COLLABORATION IN BANKING INFORMATION SYSTEMS
- INVESTIGATING THE FUTURE OF BANKING SYSTEMS IN INDIA

Master’s (one year) thesis in Informatics (15 credits)
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Abstract

Banking systems in India is quite popular and it needs some more changes to reach all the customers. Lack of the service is main problem in Indian baking system. If the common person wants to open the account, it take’s little bit high cost and banks are not near the people location. Due to the Lack of service, people do not want to be a customer of the bank. In the research trying to find the solutions for some of the problems to maintain a banking account, we want to provide the maximum time of service in banking systems and to find the better solution for the common persons to use the banking systems. The research idea Collaboration banking information systems are designed to combine all the account information into a system, to provide a better solution for the customer, and to solve all the internal problems in the banking systems. From this new concept we could establish the bank in each and every village, So that we could reach all the customers by providing them a good quality service and exceeding their expectations. The Collaboration systems are less time consuming and it reduces the burden of both the customers and bank employees. Some banks failed due to the lack of customers and the over burden of interest charged by the government.

The research idea is to share all the account details from all the banks into a system that is known as collaboration banking information systems. The collaboration banking systems are entirely different and it reduces the cost maintenance of the Indian banking systems.

Keywords: Investigation of banking systems, Collaboration Banking Information Systems, User Acceptance, User Satisfaction, Effective Communication, Accounts, lower cost banking.
Acknowledgements

Our master’s thesis work is a part of our study in one-year informatics at University of Borås; we are very honor to study such a great university. During this One year, we have wonderful experiences in the University and a chance to learn more knowledge related to Informatics. Working with thesis is a good experience.

Our master was written during autumn 2012. This period was very cool and it was very valuable, as it has given us very knowledgeable and practicable experience for the theoretical subjects we have been studying.

We are very thankful to my University Professors and staff in the library for their support and guidance at the time thesis writing. They gave us an excellent ideas and steps to write a thesis. In addition, we would like to thank our co-supervisor Dr. Anders Hjalmarsson, PhD whose guidance helped us the entire development of this thesis.

Finally, we would like to thank our classmates and staff for their valuable views and suggestions entire the period of the study in University of Borås. We thank our families and friends for their love and understanding during our studies in Sweden, we never forget your support.

Sridhar Abburi,
Ramakrishnan Chinnappan.
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1 Introduction

1.1 Background

Banking systems play a key role in the normal life. Banks in the countries introduce wealth management products like housing loans, education loans, business loans and agriculture loans. These wealth and agriculture management system is not sufficient to reach people in India. India is an agriculture country and most of the people here are depended upon agriculture. The most of the poor people living in the villages are not having sufficient knowledge about the banking systems. (Panandikar, S.G and Mithani, D.M., 1975) The banking systems in India are originated in eighteenth century. However, the banking systems are not yet reached the entire people in the country, as India is the second largest populated country after China. It is a challenge to provide the services to all. After 1786, the first bank was general bank of India and till 2011 two hundred and twenty five years has passed but there is still lack of banking services in Indian villages.

One survey is saying that there are total of three hundred ten million savings bank accounts in India. Because of number of multiple accounts, the total numbers of individuals having bank accounts are more than two hundred million. It means only sixteen percentage of people have accounts in India out of 1.2 Billion. It means future of banking systems are very high in India. The total sixteen percentage of the banking customers or not even organized by the banks, it means it is going to face trouble if the ratio of the customers are high in the future. To Resolve this problems all the banks in India should be collaborated.

