An Empirical investigation of the Adoption of modern Banking Technologies amongst Bank Account holders of selected Private & Public Sector Banks in Ahmedabad (Gujarat-India) City

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ABSTRACT

An extensive banking network has been established in the last thirty years and the Indian banking system is no longer confined to metropolitan cities and large towns but also is catering the need of the rural people even in the remote areas of the country. The network of the Indian banking has spread out in the remote, difficult and the most isolated areas of the country in terms of branches, which is recognized as one of the largest network in the world. The researcher has chosen to analyze the adoption rate of the banking technologies amongst Bank Account Holders of selected Private & Public Sector Banks in Ahmedabad (Gujarat-India) City. This research is mainly based on Primary data. Kendall's Coefficient of Concordance test is used by researcher. Classification of reasons for not using banking technology channel is discussed in this research work. This research work highlights so many new facts in this field.

Keywords: Banking technology, ATM, Internet banking, Mobile banking

Introduction

The researcher has chosen to analyze the adoption rate of the banking technologies amongst Bank Account Holders of selected Private & Public Sector Banks in Ahmedabad (Gujarat-India) City.

The research problem under taken for the study has been selected after review the existing literature in the library, and deep discussion with the guide. Researcher is also interested in this field. Researcher has selected this problem to highlight new facts in this field, the problem has been selected after considering the effected factors like the availability of time, cost, information tools and techniques for data analysis and other related factors.

Objectives of Research Study

There are some basic objectives prevailing in the initial steps for introducing any work. The present study is based on the following objectives.

(1) To analyze the use of ATM facility.

(2) To study the use of Phone banking.

(3) To analyze the use of Internet banking services

(4) To study the use of Mobile banking.

Review of Literature

Dr. Kulwant Singh Pathania and Mamta Sharma Research Paper on "Adoption of Banking Technologies", Shimla - Himachal Pradesh / 2010.

The paper examines the adoption rate of the banking technologies. It identifies the operational problem in the use of modern technologies and suggests measures for improvement in the use of technologies. It also examines the level of satisfaction in respect of the adoption of modern technology and identifies the reasons for not using the different banking channels.

References: Vol 63, No. 3, July-September 2010, The Indian Journal of Commerce

Ms. Aakanksha D. Dave Research Project on "A study of Tourism Perspective in Saurashtra and Kutchch Region", March / 2008

The above mentioned research work has been undertaken with a view to present analytical understanding and scope for tourism in Saurashtra and Kutchch region. The study also aims at forecasting the trends of tourist traffic which helps the policy makers to prepare planning policy for development of tourism.

References: From Saurashtra University, Department of Commerce Library

Ms. Kiran Mungara Research Project on A research project on "Financial Statement Analysis of Ahmedabad (Gujarat-India) District Co-Operative Bank", Ahmedabad (Gujarat-India) / 2010. The research work deals with Financial Statement Analysis, which highlights the

important relationships between various components of the financial statement. It focuses on the evaluation of past operations. Financial statement analysis embraces the methods used in messaging and interpreting the results of past performance and current financial position as they relate to particular factors of interest in investment decisions. It is an important means of assessing past performance and in forecasting and planning future performance. Financial statement analysis can be used by the different users and decision makers to achieve the objectives.

References: From Saurashtra University, Department of Commerce Library

Asst. Prof. Dr. Ulun Akturan & Asst. Prof. Dr. Nuray Tezcan Research Paper on "The Effects of Innovation characteristics on Mobile banking adoption", Turkey / 2010.

This study aims to determine the effect of innovation characteristics on mobile banking adoption intention. In the study, the eight characteristics of innovation- relative advantage, compatibility, complexity, image, result demonstrability, visibility, trial ability, and voluntariness- are portrayed and their combined effect on adoption intention was searched. The data was collected from 311 college students- who are described as young prospects- and the research hypothesis tested by SEM. The results provide support for the theoretical relationship between the relative advantage and compatibility, and mobile banking adoption. However, no relationship was found between image, result demonstrability, complexity, trialability, and adoption intention.

