

**A STUDY ON FACTORS INFLUENCING CUSTOMER'S PREFERENCE TOWARDS
INTERNET BANKING SERVICES OFFERED BY COMMERCIAL BANKS AT KARAIKUDI**

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Abstract

The industrial revolution of the late 17th century brought in many changes in the traditional industries which in turn brought some fundamental changes in the socio-economic and cultural traditions. Likewise the Industrial Revolution (IR) 4.0 has brought technological advancement to an unimaginable way. The Fourth Industrial Revolution is a way of describing the blurring of boundaries between the physical, digital, and biological worlds. It's a fusion of advances in Artificial Intelligence (AI), robotics, the Internet of Things (IoT), quantum computing, and other technologies. It is the collective force behind many products and services that are fast becoming indispensable to modern life. One among the beneficiaries of this IR4.0 is the banking sector. With digitalization of banking, the services provided by the bankers to their customers are numerous. Hence the present study is conducted to identify the factors influencing customers' preference towards Internet banking. The study is descriptive and analytical in nature and based on primary as well as secondary data. The required primary data were collected from 150 bank customers across six banks at Karaikudi through a well structured interview schedule. The collected data has been analyzed by using Factor analysis to identify the influencing factors of customers' preference. From result of factor analysis it could be identified that Convenience and cost effectiveness, Transactional independence, Simple and time saving, Banker's competency and efficiency and Knowledge on net banking operations were major factors influencing customers' preference towards internet banking.

Key words: Internet banking, Factors Influencing Customer's Preference

1.1 Introduction

Technological development viz., increased internet penetration, affordable internet data packs has made access to internet both cheaper and faster. Today, variety of activities can be performed through online depending on the user's goal, from access to information, entertainment and shopping to financial transactions that formerly required a visit to the bank. Consumers have the choice to do internet banking from home or at their offices at any time during the day or night. The annoyance of standing in long queues at bank branches has been removed. Internet banking is the most convenient mode of banking for bank consumers. It also reduces the time taken to perform banking transactions. Further, the levels of services offered through internet banking vary from one bank to other bank, starting from level-I where only information is disseminated through internet to level-III where transactions are put through.

Introduction of Information Technology in banking industry has led the banks to store, assimilate and process information electronically. Banks have embraced latest technologies to survive and grow in the changing market environment. Thus, the banks are able to deliver the provisions

required for customers and offer the best solution from their product or service. This technological advancement in banking sector such as internet banking, mobile banking, telebanking, ATM/Debit card and credit card has led to the advancements in the payment and settlement systems. Therefore, the development of E-banking created a massive change in terms of fulfilling customers' divergent needs.

1.2 Review of literature

Mallika,K.S.K., (2014) in her thesis on "Customers attitude towards e banking services a study with reference to public sector banks in Madurai district" studied the relationship between the socio - economic variables of the respondents and their attitude towards the E-banking services of public sector banks. The outcome of the study shows that the socio economic variables have significant impact on the opinion about E-banking services. The Discriminate Function Analysis (DFA) proved that the selected independent variables are discriminating the group of dependent variables namely opinion about need of E-banking services, difficulty in use of E-banking services, economy and usefulness of E-banking services at more than 95 per cent. It also stated that majority of respondents' are satisfied with E-banking services. Hence it is suggested that the awareness about the E-banking services should be created among the customers' of the public sector banks without discriminating them based on their occupation and monthly income.

Dilara Aydın, (2014) in his study thesis "Customer Perception towards the internet banking Services Performed by the Turkish Banking System "aimed to investigate the customer perception towards the internet banking services and to identify the factors influencing the customers' intention on usage of internet banking in Turkey. The study covered a sample size of 245 customers in the city of Izmir in Turkey. The study revealed that cost, ease of use, security, accessibility were statistically significant and have positive effects on customer satisfaction. However, awareness factor has no significant effect on customer satisfaction of internet banking. It also found that education level of the banking customers' affect the usage of the internet banking services in Turkey. It has been concluded that Turkey ranked the fifth among European countries about the internet usage; therefore banks should use the digital media platform for attract the customer and promotes their products and services in Turkey.

1.3 Objectives of the study:

The main objective of this study is to identify the factors influencing customers' preference towards Internet banking.

1.4 Methodology of the study:

The study is descriptive and analytical in nature and based on primary as well as secondary data. The required primary data were collected from 150 bank customers across six banks at Karaikudi through a well structured interview schedule. Of the six banks selected, two were Public Sector Banks, two were Old Private Sector Banks and another two were New Private Sector Banks. Secondary data were also collected for the study purposes from the sources given below.

The collected data has been analyzed by using Factor analysis to indentify the influencing factors of customers' preference.

1.5 Factors influencing customers' preference towards internet banking- Factor Analysis

Customers today are smarter than ever before. The banks must understand the customers' mindset i.e. their wants, needs, and desires and design optimized experiences for them. The factors influencing customers' preference towards internet banking as surveyed by the researcher is presented in

Table below. Factor analysis is used to identify the factors influencing customers’ preference towards internet banking

It is a technique that is used to reduce a large number of variables into fewer numbers of factors. This technique extracts maximum common variance from all variables and puts them into a common score. Factor analysis is part of General Linear Model (GLM) and this method also assumes several assumptions viz.,

1. There is linear relationship,
2. There is no multicollinearity,
3. It includes relevant variables into analysis, and
4. There is true correlation between variables

and factors.