At present, India has eighty-eight scheduled commercial banks and twenty-seven public sector banks with Indian government stake, thirty-one private banks individual shares, and thirty-eight foreign banks. In total, all the banks have fifty thousand branches and seventeen thousand automatic teller machine centers. Comparing to Sweden one of the European country it has nine million people and they have eighty-five percentage of population having the savings accounts. They have hundred and twenty-eight banks in Sweden. Unfortunately, India has one hundred fifty seven banks, comparing to Sweden, India is having only twenty-nine banks more than Sweden. The ratio of customers increases in future, how the systems are going to manage the market. It is a big question.
If we see the records of the bank by the average, banking systems minimum four thousand customers wants to use the same branch where there are only four employees in the bank. Imagine if the customers wants to use the same branch they have to wait two hours for every transactions. If 12000 customers want to share a single ATM to draw their money, it means customers want to waste two or three hours in a queue to withdraw their money. On the other hand, the bank employee needs time to fill the machine with money after certain numbers of transactions are complete. It is an extra pressure on the customers and extra work to the employees at the same time. Here our collaborative banking systems reduce the rate of sharing the banks and ATM’s transactions.

Collaboration Banking Information Systems an explicit connection to the field of Informatics. The informatics systems of a bank are the main part of the banking systems, because it includes all the information about customers and their accounts, helping to diminish the amount of data available on paper. The information systems from a bank are collaborative systems, because it requires the cooperation, communication, and coordination of several software applications in order to achieve a common goal. (C. Ciurea, 2010).

1.2 Statement of Problem

Customers are expecting more services from the bank, but the banking systems are not sufficient to fulfill the customer’s needs. If the common person from the village without education wants to maintain an account and the services from a bank it’s hard for him to maintain the same as the banking systems are inflexible for him to understand, so the customer needs to wait more time in the bank. All banks are unavailable for the people in the rural area in India, in this case people have to travel to find the appropriate bank for their needs; It’s too time consuming. Government sector banks are not having the efficient service, since 1786.

Banking sector always need more employees to provide sufficient services to their customers. The main reason against the concept is dependency on the employees force more burden on the banks, as they have to invest more money for opening their branches to reach all their customers. To open new branches banks has to work out the average number of customers and plan the exact budget accordingly.
1.3 Purpose of Study

The purpose of study is to drive in to the banking organization and to find the better solutions. The collaborative banking systems has reduced the time taken of the customers and helping the uneducated people to use the banking services efficiently, through creating a direct connection among the banks.

This collaboration study elaborated how fast and efficient are the services among the banks. Banking customers have to wait minimum 24 hours to transfer the money from one bank to another bank in India; Collaboration Banking Information Systems reveals the solution for this problem. Using collaboration banking systems we could immediately transfer money from one bank to another bank. This Project focuses on the voice reorganization system for the uneducated people in villages. The purpose helps to use ATM machines efficiently. With the help of common branch, people can use the 19 hours banking systems avoiding all other security issues. If the government overcome the security issues this common branch systems may run 24/7 services.

The main agenda of the study is to reach the maximum amount of customers to make them to open their own accounts and by increasing the productivity to provide better services. The Collaboration Banking Information Systems are focusing on providing the fulfilled services to the uneducated people in India and by improving the economic growth in the country.

1.4 Research question

Every research focuses on the aim and the result. If the system exists, it is focusing the implementation of the existing systems. If the system not exists, improving the research and focusing to explain the problem through one main question that is

1. How can Information interchanges in Banking Networks to be more efficient and more useful to the Customers of the Bank?
   1.1 How can Information interchange in collaboration banking systems?
   1.2 How to reach banking services to everyone with collaboration of banking?
   1.3 How efficient the extended services with common branch?
1.5 Target group

The research is focused to the researchers in the informatics for implementing the banking systems and it is indirectly useful to the customers and helps the software organizations who are developing the banking systems. It would be helpful to find the outcome of the research and further developments in the field of banking in various direction of acceptance and satisfaction of the users like uneducated persons, IT people, students, bank customers, and bank employees.

The Research is focused on the users who are implementing the banking information systems in the informatics and banking organizations that are focusing the implementation of the services and information. The Banking organizations are expecting a common structure focused by the collaboration banking concepts, which are useful to implement in the existing systems.

