
Online Aesthetics	5	.890
Security of Service Process	5	.882
Reliability of Service Process	5	.889
Speed	5	.885
Range of Services Available	4	.827
Online Hedonics	4	.805
Screen Size of Device	3	.728

All the reliabilities are above 0.7 which is the threshold limit suggested in the literature for scale development (Hair et al., 2006).

#### **4.7.3 Confirmatory Factor Analysis (CFA) on Internet Banking Experience**

Confirmatory factor analysis was carried out using AMOS 20.0 for the data related to Internet banking. The confirmatory factor analysis helps to verify the measurement model and test the validity of the constructs. The discriminant and the convergent validity is tested using the measurement model. The nomological validity is tested using the structural model explaining the

relationships between different variables. The face validity is tested through expert opinions and has been done both at the time of instrument development as well as finalization of the scale.

#### 4.7.3.1 Internet Banking Experience Model Fit Summary for Measurement Model

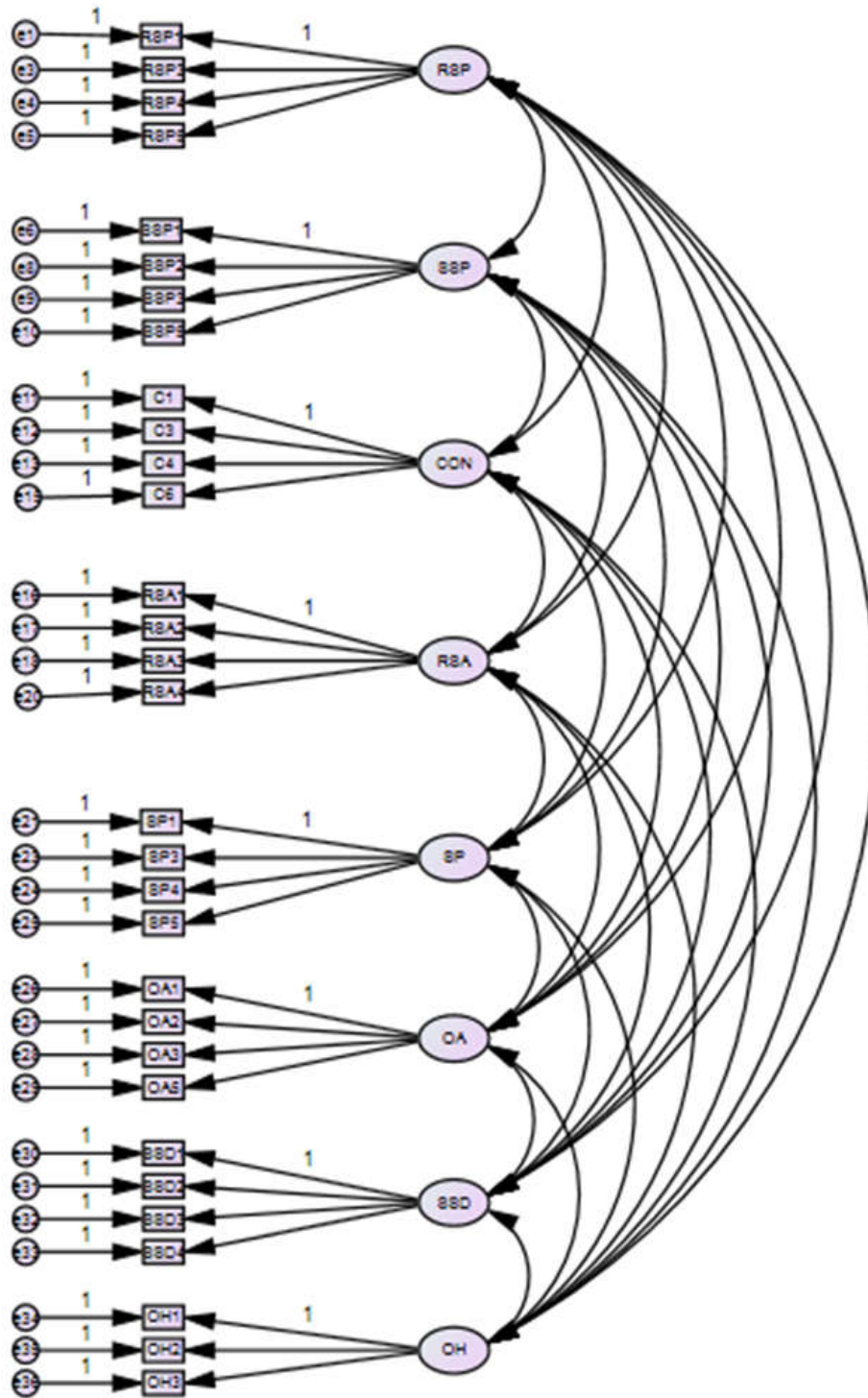
Model fit statistics of the measurement model for Internet banking experience construct will provide us with an empirical validation of the variables and the items falling under these constructs. Table 4.6.3.1.1 provides the model fit statistics for the measurement model

**Table-4.7.3.1.1: Internet Banking Experience Model Fit Statistics for the Measurement Model**

Measure	Actual value	Threshold	Source
Cmin/df	2.262	<3.0	(Hair et al., 2006)
CFI	0.917	>0.95 great	
GFI	0.907	>0.9 good	
AGFI	0.923	>0.80 good	
IFI	0.918	>0.9 good	
RMR	0.911	>0.09 good	
RMSEA	0.040	<0.05 good	
Pclose	0.691	>0.05 good	

**Note:** DF-degrees of freedom, CFI- Comparative Fit Index, GFI-Goodness of Fit Index, AGFI-adjusted Goodness of Fit Index, TLI-Tucker-Lewis Index, IFI- Incremental Fit Index, RMR-RMSEA-Root Mean Square Error of Approximation.

Figure-4.7.3.1: Internet Banking Experience -Confirmatory Factor Analysis



(CFA)

**Table-4.7.3.2: Internet Banking Experience - Confirmatory Factor Analysis**

<b>Factors</b>	<b>Item</b>	<b>loadings</b>	<b>Factors</b>	<b>Item</b>	<b>loadings</b>
RSP	RSP 1	.881	SSP	SSP 1	.873
	RSP 3	.740		SSP 2	.770
	RSP 4	.790		SSP 3	.745
	RSP 5	.807		SSP 5	.793
CON	CON1	.893	RSA	RSA 1	.843
	CON 3	.753		RSA 2	.702
	CON 4	.695		RSA 3	.635
	CON 6	.859		RSA 4	.722
SP	SP 1	.871	OA	OA 1	.837
	SP 3	.771		OA 2	.846
	SP 4	.750		OA 3	.784
	SP 5	.815		OA 5	.718
SSD	SSD 1	.847	OH	OH 1	.822
	SSD 2	.654		OH 2	.607
	SSD 3	.630		OH 3	.608
	SSD 4	.676			

**Note:** RSP=Reliable Service Available, SSP=Secured Service Process, CON=Convenience, RSA=Range of Services Available SP=Speed, OA=Online Aesthetics, SSD= Screen Size of the Device, OH=Online Hedonics.

From the Table 4.6.3.2, it can be observed that for factor 1 (Reliable Service Available - RSP) loadings are ranging from 0.740 to 0.881, for factor 2 (Secured Service Process- SSP) loadings

are ranging from 0.745 to 0.873, for factor 3, (Convenience-CON) loadings are ranging from 0.695 to 0.893, for factor 4 (Range of Services Available- RSA) loadings are ranging from 0.635 to 0.843, for factor 5 (Speed- SP) loadings are ranging from 0.750 to 0.871, for factor 6,( Online Aesthetics- OA) loadings are ranging from 0.718 to 0.846, for factor 7, (Screen Size of the Device- SSD) loadings are ranging from 0.630 to 0.847, and finally for factor 8, (Online Hedonics- OH) loadings are ranging from 0.607 to 0.822.

Confirmatory factor analysis model fit indices are as follows:

Chi-square ( $\chi^2$ ) = 918.417; Degrees of Freedom = 406; CMIN/DF = 2.262; CFI = 0.917; GFI = 0.907; AGFI = 0.923; TLI = 0.905; IFI = 0.918; NFI = 0.902; RMR=0.911; RFI = 0.942; RMSEA = 0.040; Pclose = 0.691. As model, fit indices are satisfying the threshold values, the model indicates good fit.

#### **4.7.4 Content Validity of Internet Banking Experience Scale**

The content validity of the construct was examined by taking the assistance of subject experts, practitioners, and banking employees. The item statements which are the part of the constructs derived out of the EFA were checked for the face or content validity (Kaplan & Sacuzzo, 1993; Churchill, 1992; Sarah, Benson, & Schroeder, 1989). The content validity is an important measure to logically examine the relevance of the item statement to the underlying construct defined for the research purpose.

#### **4.7.5 Convergent Validity of Internet Banking Experience Scale**

The convergent validity was examined through the estimates of the standardized loading which were more than the 0.7 threshold value (Hair, Black, Babin, Anderson & Tatham, 2006) for all the scale items and Average Variance Extracted ( $AVE \geq 0.5$ ) was ranging from all the items

(Fornell & Lacker, 1981; Hair, Black, Anderson, & Tatham, 2008). Therefore, the scale of the overall Internet banking experience has convergent validity.

