ATTITUDE OF CUSTOMERS TOWARDS ELECTRONIC BANKING SERVICES IN CANARA BANK

Ms. N. Vanitha
Research Scholar, Department of Business Administration, Madurai Kamaraj University, Madurai

Introduction

This Paper identifies the dimensions of attitude of customers towards electronic banking services in the study area.

Review of Literature

N.P. Singh (2007) reveals that Hi-tech fraudsters have urbanized a new way of tracking online banking customer. One such most well known and fast growing technique is phishing. Latest in phishing is application of Trojan horse program. Trojan horse program insinuates itself into a user's computer via as email and directs the user of the system to website which is exactly similar to financial institution websites. Crooks pick up passwords and account numbers as soon as customer logon to their site. Keeping in view, the serious threats of phishing attacks author analyzed the trends of major activities of the phishing across globe specifically in the banking sectors. In addition, author analyzed the reasons for increase in phishing activities, types of phishing techniques, and process of phishing. Further author has presented recent cases of phishing specifically in banking/financial sector. Towards the end the author has studied the measures to combat the phishing in online banking.

N. Kamakodi (2008) in his paper reveals that it is almost 15 years since the Indian banking sector was liberalised and paradigm shift happened in the Indian banking services. All banks have either totally implemented 'Core banking System' or halfway through. A survey result was obtained from 292 respondents about their views on electronic banking channels. At the same time, over 80% feel that "human contact is necessary". This throw up challenge to banks. Technology alone cannot give a sustainable competitive advantage for the banks. When all banks introduce IT in their technology, IT will lose its positions as a differentiator. Banks have to incorporate this in their IT and operational strategy.

Tools of Analysis

The technique adopted to identify and analyze the dimension of attitude of customer towards electronic banking services is factor analysis. The principal factor analysis method is mathematically satisfying because it yields a unique solution to a factor problem. Its major solution feature is the extraction of maximum amount of variation as each factor is calculated. In other words, the first extracts the most variance and so on.

Most of the analytical methods produce results in a form that is difficult or impossible to interpret. Thurstone argued that it was necessary to rotate factor matrices if one wanted to interpret them adequately.

He pointed out that original factor matrices are arbitrary in the sense that an infinite number of reference frames (axes) can be found to reproduce any given 'R' Matrix.

There are several methods available for factor analysis. But the principal factor method with orthogonal variance rotation is mostly used and widely available in factor analysis computer programme.

Further orthogonal rotations maintain the independence of factors that is, the angles between the axes are kept at 90 degrees. One of the final outcomes of a factor analysis is called rotated factor matrix, a table of co-efficient that expresses the ratios between the variable and the factors that have been prepared. The sum of squares of the factor loadings of variable is called communalities (h^2).

The communality (h^2) of a factor is its common factor variance. The factors with factor loadings of 0.5 or greater are considered as significant factors. This limit is chosen because it had been judged that factors with less than 50 per cent common variation with the rotated factor pattern are too weak to report.

In the present study, the principal factor analysis method with orthogonal variance rotation is used to identify the significant dimensions of attitude of customer towards electronic banking services.

In order to examine the association between the demographic variables and level of attitude of customers chi-square test was applied. The following formula have been used to classify the level of attitude into three groups namely high level, medium level and low level.

The score values > $(\bar{x} + SD)$ has been classified as high level attitude

The score values < $(\bar{x} - SD)$ has been classified as low level attitude

The score values between $(\bar{x} - SD)$ and $(\bar{x}+SD)$ have been classified as medium level

where

$\bar{X}$ = average score value

S.D = standard deviation of score value

Testing for Sampling Adequacy

Before extracting the factors, to test the appropriateness of the factor model, Bartlett's test of sphericity was used to test the null hypothesis that the variables are intercorrelated in populations. The test satisfies the sphericity is based on chi-square transportations of the determinant of the correlation matrix.

Kaiser- Meyer Oklin (KMO) test of sampling adequacy is another useful tool. Small value of the KMO statistic indicates that the correlation between parts of variable cannot

be explained by other variables and that factor analysis may not be appropriate. Generally, a value greater than O.S is desirable.

