A STUDY ON IMPACT OF INFORMATION TECHNOLOGY ON BANKING SECTOR WITH SPECIAL REFERENCE TO COMMERCIAL BANKS IN VIRUDHUNAGAR DISTRICT

SYNOPSIS

INTRODUCTION

“To satisfy customers, is the mission and purpose of every business” - Peter Drucker

Today banks have become a part and parcel of human life. There was a time when the dwellers of city alone could enjoy their services. Now banks offer services to even a common people and their activities extended to areas even hitherto untouched. Apart from their traditional business oriented functions, they have now come out to fulfill national responsibilities. Banks cater to the needs of Agriculturists, Industrialists, Traders and to all other sections of the society. Thus, they accelerate the economic growth of a country and steer the wheels of the economy towards its goal of “Self reliance in all fields”. It naturally arouses one’s interest in knowing more about the ‘bank’ and the various personalities who use such banks and the activities connected with it.

Today the world is dominated by the development of technology. Technology has become the principal driving force for long term economic growth. Information Technology has revolutionized various aspects of life. The world at large is rapidly entering into the ‘Net Age’.

Information technology has become global tool for banking industry to reach global markets. The use of IT in banks has become a global phenomenon and every bank must be IT compliance in order to survive in global competitive environment. The introduction of IT has changed manual and traditional forms of doing business and is being replaced by the sophisticated technology that is
based on automation and interconnection of computers and other electronic devices. For instance, ledger books, paper invoice, printed materials and business trips are being replaced with online billing and payments, elaborate website with product information and real-time teleconferencing across continents and time zone (Ojokuku and Sajuyigbe, 2012).

Banks in India have invested heavily on technology such as telebanking, mobile banking, net banking, automated teller machines (ATMs), credit cards, debit cards, smart cards, customer relationship management (CRM) software, electronic payment systems and Enterprise Resource Planning, to bring improvements in quality of customer services, scale and specialization in products, alternative sources of income particularly from fee-based services, geographical reach through communication networks and electronic delivery channels, risk management practices, housekeeping, internal control systems and regulatory compliance, cost efficiencies and scale economies. Heavy investments in IT have been made by the banks in the expectation of improvement in their performance. But improvement in the performance depends upon, differences in the deployment, use and effectiveness of IT. In view of this it becomes pertinent to identify, those banks which have deployed and used the IT effectively from the rest of those which failed to do so. At the same time it also becomes important to find out the factors on account of which these banks became IT efficient. It becomes important to address these issues for Commercial banks due to the dominant position enjoyed by these banks and their contribution towards socio-economic development of the country.

Nowadays information technology plays a vital role in banking sector. Day by day increasing change in technology world leads to improve e-banking services of various banks. It provides various advantages to customers of various banks. People are educated more than olden days and today human lives becomes machine oriented and they don’t have enough time to visit bank branch than ever before. The information technology revolution is entirely
changing the way of banking business and has effectively widened the range of products and increased the expectations and demands of the customers.

**STATEMENT OF THE PROBLEM**

While traditionally, banking means “accepting deposits and lending loans”, in the later part of 20th century, the word took on a different meaning altogether. Banks no longer restricted them to traditional banking activities, but explored newer avenues to increase business, create more customer values and capture new markets. Many researchers highlighted the revolutionary changes in the banking sector in India due to the introduction of Information Technology. IT enabled banking services aimed at enhancement of customer services, improvement in risk management system and diversified banking products. With the help of IT, the banks are able to reduce the transaction cost and handle a large number of transactions in time. Banks are also able to provide customized products easily and customers could access many services through internet by sitting at home.

Adoption of Information Technology in banks not only brings benefits, but risk too. The complexity and dynamism of the Internet implies considerable risks that are mainly arising from fraud, error and the inability to properly manage confidential information. All Internet banking applications must meet a minimum set of security requirements, such as: communications’ confidentiality and integrity, data’s integrity and confidentiality, authenticity for all parties involved in transactions, protection of personal data, protection against interception of information transferred between the client and the bank, traceability of transactions, business continuity for all services offered to customers, prevention, detection and monitoring all unauthorized access in the system, and restoration of the system’s information in case of natural calamities or unpredictable events etc.