#### **4.7.6 Discriminant Validity of Internet Banking Experience Scale**

Discriminant validity examined the Average Variance Extracted (AVE) values. These values are greater than the squared correlations for each pair of the respondents. It indicates that the scale of the overall Internet banking experience has discriminant validity (Fornell and Larcker, 1981).

#### **4.7.7 Nomological Validity of Internet Banking Experience Scale**

The Nomological validity examines whether the correlations between the constructs in the measurement are significant. The correlations between each pair of constructs were significant ( $p < .01$ ) and it indicates that the overall, Internet banking experience scale has Nomological validity (Churchill, 1992).

#### **4.7.8 Construct Validity of Internet Banking Experience Scale**

The construct validity is one of the most commonly used validity measures in social sciences. Based on the theory it looks for expected patterns of relationship among variables. The construct validity tries to establish the agreement between the measuring instrument and theoretical concept. For establishing construct validity, one must first establish a theoretical relationship and examine the empirical relationship.” Since the criteria related to content validity, convergent and discriminant validity as well as nomological validity are satisfied, the overall, Internet banking experience scale has construct validity (Churchill, 1992; Gerbing and Anderson, 1988; Hair et al., 2006).

#### 4.7.9 Internet banking experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value

**Table-4.7.9.1: Internet banking experience Composite Reliability (CR), Average Variance Extracted (AVE), Alpha Value**

Factors	CR value	AVE	Alpha value
RSP	0.88	0.64	.889
SSP	0.87	0.63	.882
CON	0.87	0.63	.892
RSA	0.88	0.64	.827
SP	0.88	0.64	.885
OA	0.82	0.53	.890
SSD	0.81	0.67	.728
OH	0.80	0.50	.805

**Note:** Reliable Service Process (RSP), Secured Service Process (SSP), Convenience (CON), Range of Services Available (RSA), Speed (SP), Online Aesthetics (OA), Screen Size of the Device (SSD), Online Hedonics (OH).

From the above table observed, i.e., composite reliability, Cronbach's alpha values above 0.7. Therefore, the measurement criteria have been satisfied.

#### 4.7.10 Internet Banking Experience Convergent Validity, Discriminant Validity

The convergent and the discriminant validity of the variables is examined. A useful Excel macro developed by James Gaskin available on Stawicki is used for this purpose (Gaskin, 2016). Table 4.7.10.1 provides the validity and reliability of the constructs.

**Table-4.7.10.1: Internet Banking Experience Convergent, Discriminant Validity & Correlation matrix**

<b>Factors</b>	<b>AVE</b>	<b>MSV</b>	<b>ASV</b>	<b>RSP</b>	<b>SSP</b>	<b>CON</b>	<b>RSA</b>	<b>SP</b>	<b>OA</b>	<b>SSD</b>	<b>OH</b>
RSP	0.64	0.05	0.02	<b>0.80</b>							
SSP	0.63	0.09	0.03	.126	<b>0.80</b>						
CON	0.63	0.09	0.03	.189	.269	<b>0.80</b>					
RSA	0.64	0.06	0.02	.148	.134	.269	<b>0.81</b>				
SP	0.64	0.09	0.02	.138	.269	.134	.109	<b>0.80</b>			
OA	0.53	0.09	0.02	.203	.044	.269	.090	.072	<b>0.73</b>		
SSD	0.67	0.09	0.02	.046	-.053	.044	.006	.105	.231	<b>0.71</b>	
OH	0.50	0.03	0.01	.116	.028	-.053	.065	.035	.050	.052	<b>0.82</b>

**Note:** bold values indicate are square root of AVE

**Note:** Average Variance Extracted (AVE), Maximum Shared Variance (MSV), Average Shared Variance (ASV), Reliable Service Process (RSP), Secured Service Process (SSP), Convenience (CON), Range of Services Available (RSA), Speed (SP), Online Aesthetics (OA), Screen Size of Device (SSD), Online Hedonics (OH).

The validity and reliability measures are calculated using the Stats Tools package of excel macro developed by Gaskin (available on Stat Wiki site maintained by the support of Doctor of Management Program at Case Western Reserve University and by Brigham Young University).

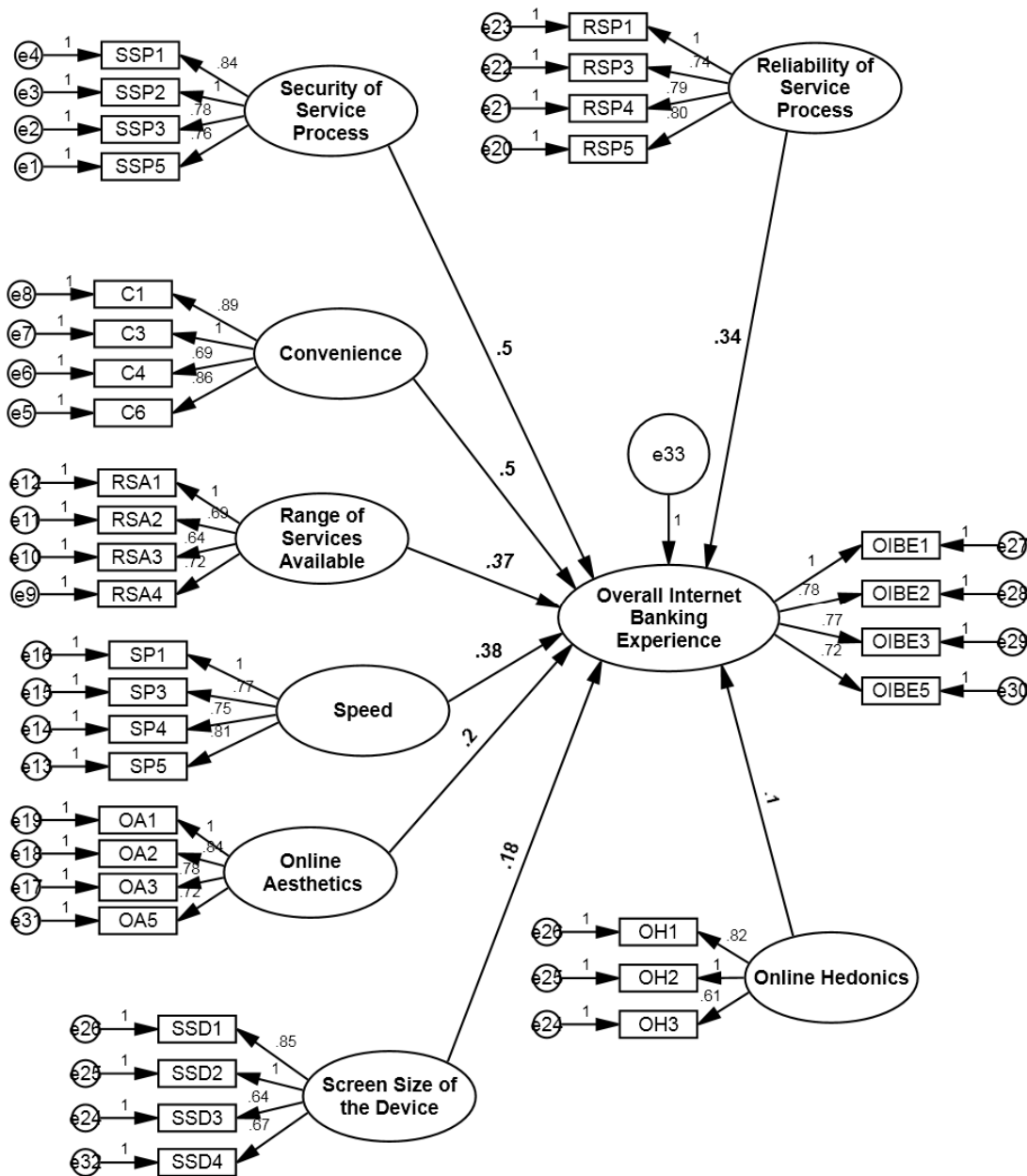
- From the Table 4.7.10.1, it can be observed, that MSV & ASV are less than AVE. This indicates that convergent and discriminant validity requirements are met.
- Square of AVE should be greater than correlation Loadings of other constructs.

Therefore, the ‘Overall Internet Banking Experience’ scale has satisfied the criteria of convergent and discriminant validity.

