

A Statistical Study on Customer Adoption to E-Technology in Banking Services, Salem Corporation

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Abstract

The concept and scope of e-banking is silent in the transitional stage. E-banking has broken the barriers of branch banking. This research is carried out the services, importance in business, advantages, challenges and adoption of E-banking for public that proper use of E-banking become a solid tool to educate, inform and groomed the social level and it is also produce an responsiveness that how it is effecting in everyone life the deteriorate social norm, society standards and ethics of society and create awareness among public.

Keywords: Banking sectors, E-Technology, and Statistical analysis

I. INTRODUCTION

Information Technology has turn into a necessary tool in today's organizations. Banks today function in a highly globalized, liberalized, privatized and a competitive atmosphere. It is ever more playing a significant role in improving the services in the banking industry. Indian banking industry has witnessed a tremendous developments due to sweeping changes that are taking place in the information technology. Internet Banking has become an integral part of banking system in India. The main benefit from the bank customers' point of view is important saving of time by the automation of banking services processing and introduction of an easy maintenance tools for managing customer's money. E-banking is the term that signifies and encompasses the whole sphere of technology initiatives that have taken place in the banking industry. E-banking is a broad term making use of electronic channels through telephone, mobile phones, internet etc. for delivery of banking services and products.

II. OBJECTIVES OF THE STUDY

- To study the present standing of financial innovations in Indian banking sector.
- To identify various e-banking services/products adopted by India.
- To study the challenges faced in E-banking.
- To measure the opportunities available in E-banking.
- To understand the issue E-Banking and its evolution.

III. METHODS & MATERIALS

A. Research Methodology

In a view to precede the research in a systematic way the following research methodology has been used. By means of obtaining detailed opinion of the customers, this research falls under the category of descriptive research. This study was conducted as a survey that examined customers' adoption with e-banking practices in banking sectors located in Salem Corporation of Tamilnadu.

B. Population

Salem City Municipal Limits were further extended by the inclusion of Suramangalam Municipality, Jarikondalampatty town Panchayat, Kannankurichi town Panchayat and 21 other Village panchayats with effect from 1.4.94, with an extent of 91.34 sq. kms. and provisional reports of Census India, population of Salem in 2011 is 8,29,267; of which male and female are 4,17,317 and 4,11,950 respectively. Salem Corporation consists of 60 wards categorized under 4 Zonal Offices namely Zonal, Hasthampatty Zonal, Ammapet Zonal and Kondalampatty Zonal. Each Zonal Office has its own Zonal Chairman and an Assistant Commissioner to take care of Zonal Activities.

C. Sample of the Study

Since the public who are living in the Salem Corporation, it was established quite unwieldy to select certain percentage of the population as the sample frame. So that only 200 samples were selected from the four different zones on the basis of simple random sampling.

Table - 1.1
Information on sample

Sl. No	Name of the Zonal	Sample size
1	Suramangalam	50
2	Hasthampatty	50
3	Ammapet	50
4	Kondalampatty	50
Total		200

D. Pilot Study & Pre-Testing of Questionnaire

Pilot testing is expensive and also time-consuming. However, it serves in developing a design for preventing later problems. To determine the construct validity of the instrument, a pilot testing was conducted initially by administering the questionnaire on around 20 respondents, and to which extent they are satisfied by evaluating the customer adoption with E-technology in banking sectors with special reference to Salem Corporation.

E. Testing of Reliability

1) Alpha (Cronbach)

This is a model of internal consistency, based on the average inter-item correlation. The results are presented in suitable hypothesis with relevant interpretations.

2) Reliability Coefficients

$$\begin{aligned} \text{No. of Cases} &= 20 \\ \text{No. of Items} &= 61 \\ \text{Alpha} &= 0.901 \text{ (i.e. 90.1 \%)} \end{aligned}$$

F. Data Analysis

In this study, the research has adopted quantitative data analysis. Quantitative data analysis is the procedure of presenting and interpreting numerical data. Questionnaire method of data analysis can be of immense value to the researchers who effort to draw meaningful results from large body of qualitative data. The research has adopted the following statistical tools to analyses the collected data and achieves the objective of the research. This study has used Microsoft Excel, Statistical Package for Social Sciences (SPSS) computer software and AMOS for analyzing the primary data of this study. These possible tools have been used to run the statistical analysis end to create suitable tables and figures.