Number of customers who are expecting the better services are the students who are busy in the day schedule and private companies having more business transactions on day to day, People in the villages who are uneducated and farmers who don’t wish to travel to the city only for the banking purpose which interrupts their work.

1.6 Delimitations

The research is mainly focusing the customer acceptance and customer satisfaction on the implementation of collaboration of banking. The research is not focusing the technical aspects and the possibilities. The concept of the research is focusing on the implementation of banking sector and growth of services in future, for now it is not focusing on the cost management.

1.7 Expected outcome

The Expected outcome of the research is the study that is providing more guidelines and a clear picture of development in the concept of collaboration banking. The research is mainly focused on the User acceptance and better services to the customers. The research outcome
clearly states the collaboration concepts and services to all the banking customers. We have a clear survey, in each part of the survey we try to get the right information on the concepts and how far it is helpful to the system implementation and comprise the user acceptance for introducing the new services with better ideas.

1.8 The authors’ own experience and background

While working on this research, we have made a study into the earlier research and gathered more information from banking websites and observed all their services, we have studied many books and articles on banking systems and other resources from the university libraries. This research is about the Indian banking systems; however, we are focusing European-banking systems to find the better concepts to motivate my research.

When gathering the knowledge we met people who are working in the top-level banks and met the people who are working in the normal banks and the people who have started the organizations. Meeting the people within the organization was very helpful to find the problem and the solution oriented concepts.

1.9 Structure of the thesis

The structure of research has different cases, which explain by series of steps. The Introduction begins with a short introduction to background of research work along with the future implications. We divided the main research area into three sub questions which together lead to solve the main problem of our research. These research design involve our research strategy which explains the planning action that takes in the right direction and to check whether the process is carried out in a systematic procedure. The theoretical study explains the theoretical base of our study which is the Perspective to analyze and choosing the literature and establish an idea of how they are connected to each other. We identified the further issues and detailed it by choosing the related content from them.

The Empirical survey structured on narrating the importance of the empirical study which is a research achieved by the self-observation or experimentation. This in a root, use to making decisions in choosing the best option to get a research result. Our work is structured comparative analysis.
Fig 1: Structure of the Thesis
2 RESEARCH DESIGN

2.1 Research Perspective

The perspective of this research is to create an implementation strategy, which increases more services to the user and satisfaction of users and user acceptance and increasing the business in banking when structuring banking systems. It is important for us to give a detailed explanation and get a kind of approach for the readers of this research to understand what exactly we are going to do to get to the better implementation of banking systems.

<table>
<thead>
<tr>
<th>Quantitative Mode</th>
<th>Qualitative Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assumptions</strong></td>
<td></td>
</tr>
<tr>
<td>• Social facts have an objective reality</td>
<td>• Reality Social constructed</td>
</tr>
<tr>
<td>• Primary of method</td>
<td>• Primary of subject matter</td>
</tr>
<tr>
<td>• Variables can be identified and relationship measured</td>
<td>• Variables can be complex, and difficult to measured</td>
</tr>
<tr>
<td>• Etic (outside’s point of view)</td>
<td>• Etic (insider’s point of view)</td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td></td>
</tr>
<tr>
<td>• Generalizability</td>
<td>• Contextualization</td>
</tr>
<tr>
<td>• Prediction</td>
<td>• Interpretation</td>
</tr>
<tr>
<td>• Casual explanations</td>
<td>• Understanding actor’s perspectives</td>
</tr>
<tr>
<td><strong>Approach</strong></td>
<td></td>
</tr>
<tr>
<td>• Begins with hypothesis and theories</td>
<td>• Ends with hypothesis &amp; grounded theories</td>
</tr>
<tr>
<td>• Manipulation and control</td>
<td>• Emergence and portrayal</td>
</tr>
<tr>
<td>• Uses formal instruments</td>
<td>• Research as instrument</td>
</tr>
<tr>
<td>• Experimentation</td>
<td>• Naturalistic</td>
</tr>
<tr>
<td>• Deductive</td>
<td>• Inductive</td>
</tr>
<tr>
<td>• Component analysis</td>
<td>• Searches for patterns</td>
</tr>
<tr>
<td>• Seeks consensus, the norm</td>
<td>• Seeks pluralism, complexity</td>
</tr>
<tr>
<td>• Reduce data to numeric indices</td>
<td>• Make minor use of numeric indices</td>
</tr>
<tr>
<td>• Abstract language in write-up</td>
<td>• Descriptive write-up</td>
</tr>
<tr>
<td><strong>Research role</strong></td>
<td></td>
</tr>
<tr>
<td>• Detachment and impartiality</td>
<td>• Personal involvement and partiality</td>
</tr>
<tr>
<td>• Objective portrayal</td>
<td>• Empathic understanding</td>
</tr>
</tbody>
</table>