### 4.7.11 Structural Model of Overall Internet Banking Experience

The next step in the factor analysis is to verify the structural model, i.e., the relationships among the different variables. This is done through Amos 20.0. The structure model for evaluating the respondent's Internet banking experience is provided in figure 4.7.11.1

Figure-4.7.11.1: Structural Model of Overall Internet-banking experience



**Table-4.7.11.1: Structural Model of Overall Internet Banking Experience**

<b>Factors</b>	<b>Item</b>	<b>Standard Estimate</b>	<b>P - Value</b>	<b>Factors</b>	<b>Item</b>	<b>Standard Estimate</b>	<b>P - Value</b>
RSP	RSP 1	.882	***	SSP	SSP 1	.870	***
	RSP 3	.741	***		SSP 2	.770	***
	RSP 4	.789	***		SSP 3	.746	***
	RSP 5	.807	***		SSP 5	.796	***
CON	CON1	.894	***	RSA	RSA 1	.847	***
	CON 3	.755	***		RSA 2	.698	***
	CON 4	.693	***		RSA 3	.638	***
	CON 6	.857	***		RSA 4	.718	***
SP	SP 1	.871	***	OA	OA 1	.839	***
	SP 3	.771	***		OA 2	.844	***
	SP 4	.751	***		OA 3	.784	***
	SP 5	.815	***		OA5	.720	***
SSD	SSD 1	.849	***	OH	OH 1	.822	***
	SSD 2	.645	***		OH 2	.605	***
	SSD 3	.637	***		OH 3	.612	***
	SSD 4	.675					
<b>Relation</b>	<b>Standard Estimate</b>	<b>R<sup>2</sup></b>	<b>P - value</b>				
RSP → IB	0.390	0.152	***				
SSP → IB	0.501	0.251	***				

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CON → IB	0.503	0.253	***
RSA → IB	0.373	0.139	***
SP → IB	0.388	0.150	***
OA → IB	0.202	0.041	.016
SSD → IB	0.180	0.032	.035
OH → IB	0.091	0.008	.233

Note: \*\*\* Indicates p-value less than 0.001

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From the Above table, it has been stated that for factor 1 (Convenience - CON) standard estimates are ranging from .693 to 0.894, for factor 2 (Online Aesthetics - OA) Standard estimates are ranging from 0.720 to 0.844, for factor 3 (Secured Service Process - SSP) Standard estimates are ranging from 0.746 to 0.870, for factor 4 (Reliable Service Process - RSP) standard estimates are ranging from 0.741 to 0.882, for factor 5 (Speed - SP) standard estimates are ranging from 0.751 to 0.871, for factor 6 Range of Services available (RSA) standard estimates are ranging from 0.638 to 0.847, for factor 7 (Screen Size of Device - SSD) standard estimates are ranging from 0.637 to 0.849, and for factor 8 (Online Hedonics - OH) standard estimates are ranging from 0.605 to 0.822.

The Results indicate that, from the eight factors, namely Convenience (CON), Online Aesthetics (OA), Secured Service Process (SSP), Reliable Service Process (RSP), Speed (SP), Range of Services Available (RSA), Screen Size of the Device (SSD) are identified as statistically significant with p-value less than 0.05. Whereas, Online Hedonics (OH) has identified as insignificant with p-value 0.233.

From the observed R—square values factor Convenience (CON) has shown higher variation with 25.3% percentage. It is followed by other factors like Followed by remaining factors like

Secured Service Process (SSP), (25.1%), Reliable Service Process (RSP), (15.2%), Speed (SP), (15%), Range of Services Available (RSA), (13.9%), Online Aesthetics (OA), (4.1%), Screen Size of Device (SSD) (3.2%), and Online Hedonics (OH) (0.8%).

Structural model fit indices are as follows:

Chi-square = 989.250; Degrees of freedom = 426; Probability level = 0.000; CMIN/DF = 2.322; CFI = 0.909; GFI = 0.937; TLI = 0.901; AGFI= 0.916; IFI = 0.910; NFI = 0.852; RFI = 0.931; RMSEA = 0.043.

**Table-4.7.11.2: Model fit Statistics for Structural Model**

Measure	Actual value	Threshold	Source
Cmin/df	2.322	<3.0	(Hair et al., 2006)
CFI	0.909	>0.95 great	
GFI	0.937	>0.9 good	
AGFI	0.916	>0.80 good	
IFI	0.910	>0.9 good	
RFI	0.931	>0.09 good	
RMSEA	0.043	<0.05 good	
Pclose	0.731	>0.05 good	

**Note:** Df-degrees of freedom, CFI- Comparative Fit Index, GFI-Goodness of Fit Index, AGFI-adjusted Goodness of Fit Index, TLI-Tucker-Lewis Index, IFI- Incremental Fit Index, RFI- RMSEA-Root Mean Square Error of Approximation.

#### 4.7.12 Internet Banking Experience Hypotheses Testing Results

The significance of relationships can be obtained from the AMOS output which provides the estimates as well as a significant value or p-value. Table 4.7.12.1 provides the regression weights

as well as the significance levels, which are used to test the hypothesis regarding the relationship among variable. Table 4.7.12.2 provides the research hypotheses and the decision taken about the relationships.

**Table-4.7.12.1: Regression Weights and the significance of relationship between construct**

<b>Relation</b>	<b>Estimate</b>	<b>R<sup>2</sup></b>	<b>P -value</b>
<b>RSP → ATM</b>	0.390	0.152	***
<b>SSP → ATM</b>	0.501	0.251	***
<b>CON → ATM</b>	0.503	0.253	***
<b>RSA → ATM</b>	0.373	0.139	***
<b>SP → ATM</b>	0.388	0.150	***
<b>OA → ATM</b>	0.202	0.041	.016
<b>SSD → ATM</b>	0.180	0.032	.035
<b>OH → ATM</b>	0.091	0.008	.233

**Note: \*\*\* Indicates p-value less than 0.001**

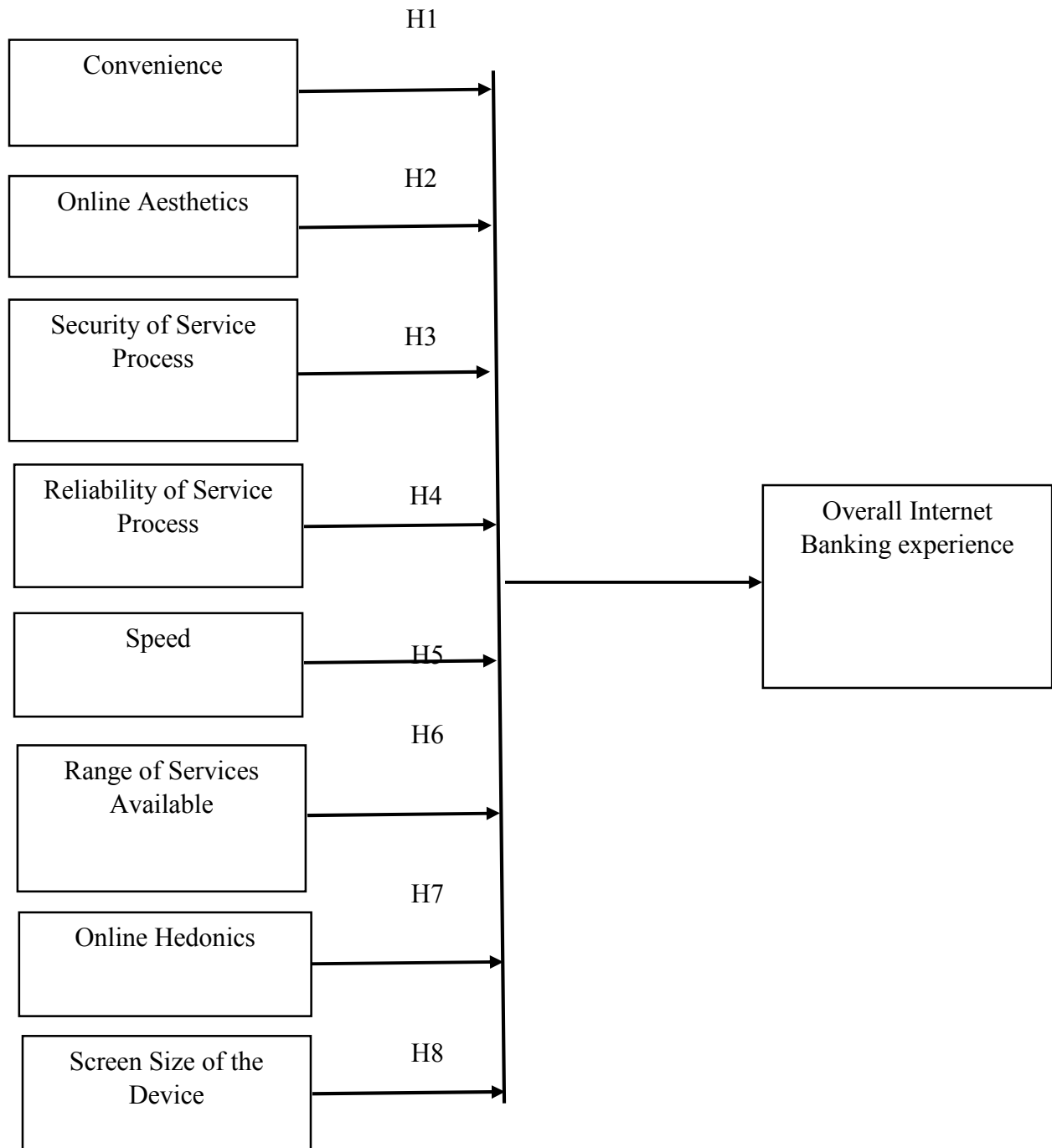
**Table-4.7.12.2: Summary of Hypotheses of Overall Internet-Banking Experience**

<b>Hypotheses at 95 percent level of significance</b>	<b>Sig.</b>	<b>Decision</b>
H1: The Convenience of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	***	Supported
H2: The online aesthetics of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	.016	Supported

H3: The security of service process in the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	***	Supported
H4: The reliability of service process of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	***	Supported
H5: The speed of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience	***	Supported
H6: The range of services available the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	***	Supported
H7: The online hedonics of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	.233	Not supported
H8: The screen size of the device of the Internet banking as perceived by the customer has a significant effect on overall Internet banking experience.	.035	Supported

The final model is drawn below also depicting the hypotheses tested and is illustrated in figure 4.7.12.2.