In countries like India where digital literacy is low, offereing internet banking products and service is a highly challenging task for banks. In case of
carrying out internet banking properly, a basic knowledge of computer and internet is required, which limits the number of users willing to avail this facility.

Many people, who are not comfortable with computers and the Internet, often find it difficult to use this service. Therefore, for beginners, it is really time-consuming. In addition to this, people also find a difficulty in trusting a completely mechanized system like Internet banking, in case of financial matters. In many instances, a simple mistake, like clicking a wrong button, may create a big problem. And so, many individuals often keep wondering if they have properly executed the transaction.

While banking through the internet, the customers have to be careful about the security of internet bank account. The security of their internet bank account depends to a great extent on the security of their computer, password and PIN number. Any leakage of information regarding their password or PIN number could lead to unauthorized and criminal transactions being conducted without their knowledge.

Sometimes, it can be time-consuming and tedious for the customers, as many websites take quite a long time to get started. They may also encounter technical difficulties and connectivity problems while conducting banking transactions.

Lack of trust environment is another major problem experienced in India. These factors impede the growth of modern banking. Anyhow, there is evidence in the literature and other sources that certain segments of the bank customers, especially those belonging to the well educated, young, relatively well-off and residing mainly in urban areas, taking to internet banking and other forms of electronic banking self-services. This is also evident from the reduction in the branch transactions and the increase in the net transactions in many of the banks.
Hence, considerable impact on the bank customers due to the implementation of technology based banking services. With this background in view, an attempt has been made to evaluate the Impact of Information Technology on banking sectors (with reference to commercial banks in Virudhunagar District). The present study aims to analyze the areas of demographic profile, usage of banking services, attitudes of customer and level of satisfaction towards e-banking services, the problems of technology usage, level of perception towards e-service quality and impact of information technology.

SCOPE OF THE STUDY

The present study has been analysing the attitude of the customers on the impact of IT on banking sector. The primary data used in the study were collected from the sample customers of both public sector and private sector bank branches operating in Virudhunagar District. The study attempt to evaluate the level of satisfaction of the respondents towards the technology based banking services. It also highlights the nature of problems faced by them due to the adoption of IT in banking services. The study also projects the E-service quality of the banks based on the view point of its customers.

OBJECTIVES OF THE STUDY

The present study has the following objectives:

- To present an overview of the technology adoption in banking industry.
- To study the demographic and banking profile of the respondents.
- To analyse the attitude and level of satisfaction of the respondents towards tech-based banking services.
- To identify the nature of problems faced by the respondents in services offered by the banks due to adoption of IT.
• To evaluate the level of perception of the respondents towards various dimensions of e-service quality.
• To offer suitable suggestions based on the findings to enhance the deployment of tech-based banking services.

HYPOTHESES OF THE STUDY

To give a specific focus to the objectives, hypotheses have been formed to test the objectives on clear terms using appropriate statistical tools. It necessitates the development of hypotheses at each and every stage of the analysis. The study involves 11 hypotheses which are listed down, proved and explained in detail in the fourth, fifth and sixth chapters. The following null hypotheses have been formulated and tested with appropriate statistical measures.

• $H_01$: There is no significant difference among the respondents between frequency of manual mode of transactions and frequency of electronic mode of transaction.

• $H_02$: There is no significant difference among types of tech-based banking services preferred by the respondents

• $H_03$: There is no significant difference among the respondents regarding period of using tech-based banking services.

• $H_04$: There is no statically significant difference among the respondents towards the level of adoption of Tech-based banking services based on demographic profile.

• $H_05$: Demographic profile of the respondents has no significant relationship on the level of satisfaction towards information.

• $H_06$: Demographic profile of the respondents has no significant relationship on the level of satisfaction towards Services.