Fig 2. Features of Qualitative & Quantitative Research

As stated by Diana & Maria (2005), there are two kinds of research perspectives, which are Positivistic and Hermeneutic Perspective.
The hermeneutic perspective travels towards clear and depth knowledge of understanding for the different aspects. Aim of Hermeneutic perspective is to get a deep understanding for the different angles in different aspects to build a planning diagram. This perspective also stands for interpretation and comprehension rather than prediction. (Diana & Maria, 2005)

We believe that comprehension for, and interpretation of the obtained information is significant in this thesis. Therefore, we believe that use of a hermeneutic perspective will simplify a better understanding for the subject we wish to study.

**QUALITATIVE VERSUS QUANTITATIVE RESEARCH**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Qualitative Research</th>
<th>Quantitative Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To understand &amp; interpret social interactions.</td>
<td>To test hypotheses, look at cause &amp; effect, &amp; make predictions.</td>
</tr>
<tr>
<td>Group Studied</td>
<td>Smaller &amp; not randomly selected.</td>
<td>Larger &amp; randomly selected.</td>
</tr>
<tr>
<td>Variables</td>
<td>Study of the whole, not variables.</td>
<td>Specific variables studied</td>
</tr>
<tr>
<td>Type of Data Collected</td>
<td>Words, images, or objects.</td>
<td>Numbers and statistics.</td>
</tr>
<tr>
<td>Form of Data Collected</td>
<td>Qualitative data such as open-ended responses, interviews, participant observations, field notes, &amp; reflections.</td>
<td>Quantitative data based on precise measurements using structured &amp; validated data-collection instruments.</td>
</tr>
<tr>
<td>Type of Data Analysis</td>
<td>Identify patterns, features, themes.</td>
<td>Identify statistical relationships.</td>
</tr>
<tr>
<td>Objectivity and Subjectivity</td>
<td>Subjectivity is expected.</td>
<td>Objectivity is critical.</td>
</tr>
<tr>
<td>Role of Researcher</td>
<td>Researcher &amp; their biases may be known to participants in the study, &amp; participant characteristics may be known to the researcher.</td>
<td>Researcher &amp; their biases are not known to participants in the study, &amp; participant characteristics are deliberately hidden from the researcher (double blind studies).</td>
</tr>
<tr>
<td>Results</td>
<td>Particular or specialized findings that is less generalizable.</td>
<td>Generalizable findings that can be applied to other populations.</td>
</tr>
<tr>
<td>Scientific Method</td>
<td>Exploratory or bottom-up: the researcher generates a new hypothesis and theory from the data collected.</td>
<td>Confirmatory or top-down: the researcher tests the hypothesis and theory with the data.</td>
</tr>
<tr>
<td>View of Human Behavior</td>
<td>Dynamic, situational, social, &amp; personal.</td>
<td>Regular &amp; predictable.</td>
</tr>
<tr>
<td>Most Common Research Objectives</td>
<td>Explore, discover, &amp; construct.</td>
<td>Describe, explain, &amp; predict.</td>
</tr>
<tr>
<td>Focus</td>
<td>Wide-angle lens; examines the breadth &amp; depth of phenomena.</td>
<td>Narrow-angle lens; tests a specific hypotheses.</td>
</tr>
<tr>
<td>Nature of Observation</td>
<td>Study behavior in a natural environment.</td>
<td>Study behavior under controlled conditions; isolate causal effects.</td>
</tr>
<tr>
<td>Final Report</td>
<td>Narrative report with contextual description &amp; direct quotations from research participants.</td>
<td>Statistical report with correlations, comparisons of means, &amp; statistical significance of findings.</td>
</tr>
</tbody>
</table>