**Figure-4.7.12.2: Final Model tested for Overall Internet Banking Experience**



#### **4.7.13: Major Findings Related to Internet Banking Experience**

- The results indicate that convenience of the Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.503.
- The results indicate that online aesthetics of the internet banking as perceived by the customer has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.202.
- The results indicate that security of service process in Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.501.
- The results indicate that reliability of service process in Internet banking as perceived by the customers has statistically significant effect on overall internet banking experience with positive standardized coefficient value 0.390.
- The results indicate that the speed of transactions in Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.388.
- The results indicate that the range of services available in the Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.373.
- The results indicate that the screen size of the device used in Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.180.

- The online hedonics in internet banking as perceived by the customers has statistically insignificant.

#### 4.7.14 Internet Banking Experience Relative Importance of the Factors

**Table-4.7.14.1: Internet banking experience relative importance of the factors**

<b>Factors</b>	<b>Standardized Coefficient</b>	<b>Customer Priority (Rank order)</b>
Convenience (CON)	0.503	1
Secured Service Process (SSP)	0.501	2
Reliable Service Process (RSP)	0.390	3
Speed (SP)	0.388	4
Range of Services Available (RSA)	0.373	5
Online Aesthetics (OA)	0.202	6
Screen Size of the Device (SSD)	0.180	7

##### 4.7.14.1 Other Findings Related to Internet Banking Experience

As Indicated in the above table (Table 4.7.14.1) the important factors in Internet banking experience are identified by examining the standardized estimate values.

- Based on the standardized coefficient values, the previous table depicts the customer priority (rank order) of the factors. The factor Convenience (CON) has been found to be the most critical factor for creating superior overall Internet banking experience.

- Convenience was Followed by other factors namely Secured Service Process (SSP), Reliable Service Process (RSP), Speed (SP), Range of Services Available (RSA), Online Aesthetics (OA), Screen Size of Device (SSD).

#### 4.7.15 Internet Banking Experience - City Wise Analysis

**Table-4.7.15.1: ANOVA results for Internet-banking experience by City**

	<b>Sum of</b>	<b>df</b>	<b>Mean</b>	<b>F</b>	<b>Sig.</b>
	<b>Squares</b>		<b>Square</b>		
Between Groups	.581	3	.194	.001	1.000
Within Groups	107540.893	414	259.761		
Total	107541.474	417			

**Interpretation:** It is observed that there is no significant difference in Internet-banking experience among respondents of the cities in which the study was conducted. Hence, the Null hypothesis is accepted. It can be concluded that there is no significant difference in Internet-banking experience among respondents across various cities selected for the study. In simple terms, Internet-banking experience more or less same in the cities selected for the study.

**Inference:** ANOVA results show that the variance in Internet-banking experience city-wise is statistically insignificant. In other words, Internet-banking experience more or less same in case of four cities selected for the study.

#### 4.7.16 Internet Banking Experience - Gender Wise Analysis

**Table-4.7.16.1: Independent sample test results for Internet-banking experience by Gender**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference
IB -EXP	Equal variances assumed	2.234	.136	1.211	416	.227	.15769
	Equal variances not assumed			1.211	406.520	.226	.15769

**Interpretation:** It has been identified that there is no significant difference in Internet-banking experience based on the gender of the respondents. Hence, the Null hypothesis is accepted. It can be concluded that Internet-banking experience does not differ by gender. In simple terms, Internet-banking experience does not vary in terms, of male and female respondents.

**Inference:** Independent samples t-test results show that the mean difference in Internet-banking experience between male and female (gender) is statistically insignificant. In other words, Internet-banking experience does not vary between male and female customers in case of four cities selected for the study.

#### 4.7.17 Internet Banking Experience – Analysis based on Respondents' Education level

**Table-4.7.17.1: ANOVA results for Internet-banking experience by Level of Education**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5738.531	3	1912.844	7.779	.000

Within Groups	101802.943	414	245.901
Total	107541.474	417	

**Interpretation:** It is identified that there is a significant difference in Internet-banking experience among respondents with different education levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is significant difference in Internet-banking experience among respondents across various education levels selected for the study. In simple terms, Internet-banking experience varies with different education levels selected for the study.

**Inference:** ANOVA results show that the variance in Internet-banking experience by education is statistically significant. In other words, Internet-banking experience varies with different educational levels in case of four cities selected for the study.

**Table-4.7.17.2: Post Hoc test results for Education regarding ATM-banking experience**

Education	N	Subset for alpha = 0.05	
		1	2
High School & Below	11	112.3214	
Intermediate	26	114.2698	
Bachelor degree	191	119.5000	119.5000
Others (M.Phil./Ph.D.)	42	121.4923	121.4923
Master degree	147		124.6000
Sig.		.081	.221

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 32.216.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Inference:** Respondents with Master degree and above (M.Phil./Ph.D.), and those with Bachelor degree scored more than those who stopped education after Intermediate and high school & below. Therefore, it has been concluded that Internet banking experience has increased with an increase in the respondent's education levels.

#### 4.7.18 Internet Banking Experience – Marital Status Wise Analysis

**Table-4.7.18.1: Independent Sample test for Internet-banking experience by Marital Status**

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference
IB - EXP	Equal variances assumed	5129	.633	.419	533	.850	.35497
	Equal variances not assumed			.440	651.077	.849	.35497

**Interpretation:** It has been identified that there is no significant difference in Internet-banking experience based on the marital status of the respondents. Hence, the Null hypothesis is accepted. It can be concluded that Internet-banking experience does not differ by marital status. In simple terms, Internet-banking experience does not vary in terms, of married and unmarried respondents.

**Inference:** Independent samples t-test results show that the mean difference in Internet-banking experience between married and unmarried (marital status) is statistically insignificant. In other words, Internet-banking experience does not vary with married and unmarried respondents in case of four cities selected for the study.

#### 4.7.19 Internet Banking Experience – Occupation Wise Analysis

**Table-4.7.19.1: ANOVA results for Internet-banking experience by Occupation**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11697.772	4	2924.443	12.602	.000
Within Groups	95843.702	413	232.067		
Total	107541.474	417			

**Interpretation:** It is observed that there is a significant difference in Internet-banking experience among respondents with different occupation levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is a significant difference in Internet-banking experience among respondents across various occupations selected for the study. In simple terms, Internet-banking experience varies with different occupation levels selected for the study.

**Inference:** ANOVA results show that the variance in Internet-banking experience by occupations is statistically significant. In other words, Internet-banking experience varies with different occupations in case of four cities selected for the study.

**Table-4.7.19.2: Post Hoc test results for Occupation regarding ATM-banking experience**

Occupation	N	Subset for alpha = 0.05		
		1	2	3
Self-employed	32	110.1622		
Govt. Employee	91		118.6495	
Student	68			120.6667

Business owners	156			122.8571
Private Employee	70			125.0000
Sig.		1.02	2.060	.308

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 31.499.
  - b. The group sizes are unequal. The harmonic mean of the group sizes is used.
- Type I error levels are not guaranteed.

**Inference:** There is a significant difference in internet banking experience scores among respondents with different occupations. Private employee respondents scores are high compared to respondents falling under the category of business owners, students, government employees and self-employed. Therefore, it has been concluded that Internet banking experience was varying among respondents with different occupations.

#### 4.7.20 Internet Banking Experience – Age Wise Analysis

**Table-4.7.20.1: ANOVA results for Internet-banking experience by Age**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16977.092	4	4244.273	19.355	.000
Within Groups	90564.382	413	219.284		
Total	107541.474	417			

**Interpretation:** It is identified that there is a significant difference in Internet-banking experience among respondents with different age groups. Hence, the alternate hypothesis is accepted. It can be concluded that there is a significant difference in Internet-banking experience

among respondents across various age groups selected for the study. In simple terms, Internet-banking experience varies with different age groups selected for the study.

**Inference:** ANOVA results show that the variance in Internet-banking experience by age is statistically significant. In other words, Internet-banking experience varies with different age groups in case of four cities selected for the study.

**Table-4.7.20.2: Post Hoc test results for Age regarding Internet-banking experience**

Age	N	Subset for alpha = 0.05		
		1	2	3
Above 50 yrs.	8	107.7188		
42-50 yrs.	127		120.3333	
34-41 yrs.	44		121.9600	
Under 25 yrs.	138			123.0000
26-33 yrs.	100			124.0000
Sig.		.100	.231	.398

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 28.938.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Inference:** There is a significant difference of internet banking experience among respondents of different age groups. Respondents under 25 years and between the age groups 26 to 33 years have better score compared to rest of the respondents. Therefore, it has been concluded that Internet banking experience scores decrease as the respondent's age groups increased. Age group

of under 25 years respondents have moderate experience scores, while respondents between 26-33 years have high experience scores. And rest of the respondents have low experience scores.