• $H_07$: Demographic profile of the respondents has no significant relationship on the level of satisfaction towards products

• $H_08$: There is no significant difference in behavioural intention with respect to tech based banking services in the future with varied personal characteristics.
• **H₀9**: There is no significant relationship between level of perception of the respondents and quality dimensions of e-services.

• **H₀10**: Each independent variable \((X₁, X₂, X₃, X₄ \text{ and } X₅)\) i.e., (responsiveness, relationship, ease of use, reliability and security) does not significantly contributes towards the dependent variable (Level of Satisfaction) if all the other independent variables are held constant.

• **H₀11**: Each independent variable is not making any significant relationship between the level of perception towards quality dimensions of E-Service if all the other variables related to them are held constant.

• **H₀12**: Level of Perception has not significantly impact on the level of satisfaction.

**METHODOLOGY**

The present study is descriptive and analytical based on both primary and secondary data. The study is mainly based on primary data obtained from a questionnaire designed on the basis of the objectives and open discussion with the customers. The questionnaire has been finalized after conducting a pre test among a sample of 20 customers. Then, it was redrafted based on the responses to the pre test and has been finalized. A final draft was prepared to collect the primary data. The secondary data were collected from books, journals, reports, dissertations, theses, official records of the banks, magazines, articles, and relevant websites sources.

Commercial banks can be classified into public, private sector banks and foreign banks. There are one hundred and thirty four public sector banks, seventy one private sector banks and there are no foreign banks in Virudhunagar district and totally two hundred and five bank branches are operating within the limit of Virudhunagar district.

Virudhunagar district consist of three revenue divisions namely Aruppukottai, Sivakasi and Sattur. The Virudhunagar district consists of nine taluks namely Aruppukottai, Virudhunagar, Tiruchuli, Kariapatti, Sivakasi,
Srivilliputtur, Sattur, Rajapalayam and Vembakottai. On the basis of this sample size calculation, the researcher has taken 100 banks as samples. Then by using proportionate sampling, has selected sixty five public sector banks (134/205*100) and thirty five private sector banks (71/205*100). Totally one hundred banks are selected in the study area. Then, Convenience sampling technique has been adopted for selecting a sample of 500 customers that is 5 customers from each bank branch selected. The primary data are collected from July 2017 to June 2018.

LIMITATIONS OF THE STUDY

Some limitations related to the study are as follows:

- The findings and results are based on the respondent’s opinion only.
- The study is restricted to commercial banks located in Virudhunagar district only.
- The study is based on the opinion survey of customers. But, the opinion expressed may differ according to time and situation.

SCHEME OF CHAPTERISATION

The present study has been segmented into seven chapters for neat and clear presentation.

The first chapter entitled “Introduction and Design of the Study” presents the introduction, statement of the problem, scope of the study, objectives of the study, hypotheses, conceptual definitions, research methodology, sampling design, statistical tools, limitations of the study and scheme of chapterisation.

The second chapter captioned “Review of Literature” comprises theoretical perspectives, past study reviews and conclusion.

The third chapter titled “Technology Adoption in Banking Industry - An Overview” highlight technology in banking, technology application in
banking, and recent trend in banking. This chapter then elaborates the innovative banking products and services.

The fourth chapter captioned “Demographic and Banking Profile of the Respondents” reveals the demographic profile of the respondents and profile of respondents about usage of banking services.

The fifth chapter entitled “Attitude and Level of Satisfaction of the Respondents towards Tech-Based Banking Services” brings out the relationship between types of e-banking services and period of using e-banking services, factors influencing to use technology based banking services. This also measures the level of satisfaction of the respondents towards technology based banking services.

The sixth chapter captioned “An Analysis on Perception of the Respondents towards E-Service Quality” analyses the role of technology that are implemented in the banking industry, the assessment of the respondents about safety of IT transaction, analyse the nature of problems faced due to adoption of Information Technologies in banking, the remedial measures suggested to overcome technological problems and level of perception towards quality dimensions of E-service.

The seventh chapter titled “Summary of Findings, Suggestions and Conclusion” recites the findings of the study, suggestions to enhance the deployment of technology the fullest possible manner and also states the directions for further research.