References: *www.gcbe.us/10th_GCBE/.../Ulun%20Akturan,%20Nuray%20Tezcan.doc*

Scope of the Study

The present research work is a micro level study. The scope of study is based on two criteria, as under.

- Functional Scope: Functional scope of this study is to examine the adoption rate of the banking technologies of bank account holders of Ahmedabad (Gujarat-India) city.

- Geographical Scope: As per the criteria of geographical area, researcher has taken the respondents of Ahmedabad (Gujarat-India) city as scope of the study.

For this study services are taken in to considerations which are provided by the banks like ATM, Internet Banking, Mobile Banking and Phone Banking.

Nature of the Study

This is empirical research. The numbers of Bank account holders of Ahmedabad (Gujarat-India) city are very large. So it is beyond the capacity of an individual researcher to pursue

the study on hundred percent of enumerative basis of adequate size of the sampled bank account holders of Bank.

Data Collection

Sampling Design

The population of the study consists of all types of bank account holders of Bank in Ahmedabad (Gujarat-India) city but the number of bank account holders is quite large; it is not easy to contact all. So, the convenience random sampling is selected here. 100 respondents are selected in the Ahmedabad (Gujarat-India) city.

Source of Data

This research work is based on the survey method. The main source of collection of data in the present study is primary data which are supported by the secondary data.

The researcher has used the questionnaire method for collecting the primary data and the secondary data are collected from the records, documents, reference books, journals, websites and other publications.

Mode of Collection of Data

The researcher has used the primary data for purpose of analysis of Bank account holders' adoption of modern technology. The primary data were collected with the help of a structured questionnaire administered to 100 respondents. The questionnaire consists of the questions related to use of modern banking technology.

The Researcher contacted each respondent who have bank accounts individually at the convenient time of respondent and requested them to fill up questionnaire with correct answers. The researcher gave assurance to the respondents for keeping their views confidential and be used in the research work only.

Tools and Techniques used for Data Analysis

Data Analysis is an important part of research work to test the formulated hypothesis. First of all researcher has processed the collected primary data by questionnaire. Further, the processed data has been analyzed by statistical tools and techniques. The tools and techniques used by researcher for data analysis are as under.

- Kendall's Coefficient of Concordance
- Hypotheses

A hypothesis is a special proposition formulated to be tested in certain given situation as a part of research which states what the researcher is looking for. Thus hypothesis may be defined as a proposition or a set of proposition set forth as an explanation for the occurrence of some investigation or accepted as highly probable in the light of established facts.

For the present study the researcher has formulated two hypothesis viz, Null hypothesis and Alternative hypothesis. Both hypotheses were tested with the help of statistical tools.

- **In your opinion what are the reasons for not using the ATM, Internet Banking, Phone Banking, and Mobile Banking?**
- **Rank the reasons from 1 to 5 with 1 for the most important & 5 for the least important reason.**

Variables	ATM	Internet Banking	Phone Banking	Mobile Banking
Risky				
High Charge				
Don't Feel Necessary				
Inadequate Knowledge				
Didn't Have Facility				

As there are five sets of ranking in above four questions, researcher can work out the coefficient of concordance (*W*) for judging significant in ranking in terms of various facilities and their attributes. For this purpose researcher use this technique for each rank as under.

Kendall's coefficient of concordance, represented by the symbol *W*, is an important non-parametric measure of relationship. It is used for determining the degree of association among several (*k*) sets of ranking of *N* objects or individuals. When there are only two sets of ranking of *N* objects, researcher generally work out Spearman's coefficient of correlation, but Kendall's coefficient of concordance (*W*) is considered an appropriate measure of studying the degree of association among three or more sets of rankings. This descriptive measure of the agreement has special applications in providing a standard method of ordering objects according to consensus when researcher do not have an objective order of the objects.