#### 4.7.21 Internet Banking Experience – Income Wise Analysis

**Table-4.7.21.1: ANOVA results for Internet-banking experience by Income**

	Sum of	df	Mean	F	Sig.
	Squares		Square		
Between	13194.044	5	2638.809	11.523	.000
Groups					
Within Groups	94347.430	412	228.999		
Total	107541.474	417			

**Interpretation:** It is identified that there is a significant difference in Internet-banking experience among respondents with different income levels. Hence, the alternate hypothesis is accepted. It can be concluded that there is a significant difference in Internet-banking experience among respondents across various income levels selected for the study. In simple terms, Internet-banking experience varies with different income levels selected for the study.

**Inference:** ANOVA results show that the variance in Internet-banking experience by income is statistically significant. In other words, Internet-banking experience varies with different income levels in case of four cities selected for the study.

**Table-4.7.21.2: Post Hoc test results for Income regarding ATM-banking experience**

Monthly Income	N	Subset for alpha = 0.05			
		1	2	3	4
Up to 15000	35	111.3721			

15001-25000	64	116.4375	116.4375		
25001-35000	76		118.0000	118.0000	
35001-45000	98			121.3846	121.3846
>45000	144				124.1429
Sig.		.094	.605	.054	.631

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 50.288.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

**Inference:** There is a significant difference in Internet banking experience among respondents with different income levels. Respondents with monthly income levels >Rs. 45, 000 and between Rs.35, 001-Rs. 45, 000 have better score compares to rest of the respondents. Therefore, it has been concluded that Internet banking experience scores increase as the respondents' monthly income levels increase. Respondents with monthly income levels >Rs.45, 000 have high Internet banking experience scores, while respondents with monthly income between Rs.35, 001 and Rs.45, 000, Rs.25, 001 and Rs.35, 000 and Rs.15, 001-Rs.25, 000 have moderate experience, whereas respondents with monthly income up to Rs.15, 000 have low Internet banking experience scores.

**Table-4.7.22: Summary of Test of Hypotheses for ANOVA with Post Hoc (Duncan) on Overall Internet banking experience**

Research Hypotheses	Sig.	Decision
There is a significant difference among the respondents of different	.454	Not

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geographic locations in terms of overall Internet banking experience.		Supported
There is a significant difference among the respondents with different levels of education in terms of overall Internet banking experience.	.000	Supported
There is a significant difference among the respondents with different occupations in terms of overall Internet banking experience.	.000	Supported
There is a significant difference among the respondents of various age groups in terms of overall Internet banking experience.	.000	Supported
There is a significant difference among the respondents with various income levels in terms of overall Internet banking experience.	.000	Supported

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#### **4.7.22 Demographic Profile Analysis Findings of Overall Internet Banking Experience**

- The results indicate that the variance in Internet banking experience across geographic locations is statistically insignificant.
- The results indicate that the variance in Internet banking experience by education is statistically significant. Internet banking experience varies with different educational levels. From the Post Hoc (Duncan) test Internet banking experience scores increase as the respondent's education levels increase.
- The results indicate that the variance in Internet banking experience by occupation is statistically significant. Internet banking experience varies with different occupations. From the Post Hoc (Duncan) test Internet banking experience score is high among self-employed compared to students, private employees, and government employees.

- The results indicate that the variance in Internet banking experience by age is statistically significant. Internet banking experience varies with different age groups. From the Post Hoc (Duncan) test Internet banking experience scores decrease as the respondent's age increase.
- The results indicate that the variance in Internet banking experience by income is statistically significant. Internet banking experience varies with different income levels. From the Post Hoc (Duncan) test Internet banking experience scores increase as the respondent's monthly income levels increase.

**Table-4.7.23: Summary of Test of Hypotheses for Independent Sample T-test on Overall Internet Banking Experience**

<b>Research Hypotheses</b>	<b>Sig.</b>	<b>Decision</b>
There is a significant difference between male and female respondents in terms overall Internet banking experience.	.349	Not Supported
There is a significant difference between married and unmarried respondents in terms of overall Internet banking experience	.734	Not Supported

#### **4.7.23 Additional Findings of the Study**

- The results indicate that gender does not have a significant impact on Internet banking experience.
- The results indicate that the mean scores of Internet banking experience by marital status is statistically insignificant.

#### **4.8 Chapter Conclusion**

This chapter has discussed the steps followed in data coding, tabulation, analysis, and interpretation. The analysis is done with descriptive statistics for the demographic profile of the respondents and other advanced statistical tests like exploratory factor analysis, confirmatory factor analysis, structural equation modeling for the analysis of ATM and internet banking experience. The models have been developed and validated using procedures/ tests related to content validity, convergent validity, and discriminant validity for ATM banking and Internet banking separately. The demographic profile with ATM and Internet banking experience have been examined using independent sample t-test, ANOVA with Post Hoc analysis using Duncan Multiple Range Test (Duncan).

**CHAPTER - V**  
**CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH**

## **5. Introduction**

This chapter discusses the conclusions, implications, recommendations, limitations of the study and suggestions for further research, and conclusion.

The research study has the following broad objectives:

- Identification of the factors that affect overall customer experience in the usage of self-service technologies (SST) in the retail banking sector.
- Analysis of the effect of the identified factors on overall customer experience.
- Ranking of the critical success factors in creating the superior overall customer experience.
- Examination of the role of demographics on overall customer experience in the usage of self-service technologies (SST).

This chapter is summarized the findings of the research and draw relevant conclusions regarding the findings. This is followed by theoretical and practical contributions, implications of the study, recommendations, limitations of the study, suggestions for further research, and conclusion.

### **5.1 Factors Identified in the Study**

After due analysis of the data collected during the study, seven factors namely Convenience (CON), Servicescape (SS), Technological Interface (TI), Transactional Security (TS), Transactional Reliability (TR), speed (SP), Social Environment (SE) were identified in the context of ATM banking. In the case of internet banking eight factors namely Convenience

(CON), Online Aesthetic Elements (OAE), Security of Service Process (SSP), Reliability of Service Process (RSP), Speed (SP), Range of Services Available (RSA), Online Hedonic Elements (OHE), Screen size of Device (SSD) were identified.

## **5.2 Effect of the Identified Factors on Customer Experience**

### **5.2.1 ATM Banking**

- The results indicate that convenience of the ATMs as perceived by the customers is statistically significant and has an effect on overall ATM banking experience with standardized coefficient value 0.542. The convenience of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM-banking experience goes up by 0.542.
- The results indicate that service compatibility of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.172. The servicescape compatibility of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM-banking experience goes up by 0.172.
- The results indicate that ease of usage of a technological interface of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.351. Ease of use of the technological interface of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.351.
- The transactional security of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value

0.490. The transactional security of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.490.

- The transactional reliability of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.402. The transactional reliability of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.402.
- The transaction speed of the ATMs as perceived by the customer is the statistically significant effect on overall ATM banking experience with standardized coefficient value 0.376. The transaction speed of the ATM banking as perceived by the customer goes up one-unit standard deviation as overall ATM banking experience goes up by 0.376.
- The social environment in the ATMs as perceived by the customer is statistically insignificant.

### **5.2.2 Internet Banking**

- The results indicate that convenience of the Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.503.
- The results indicate that online aesthetics of the Internet banking as perceived by the customer has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.202.

- The results indicate that security of service process in Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.501.
- The results indicate that reliability of service process in Internet banking as perceived by the customers has statistically significant effect on overall internet banking experience with positive standardized coefficient value 0.390.
- The results indicate that the speed of transactions in Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.388.
- The results indicate that the range of services available in the Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.373.
- The results indicate that the screen size of the device used in Internet banking as perceived by the customers has statistically significant effect on overall Internet banking experience with positive standardized coefficient value 0.180.
- The online hedonics in internet banking as perceived by the customers is statistically insignificant.

### **5.3 Ranking of Factors**

The following tables depict the ranking of the factors

#### **5.3.1 ATM Banking Experience Relative Importance of the Factors**

**Table-5.3.1: Relative Importance of the Factors for ATM Banking Experience**

<b>Factors</b>	<b>Standardized Coefficient</b>	<b>Rank order (customer priority)</b>
Convenience (CON)	0.542	1
Transactional Security (TS)	0.490	2
Transactional Reliability (TR)	0.402	3
Speed (SP)	0.376	4
Technology Interface (TI)	0.351	5
Servicescape (SS)	0.172	6

### 5.3.2 Internet Banking Experience Relative Importance of the Factors

**Table-5.3.2: Internet banking experience relative importance of the factors**

<b>Factors</b>	<b>Standardized Coefficient</b>	<b>Customer Priority (Rank)</b>
Convenience (CON)	0.503	1
Secured Service Process (SSP)	0.501	2
Reliable Service Process (RSP)	0.390	3
Speed (SP)	0.388	4
Range of Services Available (RSA)	0.373	5
Online Aesthetics (OA)	0.202	6

## **5.4 Role of Demographics on Customer Experience**

### **5.4.1 ATM Banking**

- The results indicate that the variance in ATM banking experience by across various geographic locations is statistically insignificant.
- The results indicate that the variance in ATM banking experience by education is statistically significant. ATM banking experience varies with different educational levels. From the Post Hoc (Duncan) test it was found that ATM banking experience scores increase as the respondents' education levels increase.
- The results indicate that the variance in ATM banking experience by occupation is statistically significant. ATM banking experience varies with different occupations. From the Post Hoc (Duncan) test it was found that ATM banking experience score is high among self-employed compared to students, private employees, and government employees.
- The results indicate that the variance in ATM banking experience by age is statistically significant. ATM banking experience varies with different age groups. From the Post Hoc (Duncan) test it was found that ATM banking experience scores decrease as the respondent's age increase.
- The results indicate that the variance in ATM banking experience by income is statistically significant. ATM banking experience varies with different income levels. From the Post Hoc (Duncan) test ATM banking experience scores increase as the respondent's monthly income levels increase.