The content in the above table was taken from the following sources:


Fig3: Qualitative versus Quantitative research

There are two approaches for the research design perspective, qualitative and quantitative.
Qualitative research is a set of research technique in which data is maintained from a relatively small group of respondents and not investigated.

Quantitative research refers to the systematic empirical investigation of the quantitative properties phenomena.

2.2 Research Strategy

Research is finding aim to solve the problems and target to the result. While the researches working with the research projects they need more information to find the possibilities and further proceedings. To find the information we are following the research strategy that follows the collection information with theoretical study by gathering the information through the empirical study.

There are two types of research strategies one is exploratory research and another is descriptive research, Investigation into a problem or situation that provides insights to the researcher. The exploratory research is meant to provide details where a small amount of information exists. It many uses a variety of methods such as trail studies, interviews, group discussions experiments of gaining information. (Aaker & Day, 2009)

Descriptive research or statistical research provides data about the population or universe being studied. However, it can only describe the "who, what, when, where and how" of a situation, not what caused it. Therefore, descriptive research is used when the objective is to provide a systematic description that is as factual and accurate as possible. It provides the number of times something occurs, or frequency, lends itself to statistical calculations such as determining the average number of occurrences or central tendencies. One of its major limitations is that it cannot help determine what causes a specific behavior, motivation, or occurrence. In other words, it cannot establish a causal research relationship between variables. (Kinnear, Thomas C., and Taylor, James R. (1991))

The two most commonly types of descriptive research designs are

1. Observation
2. Surveys
<table>
<thead>
<tr>
<th>Research Project component</th>
<th>Exploratory Research</th>
<th>Conclusive Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Purpose</td>
<td>General: generate insight</td>
<td>Specific: verify insight</td>
</tr>
<tr>
<td>Data Needs</td>
<td>Vague</td>
<td>Clear</td>
</tr>
<tr>
<td>Data Sources</td>
<td>Ill-defined</td>
<td>Well-defined</td>
</tr>
<tr>
<td>Data Collection Form</td>
<td>Open-ended, rough</td>
<td>Usually structured</td>
</tr>
<tr>
<td>Sample</td>
<td>Small, subjective</td>
<td>Large, objective</td>
</tr>
<tr>
<td>Data Collection</td>
<td>Flexible</td>
<td>Rigid</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>Informal, typically qualitative</td>
<td>Formal, typically quantitative</td>
</tr>
<tr>
<td>Inferences/Recommendations</td>
<td>More tentative</td>
<td>More tentative</td>
</tr>
</tbody>
</table>

Fig4: Difference between exploratory research and conclusive research  
(Parasuraman, Grewal, Krishnan, 2004)

In our paper, we choose to follow the exploratory research; using exploratory research, we are explaining the better understandings of the information from research, finding the knowledge. The theoretical part of research is used to identify the key points and suggestion that will help to explain data that the researcher has collected (Oates, 2006). The role of the theoretical study creates an idea for improves the further research using the interviews and questionnaires’ with the help of empirical survey focusing to find the better solutions.