The correlation matrix was examined carefully and the two tests namely Bartlett's test of sphericity and Kaiser Mayer Oklin test was undertaken to test if it was judicious to proceed with factor analysis in the present study. Table 1 shows the computed results.

Table 1 Measuring Sampling Inadequacies

Measures		Estimated Value
Kaiser – Meyer Oklin Measure of Sampling Adequacy (KMO)		0.7241
Bartlett's Test of Sphercity	Approximate chi-square	3641.37
	Degrees of Freedom	240
	Significance	0.000

From the Table 1 it has been observed that the Bartlett's test was significant with probability 0.000 being less than 0.05. Sampling adequacy measured using the Kaiser – Meyer Oklin (KMO) of 0.7241 was taken as acceptable. Thus the factor analysis may be considered as appropriate technique for analyzing the data.

Factor analysis was run with 16 variables (item) by orthogonal variance rotation per the perception of customers towards electronic banking services in Canara Bank.

Results and Interpretation

The rotated factor matrix for the variables relating to the attitude of the customers in electronic banking service in Canara Bank is given in Table 2.

The table 2 presents the loading received by the factors under F_1, F_2, F_3, and F_4 for electronic banking services in Canara Bank.

Table 2 Rotated Factor Matrix for the Attitude of Customers Towards Electronic Banking Services – Canara Bank

S. No.	Variables	F_1	F_2	F_3	F_4	R^2
1.	Lack of trust on systems integrity	**0.7795**	0.0019	0.0164	0.0076	0.61
2.	Lack of trust on security	**0.6844**	0.4103	0.1104	0.0164	0.65
3.	Confidence on PC technology limit internet use	**0.5673**	0.3249	0.2123	0.2075	0.52
4.	Consumers are scared to use internet	**0.5074**	0.4118	0.3123	0.1116	0.54
5.	E- banking transaction secure enough	0.2175	**0.7186**	0.0713	0.1017	0.58
6.	E – bank security features should increase	0.3815	**0.6971**	0.2014	0.0973	0.68
7.	Bank takes actions for erroneous transaction	0.4018	**0.5985**	0.3013	0.0017	0.61
8.	Bank correct transaction errors as soon as possible	0.4062	**0.5014**	0.3066	0.1214	0.52
9.	Satisfied with e-bank working hours	0.0142	0.1174	**0.7075**	0.1117	0.53
10.	Satisfied with e-bank service	0.3015	0.2622	**0.6472**	0.1412	0.60
11.	Satisfied with security level	0.4098	0.3102	**0.5443**	0.1108	0.57
12.	Feeling towards own bank	0.4124	0.3122	**0.5119**	0.2148	056.
13.	Legislation provides basic protection	0.2125	0.1127	0.1102	**0.6908**	0.55
14.	Trust vary with development of rules and regulation	0.2015	0.3122	0.1012	**0.5933**	0.71
15.	Awareness about regulatory framework affect trust	0.3641	0.3112	0.1672	**0.5678**	0.58
16.	Regulation of not developing with e-bank world.	0.3144	0.3113	0.2149	**0.5415**	0.53
		2.9198	2.6349	1.9592	1.6256	

From the Table 2 it has been inferred that the rotated factor loadings for the sixteen statements (variables) of attitude of customers towards electronic banking services in Canara Bank. It is clear from the table 5.2 that all the sixteen statements have been extracted into four factors namely F_1, F_2, F_3, and F_4. The factors identified which influence

the attitude of customers towards electronic banking services in Canara Bank are discussed in the following.

Factors I (F_1)

Lack of trust on systems integrity (0.7795), lack of trust on security (0.6844), confidence on PC technology limit internet use (0.5673) and consumers are scared to use internet (0.5074) are the variables with high loadings on Factor I. as the above items refer to the safety and security measures, Factor I is named as "Protected Transaction through net banking".

Factor II (F_2)

In the second factor, E- banking transaction secure enough (0.7186), e-banking security features should increase (0.6971), Bank takes actions for erroneous transaction (0.5985) have the highest significant positive loadings as the above item refers to the mechanism which involves e-banking services, the factor II is named as "Adequate Mechanism".