1) Chi-square Analysis

The Chi square test is used in any study on social science and management for testing the independence of two attributes. In this section the results of chi-square analysis is presented by dividing the factors considered in the study as two groups such as various dimensions in the levels of behavioural self-efficacy. Each of the variables of perception among the people is compared with the personal variables, chi square test are applied and the results are presented with suitable hypothesis and relevant interpretations.

2) Discriminant Analysis

Discriminant analysis is a statistical technique which allows the study of the differences between two or more groups with respect to several variables simultaneously and provides a means of classifying any object/individual into the group with which it is most closely associated and to infer the relative importance of each variable used to discriminate between different groups.

A linear combination of predictor variables, weighted in such a way that it will best discriminate among groups with the least error is called a linear discriminant function and is given by:

$$D = L1.X1 + L2.X2 + \dots + Lk.Xk,$$

Where Xi's are predictor variables, Li's represent the discriminant coefficients, and D is the value of the discriminant function of the particular individuals' element such that if this value is greater than a certain critical value D* the individual would be classified in group I; otherwise the individual would be classified in Group II.

IV. ANALYSIS & INTERPRETATION

A. Chi-square Analysis

In this section the average score of analysis is performed for personal factors with the perception of level of behavioural service quality.

1) Hypothesis:

The personal factors have no significant influence on the opinion of the respondents on Measuring Service Quality related variables.

The Tables 1.2 and Table 1.3 describe overall scores and the results of chi-square analysis in terms of personal variables, chi-square values, p values and their significance on Measuring Service Quality.

Table - 1.2

Overall Scores – Personal variables on Measuring Service Quality

Personal variables		Overall Scores – Perception on Measuring Service Quality			Total
		Low	Medium	High	
Gender	Male	36	30	5	71
	Female	29	91	9	129
Total		65	121	14	200
Age	Below 20years	2	2	1	5
	20-30years	14	28	3	45
	31-40years	26	38	3	67
	Above 40 years	23	53	7	83
Total		65	121	14	200
Education	School	28	74	8	110
	Graduate	25	24	4	53
	Post Graduate	7	9	0	16
	Others	5	14	2	21
Total		65	121	14	200
Occupation	Salaried	32	44	7	83
	Business	15	21	1	37
	Retired	3	6	0	9
	Others	15	50	6	71
Total		65	121	14	200
Monthly Income	Less than Rs.10000	12	58	6	76
	Rs.10001-Rs.20000	34	50	7	91
	Rs.20001-Rs.30000	15	9	0	24
	above Rs.30000	4	4	1	9
Total		65	121	14	200
Marital Status	Single	6	10	2	18
	Married	59	111	12	182
Total		65	121	14	200

Source: primary data

Table - 1.3

Chi Square values – Personal variables on Measuring Service Quality

S.No	Personal variables	Chi-square Value	p values	Significant/ Not Significant
1	Gender	17.28	0.00	NS
2	Age	2.47	0.64	S
3	Education	10.69	0.10	S
4	Occupation	8.63	0.20	S
5	Monthly Income	22.37	0.001	NS
6	Marital status	0.56	0.76	S

S – Significant at 5% level (p value<= 0.05); NS – Not Significant at 5% level (p value>0.05)

It is found from the Table 1.3 that the hypothesis is rejected (Significant) in four case and other cases are accepted (Not significant). It is concluded that the personal factor ‘Type of age, education, occupation, marital status’ has significant influence on the Measuring Service Quality in the study of customer adoption to E-Technology banking services among people in Salem Corporation.

B. Discriminant Analysis

In the present study, the model is composed of a discriminant function (or, for more than two groups, a set of discriminant functions) based on the perception of different levels of customer loyalty towards mobile phone services with respect to the selected personal variables ‘Type of Bank’ on problems and issues with E-Technology based channels

We looking at the Wilk’s 1 statistic along with chi-square statistic and we test the following hypothesis:

Null Hypothesis (H₀): The Discriminant analysis is not valid

Table - 1.4

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	Degrees of freedom	p-value
1	0.684	45.529	26	0.010

Wilk’s 1 is very high (0.684) and significance (0.010) is less than 0.05, so we reject the Null hypothesis, implying that the discriminant analysis is valid.

The linear discriminant function is

$$D = -0.88A1 + 0.33A2 + 0.76A3 - 0.53A4 + \dots - 2.09T5$$

The following Table 1.5 and Table 1.6 show the group means of each of the independent variables identified and coefficients of canonical discriminant function respectively.