FINDINGS OF THE STUDY

DEMOGRAPHIC PROFILE OF THE RESPONDENTS

The study reveals that a majority of 57 per cent of the respondents are male, 48.6 per cent of the respondents belong to the age group of below 30 years, 43.6 per cent of the respondents have completed post graduates, a
majority of 78.4 per cent of the respondents are employed, 67.4 per cent of the respondents are married, 57 per cent of the respondents come under the monthly income category of above ₹15,000, 57 per cent of the respondents are from nuclear family and a majority of 71.6 per cent of the respondents’ family composed of 4-6 members.

**BANKING PROFILE OF THE RESPONDENTS**

A majority of 41 per cent of the respondents have accounts in both public and private sector banks, a vast majority of 85 per cent of the respondents are general users, a majority of 61 per cent of the respondents are younger customers who are curious about technology, a majority of 81.6 per cent of the respondents prefer savings bank account than other accounts as it is compulsory for availing any loan, recurring deposit or direct cash transfer, the reasons “Trust & Security” tops the list with a highest mean score of 61.81, a majority of 55.6 per cent of the respondents have maintained their accounts with the bank for a period of above 5 years, 35.4 per cent of the respondents aware of technology advancement in banks through internet, 42.4 per cent of the respondents are using internet for a period of 2 to 3 years, 58.4 per cent of the respondents are influenced by the banks through attractive advertisement about the usage of tech-based services.

There is a significant difference between frequency of manual mode of transactions and frequency of electronic mode of transactions by the respondents (0.027<0.05). There is a significant association between the number of electronic transactions and the number of manual transactions conducted by bank customers (0.000<0.05).

**ATTITUDE OF CUSTOMERS TOWARDS E-BANKING SERVICES**

Two way Analysis of Variance (ANOVA) reveals that there is no significant difference among types of tech-based banking services preferred by the respondents (F value is 0) and there is a significant difference among the respondents regarding the period of using tech-based banking services (F value is 5.328).
A vast majority of 92 per cent of the respondents prefer accounts alert through SMS, 54.6 per cent of the respondents have an attitude of moderate adoptions of new technology and 52.2 per cent of the respondents are familiar with banking technology adopted in banks.

Among the factors influencing the use of technology based banking services ‘User friendliness’ tops the list with a highest mean score of 12.87 and ‘greater control over finances’ secured least mean score of 6.70.

T-test concludes that there is no significant difference between male and female towards level of adoption towards tech-based banking services.

Chi square test reveals that:

Among six Demographic variables, five variables such as gender, age, educational qualification, status of unemployment and monthly income have significant relationship with the level of satisfaction towards information provided by the banks to its customers for their request as the p value is less than 0.05 (p<0.05).

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Among six demographic variables, five variables such as gender, age, educational qualification, monthly income and type of the family have significant relationship with the level of satisfaction towards technology based products.

The analysis with regard to implementation of innovation due to technology adoption in the banking industry reveals that “Remote Banking (ATM)” tops the list with a highest mean score of 8.58.

Factor analysis that has been applied to analyse the problems due to adoption of information technologies loaded three factors which are named as Risk factor, Security Issues factor and Technology Issues factor. The statements identified under the above factors with the highest mean score are:
Difficulties for internet beginners (.793), Hacking of bank accounts and passwords (.792) and no cash in ATM (.733) are the most dominating factors which influence the information technology adoption in banks.

Among the various suggestions to overcome the technology based problems by the banks, Encryption secures the first rank with highest Garrett Score of 56.66.

LOYALTY OF THE RESPONDENTS

It is clear that a majority of 96.4 per cent of the respondents wish to recommend the tech-based banking services to others due to satisfied services they are receiving from the bank and the study unveils that a majority of 47 per cent of the respondents opined that the contribution of technology adoption to the success of the bank is very good.

Mean score analysis was applied to find out the behavioural intentions based the score of the respondent which is found to be higher. The results are variable “Intend to use more in the future” carries the highest mean score of 0.902 when compared with the other variables; this is followed by “Continue to use in the future” with 0.857.