- The results indicate that gender does not have a significant impact on ATM banking experience. The results indicate that the mean scores of ATM banking experience by marital status is statistically insignificant.

#### **5.4.2 Internet Banking**

- The results indicate that the variance in Internet banking experience by across geographic locations is statistically insignificant.
- The results indicate that the variance in Internet banking experience by education is statistically significant. Internet banking experience varies with different educational levels. From the Post Hoc (Duncan) test Internet banking experience scores increase as the respondent's education levels increase.
- The results indicate that the variance in Internet banking experience by occupation is statistically significant. Internet banking experience varies with different occupations. From the Post Hoc (Duncan) test Internet banking experience score is high among self-employed compared to students, private employees, and government employees.
- The results indicate that the variance in Internet banking experience by age is statistically significant. Internet banking experience varies with different age groups. From the Post Hoc (Duncan) test Internet banking experience scores decrease as the respondent's age increase.
- The results indicate that the variance in Internet banking experience by income is statistically significant. Internet banking experience varies with different income levels. From the Post Hoc (Duncan) test Internet banking experience scores increase as the respondent's monthly income levels increase.

## **5.5 Theoretical and Practical Contribution**

### **5.5.1 Theoretical Contribution**

- ❖ The present study developed a scale for measuring customer experience in the usage of self-service technologies in Indian banking context.
- ❖ The study has identified and validated the factors influencing the overall customer experience with respects to banking SSTs (ATM banking experience and Internet banking experience separately).

### **5.5.2 Implications of the Study for Banking Industry**

- ❖ The study provides insights for bank managers to address the key factors contributing to the delivery of superior customer experience in the current competitive scenario.
- ❖ This study highlights the importance of customer experience in the context of banking SSTs which might be very helpful for the managers at the time of resource allocation.

## **5.6 Recommendations**

- The study recommends that the banks continue offering low transaction fees on technology-enabled self-service technologies to create the superior customer experience.
- The study recommends that banks provide adequate physical and electronic security to safeguard against incidences of hacking by fraudsters. It would also be advisable for banks to create positive customer experience to retain customers.

- The banks should also ensure customers' deposits are protected while ensuring proper security and reliability of each transaction to ensure the future sustainability of self-service technologies.

### **5.7 Limitations of the Study**

- Cross-sectional nature of research implies that results may vary across different countries.
- The study adopted purposive sampling method which is non-random, and there may be a chance of sampling bias.
- The study employed factor analysis which requires a certain level of subjectivity for identifying and labeling of variables.

### **5.8 Suggestions for Further Research**

- The sample of the study was from four select cities, i.e., Hyderabad, Mumbai, Delhi, and Kolkata. Therefore, the future studies can focus on semi-urban and rural areas, to draw key inferences in the Indian context.
- A similar study may be conducted on a longitudinal basis, to verify the consistency of the results in the country of retail banking SSTs.
- Future studies may consider the comparison of experiential quality among private, public and foreign banking SSTs.

This study is carried on retail banking self-service technologies in India. The retailing and travel industries are also introducing self-service technologies for competitive advantage. Therefore, it is recommended that further study is undertaken to study the experiential quality of the retail and travel industry self-service technologies (SSTs).

## **5.9 Conclusion**

Positive customer experiences have the potential to play a vital role in the creation of competitive advantage to the firms. In turn, it would create sustainable growth of the organization. It also results in the form of satisfied and loyal customers who could generate positive word of mouth, in addition to improved retention and reduced complaints. Creating and delivering superior customer experience has become one of the prime objectives of organizations. Self-service technologies are bound to play a significant role in producing superior customer experience in the current scenario of increasing penetration of internet, widespread deployment of ATMs, preference of smartphones by users and rapid developments in information technology that are finding applications in various industries. The factors identified in the study contribute to the successful design of SSTs in banking and help in the delivery of superior customer experience, which in turn could lead to the advantage for the banking firms.

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## Appendices - A: Questionnaire

Mr. Thirupathi Chellapalli  
Research Scholar  
School of Management Studies (SMS),  
University of Hyderabad



*Under the Supervision of:*  
Dr. D.V. Srinivas Kumar

City: \_\_\_\_\_ & S. No [    ]

### **Factors Affecting Customer Experience in the Usage of Self-Service Technologies (SSTs) in Retail Banking – A Study in the Indian Context**

- The purpose of this survey is to study the customer experience while using of retail banking self-service technologies (SSTs).
- This survey is anonymous and strictly confidential. There is no right or wrong answer. The only purpose is to find your perspective regarding usage of retail banking self-service technologies (SSTs).
- All responses will be kept confidential and will be used only for purposes of academic research.
- Your cooperation in providing this information will be greatly appreciated.

#### **Section – A Demographic Details**

1. Name (*Optional*): \_\_\_\_\_

2. Gender            A. Male [    ]                      B. Female [    ]

3. Marital Status            A. Married [    ]            B. Unmarried [    ]

4. Age [    ]

A. Under-25            B. 26 - 33 yrs.            C. 34 – 41 yrs.            D. 42 – 50 yrs.

E. 51 – 60 yrs.            F. Above 60 yrs.

5. Education Qualifications [   ]

A. High School & Below    B. Intermediate    C. Bachelor Degree    D. Master Degree  
E. M.Phil./Ph.D.

6. Your current monthly Income [   ]

A. Upto 15,000    B. 15,001-25,000    C. 25,001- 35,000    D. 35,001-45,000  
E. >45,000

7. Occupation [   ]

A. Self Employed    B. Student    C. Pvt. Employee    D. Govt. Employee    E. Business  
Owner F. Agriculture

8. Do you use computers? [   ]

A. Yes                    B. No

9. What is your knowledge level of computers usage? [   ]

A. No knowledge of computer            B. Beginner    C. Average knowledge  
D. Advanced computer knowledge    E. Expert

10. Which of the following banking facilities are you aware of **{Pls tick}**? Also tick the services you have been using?

S.NO	Banking Services	Aware	Using	If Using - Name of the Bank
I	ATM banking			
II	Credit Card banking			
III	Internet banking			
IV	Mobile banking			

11. If Yes, how frequently do you use the following banking facilities per month? **{Pls tick}**

S.NO	Banking Services	1 to 7 times	8 to 15 times	16 to 25 times	More than 25 times
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A	ATM banking				
B	Credit Card banking				
C	Internet banking				
D	Mobile banking				

**Section-B**

City: \_\_\_\_\_ & S. No [    ]

**1. ATM-Banking Experience:**

How important are the following factors for you when you visit ATMs? Please rate as follows:

<b><u>Not At all Important</u></b> (1)	<b><u>Not Important</u></b> (2)	<b><u>Can't say</u></b> (3)	<b><u>Important</u></b> (4)	<b><u>Very Important</u></b> (5)
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1. How long have you been operating ATM banking: \_\_\_\_\_ (years).

<b>I</b>	<b>ATM Banking (the opinion survey scale ranges from 1 to 5)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2	Cleanliness of the ATMs	1	2	3	4	5
3	Convenience of the location of the ATMs (Nearness)	1	2	3	4	5
4	Visually appealing exterior of the ATMs	1	2	3	4	5
5	Physical layout of the ATM machine (good spacing for operating ATM facility)	1	2	3	4	5
6	Quick disposal of currency/money by the ATM	1	2	3	4	5
7	Good behavior of other customers in the queue at ATM	1	2	3	4	5
8	Error-free ATM transactions	1	2	3	4	5
9	Ease of operation of ATM	1	2	3	4	5
10	Proper ventilation at ATM location	1	2	3	4	5
11	Proper temperature at ATM location	1	2	3	4	5
12	Easy swiping of ATM Card	1	2	3	4	5
13	Visibility of ATM display screen	1	2	3	4	5
14	Easy understanding of language used on the screen	1	2	3	4	5
15	Proper display of Information (Ex: Out of service boards)	1	2	3	4	5
16	Good quality of currency notes issued	1	2	3	4	5
17	Good print out of mini statements/ transaction slips	1	2	3	4	5
18	Immediate SMS communication regarding cash transactions	1	2	3	4	5
19	Tendering of correct amount by the ATM	1	2	3	4	5
20	Physical presence of security guard at ATM	1	2	3	4	5
21	Presence of security cameras at ATM	1	2	3	4	5
22	Less waiting time in the queue at ATM	1	2	3	4	5

23	Good surroundings of the ATM	1	2	3	4	5
24	Interactive Audio prompting during ATM operations	1	2	3	4	5
25	Ease of operation of Touch screen of the ATM	1	2	3	4	5
26	Ease of operation of the Keypad at ATM	1	2	3	4	5
27	Speed of transactions at the ATM	1	2	3	4	5
28	Use of your native language in ATMs	1	2	3	4	5
29	Ease of remembering PIN	1	2	3	4	5
30	Presence of security cameras at ATMs gives me secure feeling	1	2	3	4	5
32	Color of the ATM cards	1	2	3	4	5
31	In case of a failed transaction, the money debited from my account is credited back without much delay	1	2	3	4	5

## 2. ATM-Banking Experience:

1. Which Bank's ATM do you most frequently use: \_\_\_\_\_

The statements below are related to certain aspects of the service that you experienced in ATM banking, please circle the number which best reflects your opinion of such banking services.