The basis of Kendall's coefficient of concordance is to imagine how the given data would look if there were no agreement among the several sets of rankings, and then to imagine

how it would look if there were perfect agreement among the several sets. When perfect agreement exists between variables, *W* equals to 1. When maximum disagreement exists, *W* equals to 0. It may be noted that *W* does not take negative values because of the fact that with more than two judges complete disagreement cannot take place. Thus, coefficient of concordance (*W*) is an index of divergence of the actual agreement shown in the data from the perfect agreement.

$$W = s / (1/12)*k^2 (N^3 - N)$$

Where, $s = \sum(Rj - \overline{Rj})^2$

K = no. of ranking

N = Number of objects ranked

$\overline{Rj} = \sum R_j / N$

$(1/12)*k^2 (N^3 - N)$ = maximum possible sum of the squared deviation i.e., the sum of s which would occur with perfect agreement among k rankings.

As there are five sets of ranking, researcher can work out the coefficient of concordance (*W*) for judging significant in ranking in terms of various facilities and their attributes. For this purpose researcher did the given matrix for each rank as under.

Classification of Reasons for not using

Banking Channels for Rank 1

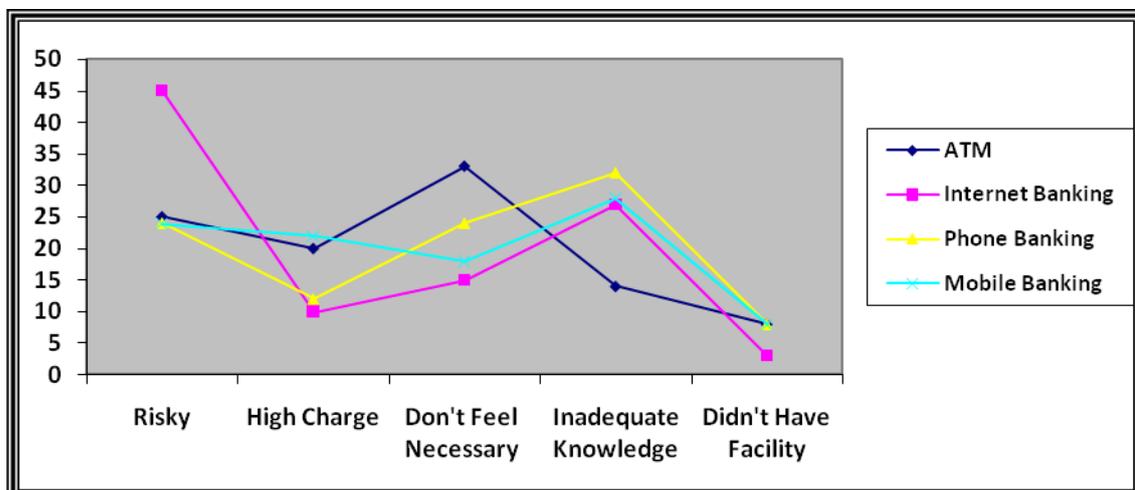| VARIABLES	RISKY	HIGH CHARGE	DON'T FEEL NECESSARY	INADEQUATE KNOWLEDGE	DIDN'T HAVE FACILITY
ATM	25	20	33	14	8
INTERNET BANKING	45	10	15	27	3
PHONE BANKING	24	12	24	32	8
MOBILE BANKING	24	22	18	28	8

With the help of the above given data researcher has developed the given matrix as under:

VARIABLES K = 4	RISKY	HIGH CHARGE	DON'T FEEL NECESSARY	INADEQUATE KNOWLEDGE	DIDN'T HAVE FACILITY
ATM	2	3	1	4	5
INTERNET BANKING	1	4	3	2	5
PHONE BANKING	2.5	4	2.5	1	5
MOBILE BANKING	2	3	4	1	5
Sum of ranks (R_j)	7.5	14	10.5	8	20
($R_j - \bar{R_j}$)2	20.25	4	2.25	16	64

Classifications of Reasons for not using

Banking Channels for Rank 1

◈ **Analysis:**

> H_0 = **There is no significant correlation among the ranks given by the individuals to various banking facilities with respect to their attributes.**

k = 4

N = 5

$\overline{Rj} = \sum R_j \, / \, N$

   = 60 / 5

   = 12

$s = \sum (Rj - \overline{Rj})^2$

s= 20.25 + 4 + 2.25 + 16 + 64

   = 106.5

W = s / (1/12)*K^2 (N^3– N)

     = 106.5 / (1/12)*$(4)^2$ * [$(5)^3$ – 5]

     = 106.5 / 160

     = 0.665

s_{cal} = 106.5

s_{tab} = 88.4

$s_{cal} > s_{tab}$

As per the above calculation it is found that calculated value of (s) is 106.5 which are higher than table value of (s) at 5% level of significance *i.e.* 88.4. Thus, the null hypothesis is rejected and the alternate hypothesis is accepted. In other words, *W* =

0.665 is significant and the ranking is more or less dependent in terms of various facilities and their attributes.