Table 1.5: Group means of each of the independent variables

S.No	Problems and Issues with E-Technology based channels	Mean value	
		Saving	Current
1	Card gets blocked(A1)	2.512	3.000
2	Machine out of cash(A2)	2.124	2.286
3	No printing of statement(A3)	2.471	2.714
4	Balance reduced without any withdrawal(A4)	2.306	2.857
5	High service charges especially for share ATMs(A5)	2.008	2.214
6	Time consuming due to less number of ATMs(A6)	2.264	2.571
7	No Problems with ATM(A7)	2.074	2.500
8	High service charges(C1)	1.479	1.786
9	Less/poor administrative facilities(C2)	1.512	1.643
10	Less security(C3)	1.612	1.643
11	High interest rate(C4)	1.727	1.714
12	Time consuming due to delay in settlements(C5)	1.727	1.714
13	No Problems with Credit Cards(C6)	1.711	1.786
14	High charges(I1)	1.694	1.714
15	Network/connectivity problem(I2)	1.702	1.714
16	Un-updated information(I3)	1.711	1.714
17	Less security(I4)	1.686	1.714
18	Unfavorable behaviour of staff(I5)	1.711	1.714
19	No Problems with Internet Banking(I6)	1.702	1.714
20	High charges(M1)	1.686	1.571
21	Data transmission is slow even less information(M2)	1.678	1.571
22	Complicated process to use(M3)	1.686	1.571
23	More errors(M4)	1.694	1.571
24	Less security(M5)	1.686	1.571
25	No Problems with Mobile Banking(M6)	1.669	1.571
26	High charges(T1)	1.628	1.429
27	Unpractical devices for transactions(T2)	1.446	1.357
28	No Proper Guidance(T3)	1.248	1.071
29	No response for Complaints(T4)	1.248	1.071
30	No problems or Issues with Tele Banking(T5)	1.124	1.000
Eigen Value	0.461	% of Variance	100
Cumulative %	100	Canonical Correlation	0.562

The relative importance of each predictor variables in discriminating between the two groups is obtained and the results are presented below.

Table - 1.6
Relative importance of ratios in discriminating between the Groups

S.No	Variables of Problems and Issues with E-Technology based channels	Importance value of the variable (Ij)	Relative Importance (Rj)	Rank
1	Card gets blocked (A1)	0.21	21	6
2	Machine out of cash (A2)	0.03	3	16
3	No printing of statement (A3)	0.09	9	11
4	Balance reduced without any withdrawal (A4)	0.14	14	8
5	High service charges especially for share ATMs (A5)	0.07	7	12
6	Time consuming due to less number of ATMs (A6)	0.04	4	15
7	No Problems with ATM (A7)	0.12	12	10
8	High service charges (C1)	0.44	44	2
9	Less/poor administrative facilities (C2)	0.22	22	5
10	Less security (C3)	0.02	2	17
11	High interest rate (C4)	0.01	1	18
12	Time consuming due to delay in settlements (C5)	0.02	2	17
13	No Problems with Credit Cards (C6)	0.04	4	15
14	High charges (I1)	0.04	4	15
15	Network/connectivity problem (I2)	0.04	4	15
16	Un-updated information (I3)	0.00	0	—
17	Less security (I4)	0.02	2	17
18	High charges (M1)	0.22	22	5
19	Data transmission is slow even less information (M2)	0.05	5	14
20	Complicated process to use (M3)	0.04	4	15

21	More errors (M4)	0.62	62	1
22	Less security (M5)	0.42	42	3
23	High charges (T1)	0.41	41	4
24	Unpractical devices for transactions (T2)	0.02	2	17
25	No Proper Guidance (T3)	0.06	6	13
26	No response for Complaints (T4)	0.19	19	7
27	No problems or Issues with Tele Banking (T5)	0.13	13	9

Among the variables of behavioural problems and issues with E-Technology based channels study which is ‘More errors’ (M4) followed by ‘High service charges’ (C1) are substantially important variables in discriminating between groups namely ‘Saving account’ and ‘Current account’ in the study of customer adoption to E-Technology banking services of people with special reference to Salem Corporation.

V. CONCLUSION

In general, E-Banking has changed the traditional patterns of bank operations. These changes in technology, competition and lifestyles all have an impact on how banks operate today. Actually the customer had to physically visit the bank office in order to carry out banking operations. With the introduction of e – banking customers are saving money and time since they don’t have to physically visit the bank office. Every bank realizes that they must provide some kind of e – banking to their customers in order to survive. Through e – banking, banks can better maintain the relationship with customers because with e – banking customers tend to interact more with provided services. It also increases the revenues of banks and can easily gain competitive advantage through differentiation of banking services and thereby an image improvement.

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