LEVEL OF PERCEPTION TOWARDS QUALITY DIMENSIONS OF E-SERVICE - REGRESSION ANALYSIS

The regression equation points out that

- Reliability level of perception contributes towards quality dimensions of E-service to the extent of 72.9 per cent.
- Ease of Use level of perception contributes towards quality dimensions of E-service to the extent of 65.0 per cent.
- Security level of perception contributes towards quality dimensions of E-service to the extent of 57.5 per cent.
- Relationship level of perception contributes towards quality dimensions of E-service to the extent of 54.2 per cent.
- Responsiveness level of perception contributes towards quality dimensions of E-service to the extent of 53.1 per cent.
IMPACT OF INFORMATION TECHNOLOGY ON BANKING SECTOR

Path Analysis – Structured Equation Model (SEM) analysis reveals that the level of perception has significant impact on the level of satisfaction.

SUGGESTIONS

Based on the findings of the study, the researcher has made some suggestions to the banks and customers

TO THE GOVERNMENT

- Telecom services should be strengthened to speed up internet connectivity so that the banks could provide tech-based services which would enable its customers to utilize e-banking services in an uninterrupted manner.
- Remote internet coverage should be given to install ATM in the remote rural areas.

TO THE BANKS

- Proper intimation through proper channel should be given to the customers at frequent intervals for making them aware of technological advancement adopted by the banks.
- To elucidate the hesitation in the minds of the customers that IT enabled banking services are not secured, the bank officials must come forward to insist confidence by organising customers’ meet at frequent intervals.
- Workshop may also be organised to the bank customers to enable them to know about the technology that are adopted in the bank and the e-products offered by the banks so that the customers can easily adopt to tech-based banking services.
- The banks should upgrade their security system to safeguard the customer’s financial details by hackers for fraudulent activities.
- The usage of telephones is gradually in a decreasing trend. But there is hardly any person without mobile phone. Hence, the banks must
develop and familiarize mobile apps to make the online tech-based banking services in a user-friendly manner.

- Banks must pay attention to customer care in order to enhance the bank customers to access self enquiry facilities.
- Utmost initiatives and care should be taken for ensuring the usage of internet banking to the fullest possible level.
- The server errors often found while using the internet banking services must be overcome properly by the banks by increasing the server capacity.
- Different mobile applications for different services would be uncomfortable while using. Therefore, single application for all the services might be designed.

TO THE CUSTOMERS

- Customers should themselves make some efforts to get knowledge and updates about e-banking services and make them technically competent.
- To protect themselves fall victims of electronic frauds, bank customers should follow the instructions and pay due attention to the security tips and alerts provided by banks and RBI in various forms (e-mail, SMS, newspaper inserts, radio, television, etc.)
- Customers should change the password as per the instructions of the bank in order to ensure safety and security in their transactions.
- Customers below 30 years of age who are highly inclined to continue with tech-based banking services should recommend and spread tech savvy attitude among their family members, friends, relatives, neighbours and colleagues.

CONCLUSION

The present study is made to analyze the usage of tech-based banking services by the customers of the commercial Banks in Virudhunagar District. Money plays an important role in the day - to - day life. ATM Cards, Debit Cards, Credit Cards, internet banking and mobile banking help people to withdraw money in emergency conditions. However customer expect more
establishment of ATM centres in all parts of the town rendering 24 hours services, with the facility of getting money in all denominations. Advertisement, friends & relatives and internet are the vital sources catering to the informational needs of e-banking users. The implementation of tech-based banking service improves customer relation and facilitates the bank to extend the services to the remote areas. ATM is the most preferred innovative instruments that would be extended to remote areas. Technology deployment should be accompanied by process changes to derive enduring benefits which would enable the banks to manage their banking business in the best possible manner.

DIRECTIONS FOR FURTHER RESEARCH

The following are the directions given by the researcher for further research:

- A Study on E-services and Transformation of Banks in the Rural and Semi-urban Areas.
- A Comparative Study on Level of Satisfaction towards E-Banking Services between Public Sector Banks and Private Sector Banks.