Factor III (F_3)

Satisfied with e-banking working hours (0.7075), satisfied with e-bank service (0.6472), satisfied with security level (0.5443) and feeling towards own bank (0.5119) have the highest significant positive loadings. As the above items relates to the service provided by banks, hence factor III is named as "Service Quality".

Factor IV (F_4)

In the fourth factor, legislation provides basic protection (0.6908), trust vary with development of ruler and regulations (0.5933), awareness about regulatory framework affect trust (0.5678) and Regulation is not developing with e-bank world (0.5415) have the highest factor loadings. As the above items are related to legislation and regulation, Factor IV is characterized on "Regulatory Issues".

Table 3 Variables with the Highest Factor Loading for the Attitude of Customers towards Electronic Banking – Canara Bank

Factor	Name of Newly Extracted Factor	Selected Statement (Variable)	Factor Loadings
F_1	Protected Transaction through net banking	Lack of trust on systems integrity	0.7795
F_2	Adequate mechanism	e-banking transactions secure enough	0.7186
F_3	Service quality	Satisfied with e-bank working hours	0.7075
F_4	Regulatory issue	Legislation provides basic protection	0.6908

From the Table 3 it has been inferred that the statement, lack of trust on system integrity with a factor loading 0.7795, e-banking transactions secure enough with factor

loading 0.7186, satisfied with e-bank working hours with factor loading 0.7075 and legislation provides basic protection with factor loading 0.6908 are the statement with highest factor loadings under the dimensions namely protected transaction through net banking (F1), Adequate Mechanism (F2), Service quality (F3) and Regulatory Issue (F4) respectively. Hence, there are the identified dimensions (factor) which influence the attitude of customers towards electronic banking services in Canara Bank.

Association between Demographic Variables and Level of Attitude of Customers towards Electronic Banking in Canara Bank

In this section, an attempt has been made to study the association between demographic variables and the level of attitude. For the purpose of analysis, the aggregate attitude score, comprising the total of all 16 variables, of each individual customer was considered. However that being a single variable without groups, constructing a contingency table is not possible hence average (x) and standard deviation (S.D) of the score are used for the purpose of dividing respondents (customer) into three groups namely those who below (x-SD) score (low level attitude), those above (x+SD) score (high level attitude) and those in between (x-SD) and (x+SD) score (medium level). As minimum of 20 per cent of cells should have expected count more than 5, however this rule is breached the likelihood ratio is considered as chi-square value.

Table 4 shows the results of relationship between demographic variables and the level of attitude.

Table 4 Contingency Analysis of Demographic Variables and Level of Attitude of Customers – Canara Bank

Demographic Variables	$\chi 2$ – Values	df	P – Value	Inference
Age	12.624	4	0.027	Significant
Sex	4.2561	2	0.327	Not significant
Marital Status	6.2611	4	0.114	Not significant
Education	12.2564	6	0.091	Not significant
Occupation	19.2411	8	0.014	Significant
Monthly Income	15.6364	4	0.009	Significant
Type of Account	11.2141	6	0.671	Not significant

It is inferred from above table 4 that there is a significant association between age and level of attitude of customers towards electronic banking services. The calculated value of chi-square is 12.624 and $p< 0.05$.

The association between sex and level of attitude is depicted by the table 5.7. The chi-square value being 4.2561 and $p > 0.05$, it can be concluded that there is no significant association between the two.

There is no significant association between marital status and the level of attitude. This is proved by the chi-square result with a value of 6.2611and $p > 0.05$.

The education and level of attitude have no significant association with each other. The table reports a chi-square value 12.2564 and $p > 0.05$.

The association between occupation and level of attitude is significant as the chi-square result with value of 19.2411 and $p < 0.05$.

The association between monthly income and level of attitude is significant as can be seen from the chi-square result (15.6364) and $p < 0.05$.

The association between types of account and level of attitude is not significant one as can be seen from the chi-square result. The chi-square value is 11.2141 and $p > 0.05$.

Reference

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