Several methods are available, but Principal Component Analysis is used most commonly.

Table No.1:KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.696
Bartlett's Test of Sphericity	Approx. Chi-Square	501.852
	DF	153.00
	Sig.	< 0.001**

Source: Calculated from Primary Data

The present study consisted of 150 respondents who were asked to indicate on a five point scale, their agreement or disagreement with the set of 18 statements relating to attitude of the customers towards internet banking. The output of the factor analysis is obtained by using principal component analysis and specifying the rotation. There are two stages in factor analysis. Stage one being the factor extraction process, wherein the objective is to identify how many factors are to be extracted from the data. Kaiser-Meyer-Olkin measure is an index which defines the sampling adequacy. The KMO test value is 0.696 which is more than 0.5, can be considered acceptable and valid to conduct data reduction technique.

The Bartlett’s test of Sphericity helps a researcher to decide, whether the results of factor analysis are worth considering and whether the researcher should continue analysis. The resultant value of Bartlett’s test of sphericity is significant ($p < 0.001$, $p = 0.000$), which shows that there is a high level of correlation among different variables, which make it adequate to apply factor analysis.

Communalities Table shows the communality values. Communality can be defined as the proportion of variance in any one of the original variables, which is captured by the extracted factors.

Table No.2: COMMUNALITIES

Variables		Extractio n
X₁	Internet banking is more convenient than manual banking.	.590
X₂	Service charges for internet banking services are reasonable.	.657
X₃	I feel net banking is riskier.	.611
X₄	I think that using internet banking for financial transactions would be a wise idea.	.624
X₅	Faster Internet access speed is important for internet banking.	.758
X₆	Password for internet banking transaction is to be known only to the customer.	.762
X₇	Internet Banking transaction procedures are simple and straight forward.	.647
X₈	I am satisfied with internet banking because I need not go to the bank.	.650
X₉	I have complete information about the internet banking transactions.	.664
X₁₀	I think, personal information I have entered is fully protected during the	.696

	process.	
X ₁₁	Internet Banking saves times.	.405
X ₁₂	It is convenient because it eliminates the risk of carrying cash.	.624
X ₁₃	Human contact is important for financial transaction.	.596
X ₁₄	If I have any problem about internet banking service, banks offer immediate help.	.696
X ₁₅	I could complete my internet banking transactions only by referring manual or online help disk.	.664
X ₁₆	I could complete my internet banking transactions, if I had seen someone else using it before trying it myself.	.571
X ₁₇	I could complete my internet banking transactions on my own without any body's help.	.643
X ₁₈	Banks give adequate information about the internet banking service.	.628

Source: Calculated from Primary Data

Table No.3: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.576	19.864	19.864	3.576	19.864	19.864	2.062	11.454	11.454
2	1.927	10.708	30.572	1.927	10.708	30.572	1.773	9.853	21.306
3	1.535	8.527	39.099	1.535	8.527	39.099	1.760	9.778	31.084
4	1.224	6.798	45.897	1.224	6.798	45.897	1.541	8.559	39.643
5	1.168	6.488	52.385	1.168	6.488	52.385	1.539	8.551	48.194
6	1.081	6.004	58.389	1.081	6.004	58.389	1.524	8.467	56.661
7	.976	5.421	63.809	.976	5.421	63.809	1.287	7.149	63.809
8	.906	5.033	68.842						
9	.883	4.907	73.749						
10	.741	4.115	77.863						
11	.710	3.946	81.810						
12	.599	3.330	85.140						
13	.536	2.979	88.119						
14	.506	2.813	90.932						
15	.476	2.644	93.576						
16	.421	2.339	95.914						
17	.403	2.238	98.153						

18	.333	1.847	100.00 0					
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Source: Calculated from Primary Data

Seven components are successfully extracted based on their eigen value. Together they account for approximately 63.81 % of the variance. From Table 4.21.A could observed that after 7 factors were extracted and retained, the communality is 0.59 for variable 1, 0.657 for variable 2 and so on. This means that 63.81 % of the variance is being captured by the 7 extracted factors together whereas variable 11 exhibits a low communality value of 0.405. The history of the derived components is outlined in Table 4.21.B. Table 4.21.C shows the component matrix which lists the factor loadings for each variable in the rotated solution. The correlation between the variable and factor, with possible values ranging from -1 to +1 are shown as the rotated factor loadings in above Table.