The above table and figure 4.2(7) reveal the rank 1 wise classification of respondents for not using banking channels. In that majority of the respondents have given the first rank for ATM services they have given reason for that they don't feel necessary. For internet banking majority of the respondents have given first rank to risky attributes and for phone banking majority of the respondents have given first rank to inadequate knowledge followed by mobile banking where majority of the respondents have given first rank to inadequate knowledge.

Significance of the Research

This study gives a clear picture about the services provided by the Bank. It throws light on what are the criteria which affect the customers the status of Bank account holders, awareness of modern Banking channels, frequency of use of Banking channels, satisfaction level of respondents regarding banking services and the overall effectiveness of the services provided by the Banks.

Limitations of the Research

In real world nature, the researcher in any field of knowledge makes the ground for further researches and this process going on. But all studies and researches have their own limitations. The researcher has to face many problems, some related to circumstances/ situations. The main limitations of the study are as follows.

1. The data will be collected through Questionnaire; there are chances of biased information provided by the respondent and also the limitations of the questionnaire method are viably attached to the present study.

2. The present study is limited to only 100 respondents of Ahmedabad (Gujarat-India) city. Although care has been taken in sample selection the respondents in the present study may not be representative of the actual population.

3. The study does not include all the bank account holders of the group of Ahmedabad (Gujarat-India) city. So the interpretations and findings of this study cannot be generalized without further supporting researches.

4. The statistical techniques have their own limitations. They also apply to this study.

5. Some of the respondents may not have able to either express their views accurately to the close ended questions.

6. The researcher has to consider time factor that is why the study survey is made limited to only for Ahmedabad (Gujarat-India) city.

7. The researcher based on the primary data. So it would be depends upon the respondents' awareness for survey.

References:

[1] Devi & Suma, 'Electronic Banking-Entry in the Indian Banking Scenario', Banking in the New Millennium, Kanishka Publications (2001)

[2] Gupta P. K. , 'Internet Banking in India: Consumer Concerns and Bank Strategies', Global Journal of Business Research, Vol. 2 (2008)

[3] Hawke J. D., 'Internet Banking: Challenges for Banks and Regulators', Institute of Chartered Financial Analysts of India (ICFAI) University Press Publications (2001)

[4] Kaleem A. & Ahmad S., 'Bankers' Perceptions of Electronic Banking in Pakistan', Journal of Internet Banking and Commerce, Vol. 13 No. 1 (2008)

[5] Nitsure R. R., 'E-Banking: Challenges and Opportunities', Economic and Political Weekly (2003)

[6] Rajagopalan S. P., 'Banking in the New Millennium', Kanishka Publications (2001)

[7] Safeena R., Date H. & Kammani A., 'Internet Banking Adoption in an Emerging Economy: Indian Consumer's Perspective', International Arab Journal of e-Technology Vol. 2 (1). (2011)

[8] Saunders, 'Financial Institutions Management – A Modern Perspective', IRWIN (1997)

[9] Scott W. L., 'Markets and Institutions – A Contemporary Introduction to Financial Services', South-Western College Publishing (1999)

[10] Sinkney J. F., 'Commercial Banks Financial Management', Prentice Hall (1998)

[11] Thulani D., Tofara C. & Langton R., 'Adoption and Use of Internet Banking in Zimbabwe: An Exploratory Study', Journal of Internet Banking and Commerce, Vol. 14 No. 1 (2009)

[12] Uppal R. K., 'Internet Banking in India: Emerging Risks and New Dimensions', Prime Journal of Business Administration & Management Vol. 1 (3) (2001)