<b><u>Strongly Disagree (SD)</u></b> (1)	<b><u>Disagree (D)</u></b> (2)	<b><u>Neutral (N)</u></b> (3)	<b><u>Agree (A)</u></b> (4)	<b><u>Strongly Agree (SA)</u></b> (5)
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I	ATM Banking (the opinion survey scale ranges from 1 to 5)	SD	D	N	A	SA
2	My bank's ATMs are located conveniently.	1	2	3	4	5
3	The operating hours of the ATM banking are convenient and sufficient.	1	2	3	4	5
4	The ATMs make my banking transactions easier.	1	2	3	4	5
5	ATM operation is simple.	1	2	3	4	5
6	Learning to use transactions in ATMs is easy for me.	1	2	3	4	5
7	The ATMs Interaction is more comfortable Over all, ATMs offer more convenience.	1	2	3	4	5
8	The cleanliness of the ATMs is excellent	1	2	3	4	5
9	The exterior appearance of the ATM is visually appealing.	1	2	3	4	5
10	'Out of Service' boards are properly displayed in front of non-functional ATMs.	1	2	3	4	5
11	The ambient conditions such as temperature at the ATM location is good.	1	2	3	4	5
12	The ambient conditions such as ventilation at the ATM location is good.	1	2	3	4	5
13	The signs, and symbols, related usage of ATMs are properly placed.	1	2	3	4	5
14	The ATMs display on the screen is clearly visible to me.	1	2	3	4	5
15	ATM card swiping/swallowing is easy and simple.	1	2	3	4	5
16	The physical layout of the ATM machine is comfortable to operate.	1	2	3	4	5
17	The languages used on the screen of ATMs are easy to understand.	1	2	3	4	5
18	functioning of ATM operation through touch and key board is simple.	1	2	3	4	5

19	Physical presence of security guard at ATM centre gives me secure feeling.	1	2	3	4	5
20	Presence of security cameras at ATMs gives me secure feeling.	1	2	3	4	5
21	In case of a failed transaction, the money debited from my account is credited back without much delay.	1	2	3	4	5
22	Transactions at ATM is equally better than security at the branch bank.	1	2	3	4	5
23	Personal information regarding money transactions over ATM also very secure.	1	2	3	4	5
24	ATM transactions are always reliable.	1	2	3	4	5
25	The ATMs make my banking transactions easier and accurate.	1	2	3	4	5
26	The ATMs provide me proper information regarding banking transactions.	1	2	3	4	5
27	The payment receipt and mini statement printings from the ATMs are clear.	1	2	3	4	5
28	The SMS messages regarding cash transactions done at the ATMs are clear.	1	2	3	4	5
29	Transactions at the ATMs are faster than transaction at the branch bank.	1	2	3	4	5
30	Transactions at the ATMs are required less time.	1	2	3	4	5
31	The ATM delivery transactions on time.	1	2	3	4	5
32	The ATM has standardized and simplified delivery process.	1	2	3	4	5
33	The presence of other customers (long waiting time in queues) in the ATMs irritates me.	1	2	3	4	5
34	The bad social (pushing, pulling, queue jumping etc.) behavior of other customers in the queues at ATM irritates me.	1	2	3	4	5
35	The presence of other customers outside of ATMs gives me lively environment.	1	2	3	4	5
36	The ATMs service procedure is very interactive.	1	2	3	4	5
37	Overall ATM banking always meets my expectations.	1	2	3	4	5
38	Overall, I believe that ATM banking are more convenient and useful than traditional ways of doing branch banking transactions.	1	2	3	4	5
39	Overall, the service I receive from the ATM banking is worth valuable in terms of time, money, and efforts.	1	2	3	4	5
40	My overall ATM banking experience is excellent.	1	2	3	4	5

42. Timings preferred for transactions at ATMs [    ]

a) Morning    b) Afternoon    c) Evening    d) Midnight    e) No Specific timings

43. Did you encounter any errors during ATM transactions    Yes [    ]    No [    ]

If Yes, Nature of errors:

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44. What is your response to the errors?

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45. How many times did you face errors in ATM transactions during the past six months?

\_\_\_\_\_

46. In future do you still continue using ATMs?

A. Yes [    ] B. Can't Say [    ] C. No [    ]

Reasons for your answer:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Thank you

**Section-C**

City: \_\_\_\_\_ & S. No [    ]

**1. Internet-Banking Experience:**

How important are the following factors for you in Internet banking? Please rate as follows

<u>Not At all Important</u> (1)	<u>Not Important</u> (2)	<u>Can't say</u> (3)	<u>Important</u> (4)	<u>Very Important</u> (5)
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1. How long have you been operating Internet banking: \_\_\_\_\_ (years).

II	Internet Banking (the opinion survey scale ranges from 1 to 5)	1	2	3	4	5
1	Ease of login and logout on the Internet banking website	1	2	3	4	5
2	Ease of doing transactions on Internet banking website	1	2	3	4	5
3	The Speed of login on Internet banking website	1	2	3	4	5
4	Error free internet banking website links	1	2	3	4	5
5	Proper functioning of the Internet banking web pages	1	2	3	4	5
6	Proper display of the Internet banking web pages	1	2	3	4	5
7	Error free transactions in Internet banking	1	2	3	4	5
8	Security of transactions made on Internet banking	1	2	3	4	5
9	Attractiveness of the Internet banking web page	1	2	3	4	5
10	Access to information like balance enquiry, account information, Mini-statements and checking of account history etc.	1	2	3	4	5
11	Ease of understanding language used in the Internet banking website	1	2	3	4	5

12	Confidentiality of account holder information	1	2	3	4	5
13	Simplified process of Internet banking.	1	2	3	4	5
14	Easily accessible Internet banking website	1	2	3	4	5
15	Proper functioning of Internet banking services	1	2	3	4	5
16	Proper security of Internet banking account	1	2	3	4	5
17	Completion of transaction without leaving any task unfinished	1	2	3	4	5
18	Screen size of the device on which internet banking is done.	1	2	3	4	5
19	Ease of booking of tickets (Air, Train, Bus etc.) using Internet banking	1	2	3	4	5
20	Ease of shopping online using Internet banking	1	2	3	4	5
21	Ease of making a cheque book request on Internet banking	1	2	3	4	5
22	Ease of adding beneficiaries for online transactions	1	2	3	4	5
23	Ease of making of mobile recharge using Internet banking	1	2	3	4	5
24	Ease of payment of DTH recharge through Internet banking	1	2	3	4	5
25	Ease of payment of Insurance premiums (LIC, SBI etc.) through Internet banking	1	2	3	4	5
26	Ease of payment of mutual funds through Internet banking	1	2	3	4	5
27	Time taken for the activation of added accounts	1	2	3	4	5
28	Use of your native language in Internet banking	1	2	3	4	5
29	Bank commission (service charge) for Internet transactions	1	2	3	4	5
30	Reliability of Internet connection	1	2	3	4	5
31	Speed of Internet connection	1	2	3	4	5
32	Avoidance of phishing web sites	1	2	3	4	5
33	Browser compatibility with Internet banking website	1	2	3	4	5

## 2. Internet-Banking Experience:

1. Name of the Bank where you have internet banking account: \_\_\_\_\_

The statements below are related to certain aspects of the service that you experienced in Internet banking, please circle the number which best reflects your opinion of such banking services.