The following tables show the rotated factor matrix for the variables. The variable with factor loadings more than 0.45 were chosen in this study because loadings equals to 0.45 is considered average, whereas loadings 0.32 is considered less good. Factor 1 comprised of three items with factor loadings ranging from 0.72 to 0.687. The variables in Factor 1 are X₂, X₈, and X₁₂. Factor 2 comprised of three items with factor loadings ranging from 0.73 to 0.552. The variables in Factor 2 are X₁₅, X₁₆ and X₁₇. Factor 3 comprised of three items with factor loadings ranging from 0.544 to 0.768. The variables in Factor 3 are X₇, X₁₁ and X₁₈. Factor 4 comprised of three items with factor loadings ranging from 0.46 to 0.772. The variables in Factor 4 are X₁₃, X₁₄ and X₁₈. Factor 5 comprised of two items with factor loadings ranging from 0.53 to 0.796. The variables in Factor 5 are X₄ and X₉. Factor 6 comprised of two items with factor loadings ranging from 0.60 to 0.84. The variables in Factor 6 are X₃ and X₅. Factor 7 comprised of two items with factor loadings ranging from 0.48 to 0.86. The variables in Factor 7 are X₆ and X₁₀.

Table No.4: Rotated Component Matrix

Variables	1	2	3	4	5	6	7
X ₂	0.687	-0.323	0.179	0.120	0.108	0.151	0.015
X ₈	0.727	0.211	0.168	0.167	0.043	-0.136	0.018
X ₁₂	0.680	0.282	0.093	-0.058	-0.013	-0.172	0.200
X ₁₅	-0.123	0.552	0.102	0.006	0.260	0.449	0.254
X ₁₆	0.061	0.687	0.104	0.148	-0.213	0.128	0.041
X ₁₇	0.123	0.730	0.050	0.062	0.158	-0.085	-0.237
X ₁₈	0.07	-0.005	0.643	0.095	0.278	-0.169	0.237
X ₇	0.08	0.043	0.768	0.139	0.161	-0.011	-0.054
X ₁₁	0.26	0.154	0.544	-0.013	-0.128	0.014	0.026
X ₁₃	0.18	0.221	-0.061	0.634	0.315	-0.047	-0.081
X ₁₄	0.022	0.060	0.221	0.772	-0.081	0.082	0.183
X ₁₈	0.370	-0.037	0.431	0.457	-0.048	-0.240	-0.187
X ₄	0.472	-0.204	0.193	0.127	0.530	0.155	-0.034
X ₉	-0.033	0.045	0.155	-0.006	0.796	0.016	0.053
X ₃	0.034	0.304	-0.144	-0.360	-0.044	0.601	0.063
X ₅	-0.092	-0.062	-0.069	0.130	0.007	0.844	-0.108
X ₁₀	0.270	0.086	-0.184	0.267	0.492	-0.185	0.483
X ₆	0.076	-0.093	0.105	0.013	0.033	0.001	0.858

Source: Calculated From Primary Data

Seven new factors were successfully constructed using factor analysis. The following table shows the name of the new factors and their percentage of variance explained for each of the factors.

Table No.5: Factors identified and percentage of variance

S.No	Factor Name	% of Variance
1	Convenience and cost effectiveness	19.864
2	Transactional independence	10.708
3	Simple and time saving process	8.527
4	Bankers competency and efficiency	6.798
5	Knowledge on net banking operations	6.488
6	Reduced risk and internet speed	6.004
7	Transaction security	5.421

Source: Calculated from Primary Data

In every factor analysis, there are the same numbers of factors as there are variables. Each factor captures a certain amount of the overall variance in the observed variables, and the factors are always listed in order of how much variation they explain.

1.6 Findings of the study:

From Table it could be observed that the percentage of total variance contributed by variable related to Convenience and cost effectiveness factor is 19.864 , by variables related to Transactional independence is 10.708, by variables related to Simple and time saving factor is 8.527, by variables related to bankers competency and efficiency factor is 6.798, by variables related to Knowledge on net banking operations factor is 6.48, by variables related to Reduced risk and internet speed factor is 6.004 and by variables related to Transaction security factor is 5.421. The factor having maximum Eigen value and percentage of variance is considered as most significant factor followed by other factors. Since all these seven factors are having maximum Eigen value and sharing maximum variance hence they are essential in the present study.

Hence the result of factor analysis revealed that Convenience and cost effectiveness, Transactional independence, Simple and time saving, Banker's competency and efficiency and Knowledge on net banking operations were major factors influencing customers' preference towards internet banking.

1.7 Suggestions

1. The website of the Bank offering internet banking should be designed in such a way that the customers are able to access different services of internet banking even at slow network connectivity.
2. The bank offering internet banking services should provide instruction on how to use the internet banking services on its banks website both in the form of video as well as printed instructions.
3. The bank should motivate and educate their customers to use internet banking. Hence awareness campaigns on internet banking are to be organized by Banks to educate their customers.

1.8 Conclusion:

The main focus of the research was to identify the Factors influencing customers' preference towards internet banking with the help of Factor Analysis. From the result of factor analysis it could be understood that Convenience and cost effectiveness, Transactional independence, Simple and time saving process, Banker's competency and efficiency and Knowledge on net banking operations were major factors influencing customers' preference towards internet banking. Therefore creating

internet banking with the consideration of above factors will help the bankers to achieve maximum customers base for this type digital banking services.

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