<b><u>Strongly Disagree (SD)</u></b> (1)	<b><u>Disagree (D)</u></b> (2)	<b><u>Neutral (N)</u></b> (3)	<b><u>Agree (A)</u></b> (4)	<b><u>Strongly Agree (SA)</u></b> (5)
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II	Internet Banking (the opinion survey scale ranges from 1 to 5)	SD	D	N	A	SA
1	Login on the Internet banking web site is easy for me.	1	2	3	4	5
2	logout on the Internet banking web site is easy for me.	1	2	3	4	5
3	Operating hour of the Internet banking are convenient and sufficient.	1	2	3	4	5
4	It is easier to get previous transaction information using Internet banking.	1	2	3	4	5
5	The Internet banking website possesses up-to-date information about transactions	1	2	3	4	5
6	The presentation quality (home page) of the Internet banking website is attractive.	1	2	3	4	5
7	The language used in the Internet banking web site is easily understandable.	1	2	3	4	5
8	The design elements of the Internet banking web site are innovative.	1	2	3	4	5
9	The information made available in the Internet banking web site is clear.	1	2	3	4	5

10	The content of the Internet banking web site is useful.	1	2	3	4	5
11	The Internet banking offers a range of facilities that meets your specific requirements.	1	2	3	4	5
12	The Internet banking website provides a wide range of services.	1	2	3	4	5
13	Information about the account to account transfer and balance enquiry is readily available in Internet banking	1	2	3	4	5
14	The overall range of services available in the Internet banking website is fair and transparent.	1	2	3	4	5
15	Transacting through Internet banking website ensures security.	1	2	3	4	5
16	There is no chance for Internet banking account tampered by others.	1	2	3	4	5
17	In case of a failed transaction in Internet banking website, the money debited from my account is credited back without much delay.	1	2	3	4	5
18	The Internet banking service ensures security of every transaction.	1	2	3	4	5
19	Personal information (privacy) regarding money transactions over Internet banking very secure.	1	2	3	4	5
20	Internet banking transactions are always reliable.	1	2	3	4	5
21	The Internet banking make my banking transactions easier and accurate.	1	2	3	4	5
22	The Internet banking provide me proper information regarding banking transactions.	1	2	3	4	5
23	The Internet banking gives prompt responses for banking transactions.	1	2	3	4	5
24	The SMS/OTP messages regarding cash transactions done at the Internet banking are clear.	1	2	3	4	5
25	It takes less time to perform transactions over Internet banking.	1	2	3	4	5
26	The functioning of the Internet banking web pages is proper, and faster.	1	2	3	4	5
27	The Internet banking has simplified service delivery process.	1	2	3	4	5
28	The Internet banking has standardized service delivery process	1	2	3	4	5
29	Overall, Internet banking is faster to use.	1	2	3	4	5
30	The web pages of the Internet banking do not freeze during the transactions	1	2	3	4	5
31	The website of the Internet banking easy to navigate.	1	2	3	4	5
32	The website of the Internet banking pleasing.	1	2	3	4	5
33	The time distortion in Internet banking website always irritates me.	1	2	3	4	5
34	Overall Internet banking always meets my expectations.	1	2	3	4	5
35	Overall, I believe that Internet banking more convenient and useful than traditional ways of doing branch banking transactions.	1	2	3	4	5
36	Overall, the service I receive from the Internet banking is worth valuable in terms of time, money, and efforts.	1	2	3	4	5
37	My overall Internet banking experience is excellent.	1	2	3	4	5

32. Timings preferred for transactions for Internet banking [    ]

a) Morning    b) Afternoon    c) Evening    d) Midnight    e) No Specific timings

**33. Did you encounter any errors during Internet banking    Yes [    ]    No [    ]**

**If Yes, Nature of errors:**

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**34. What is your response to the errors?**

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**35. How many times did you face errors in Internet banking transactions during the past 6 months?**

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**36. In future do you continue using Internet banking?**

**A. Yes [ ]      B. Can't Say [ ]      C. No [ ]**

**Reasons for your answer:**

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**Thank you**

## Appendices - B: Presentations and Publications

### Papers Published in Journals

S. No	Title with Page Nos.	Journal	ISSN / ISBN No.	Impact factor	Whether Peer Reviewed	No. of Co-Authors
1	Factors effecting Customer Experience in the Usage of Smart Phones – An Explorative Study in Kolkata City Page No: 37-45	Jamnalal Bajaj Institute of Management Studies (JBIMS) Spectrum	ISSN 2320-7272	-	Yes	
2	Electronic Payment Systems: Role of Demographics Page No: 41-52	SCMS Journal of Indian Management	ISSN 0973-3167	1.1	Yes	1
3	Evaluating Effectiveness of the Health Centre Services among the University of Hyderabad (UOH) Student Community Page No: 61-66	Osmania Journal of International Business Studies	ISSN 00973-5372	0.565	Yes	2

### Article / Chapters Published in Edited Books

S. No	Title with Page	Book Title, Editor & Publisher	ISSN/ ISBN No.	No. of Co-Authors
1	A study on the Awareness of Information Communication Technology (ICT) and level of Adoption among the Baidkhodra Tribal Village of Amarkantak.	Consumer dynamics and marketing strategies in a globalized economic era – perspectives & challenges, Editors: Dr. Y. Rama Krishna Prasad, Dr. P.B. Apparao,	ISBN 978-81-928677-0-0	2

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			Sri K.V. S. Raju, Dr. MSR Seshagiri Published by: Department of Management Studies Gokaraju Rangaraju Institute of Engineering and Technology		
2	Customer Experience Management (CEM) in the Context of Self-Service Technologies (SSTs)	Business management in new era issues and challenges, Editor: Suresh Reddy Jakka PUBLISHER Paramount Publishing House.	ISBN 978-93- 82163-47-7	1	
3	Customer Experience Management (CEM) in the Context of – Social Environment	Emerging Trends in Marketing Editor: M Bhaskara Rao PUBLISHER: K.L. University	ISBN 978-93- 82163-66-4	1	

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S. No	Title of the Paper Presented	Title of Conference / Seminar	Organized by
1	Customer Perceived Security in Electronic Banking. <i>(Paper has been selected for Session Chair Track No-12 Internet and Social Media Marketing)</i>	MARCON 2014 3 <sup>rd</sup> International Marketing Conference. Theme: Re-thinking Marketing!	Indian Institute of Management – Calcutta (IIM-C), India.
2	Factors effecting Customer Experience in the Usage of Smart Phones – An Explorative Study in Kolkata City. <i>(Best Paper – Runner Up Marketing Track)</i>	International Research Conference (IRC)-2016 Theme: Revitalizing Economies, Pioneering Innovation	Department of Management Studies, (JBIMS), University of Mumbai, India.
3	Role of Demographics in the Usage of Electronic Payment Systems: An Explorative Study	GCMRM 2015-Global Conference on Managing in Recovering Markets	Management Development Institute (MDI), Gurgaon, India

4	Evaluating Effectiveness of the Health Centre Services among the University of Hyderabad (UOH) Student Community	Global Business Opportunities & Challenges	Department of Commerce, Osmania University Hyderabad
5	A study on the Awareness of Information Communication Technology (ICT) and level of Adoption among the Baidkhodra Tribal village of Amarkantak	Consumer Dynamics and Marketing Strategies in the Globalized Economic Era – Perspectives and Challenges	Department of Management Studies Gokaraju Rangaraju Institute of Engineering and Technology (GRIET) Hyderabad
6	Determinants of Customer Experiences in the Context of Modern Retail Stores	Changing Paradigms in Marketing of Services (ICCPMS - 2017)	School of Management Studies (SMS), University of Hyderabad, Hyderabad, India.
7	Customer Experience Management (CEM) in the Context of Self-Service Technologies (SSTs)	Business Management in New Era Issues and Challenges	Department of Management Studies, Mahatma Gandhi University, Nalgonda, A.P., India.
8	Customer Experience Management (CEM) in the Context of – Social Environment	National Conference on Emerging Trends in Marketing	KLU Business School, KL University, Vijayawada, A.P. India.
9	Customer Experience Management (CEM)- A Critical Overview	Paradigm Shifts in Marketing – the Road Ahead	School of Management Studies (SMS), University of Hyderabad, Hyderabad, India.
10	Determinants for Customer Intended use of Self-Service Technologies (SSTs)	Paradigm Shifts in Marketing – the Road Ahead	School of Management Studies (SMS), University of Hyderabad, Hyderabad, India.

<b>S. No</b>	<b>Seminar/Workshop</b>	<b>Organized by</b>
1	Ten Day Research Methodology Course for Ph.D. Scholars	Department of Business Management, IGNTU, (A Central University), Amarkantak, M.P. Dated from

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28<sup>th</sup> August, to 6<sup>th</sup> September 2013.

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|---|--|--|
| 2 | Two Day National Seminar on Multivariate Analysis for Management Research.                               | Department of Business Management and Commerce Osmania University. Dated 14 <sup>th</sup> & 15 <sup>th</sup> September 2013.   |
| 3 | Three Day Orientation Programme on “Skill Building for Effective Research and Data Analysis”             | IPE, Osmania University, Hyderabad. Dated August, 3 to 5, 2013.  |
| 4 | Refresher Course in Research Methodology (Social Science)  | UGC academic staff college, university of Hyderabad. Dated from 18 <sup>th</sup> December 2013 to 07 <sup>th</sup> January 2014.   |
| 5 | Attended One Day Workshop on Intellectual Property Rights  | Jointly Organized by Department of Microbiology, University of Kalyani and Patent Information Centre West Bengal State Council of Science and Technology DST, Govt. of West Bengal, Dated March 10 <sup>th</sup> , 2016. |
| 6 | Attended First International Conference on Intelligent Computing and Communication (icic <sup>2</sup> ). | Organized by Faculty of Engineering Technology & Management, University of Kalyani, West Bengal, Dated February 18 to 19 2016.   |
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