In the empirical study we are interviewing the people working in the banks and students we need the extension banking hours, focusing the business peoples in the interview reveal the problem to reach the bank in their working time, how its disturb them. Compares all the result we overcome to find the possibilities research questions. The exploratory research gives the more knowledge to drive a knowledge direction.

2.3 Data Collection Procedures

In our research, we are collecting the theoretical study and empirical study. Theoretical study is focusing the books related to the banking and ATM systems and platforms that are used for collaborating systems in different field. In the ATM systems they collaborates all the cards, if any bank customer withdraws money from any ATM that immediately affects to their balance in the account. Focusing the system and adapting the systems are useful. We are using the
Boras University database to find the amount of journal and books related to the research to analyze the data. Banking websites and banking business article is giving the ideas of the present services expected in the sector.

In the empirical study, we planned to choose different people and shared their ideas. We choose the people in the banks to find the burden in their work, we choose the customers to find the present drawbacks in the banking and expected outcome from the banks to feel an improved quality of service from the banks. By using – Qualitative Approach
We focus on students and business people, and we are planning to find the common extension counter from the banks.

We have many ways to discover ideas. Conducting interviews and surveys, gathered the answers to questionnaires. Find the people related to the field. It is necessary to conduct interviews people who are using the banking systems and working with the banking systems.

**Theoretical Study**
In the theoretical study, we used Boras University library for reviewing the previous papers, books, and journal. For the services and present systems, related issues we were used the internet and all the information is obtainable with the help of internet.

**Empirical Study**
Preparing interviews by meeting the people who are working within the bank and customers of the banks and researchers who have some knowledge related to the field. With the help of surveys, we could predict the present problems in the banking systems and expected services of the customers.

**2.4 Data Analysis Procedure**

We gather the data from the theoretical study and the empirical study. It is not important to write a research in the presentation. It is important to analyze the data. We write the data together. We discussed with someone related to the field to compare the data from empirical and theoretical study. After analyze the data we complete the data analysis procedures.
2.5 Strategy for validating findings

Different researches in the world introduced many concepts for finding the strategies in the validation findings, but we choose to go with alternative criteria decision for qualitative. In the alternative criteria, we follow different steps,

1. Credibility
2. Transferability
3. Dependability
4. Conformability

2.5.1. Credibility

The credibility criteria involve establishing the results of qualitative research are credible or believable from the perspective of the participant in the research. Since from this perspective, the purpose of qualitative research is to describe or understand the phenomena of interest from the participant's eyes, the participants are the only ones who can legitimately judge the credibility of the results. (H.Russell Bernard., 2000)

2.5.2. Transferability

Transferability refers to the degree to which the results of qualitative research could be generalized or transferred to other contexts. From a qualitative perspective, transferability is primarily responsibility of one doing the generalizing. The qualitative researcher can enhance transferability by doing a thorough job of describing the research context and the assumption that were central to the research. The person who wishes to "transfer" the results to a different context is then responsible for making the judgment of how sensible the transfer is. (Allan Bryman & Emma Bell, 2007)

2.5.3. Dependability

The traditional quantitative view of reliability is based on the assumption of reliability or repeatability. Essentially, it is concerned with whether we would obtain the same results if we could observe the same thing twice. However, we cannot actually measure the same thing
twice -- by definition if we are measuring twice, we are measuring two different things. In order to estimate reliability, quantitative researchers construct various hypothetical notions (e.g., true score theory) to try to get around this fact.

The idea of dependability, on the other hand, emphasizes the need for the researcher to account for the ever-changing context within which research occurs. The research is responsible for describing the changes that occur in the setting and how these changes affected the way the research approached the study. (Singh & Kultarr, 2007)

2.5.4 Conformability

Qualitative research tends to assume that each researcher brings a unique perspective to the study. Conformability refers to the degree to which the results could be confirmed or corroborated by others. There are a number of strategies for enhancing conformability. The researcher can document the procedures for checking and rechecking the data throughout the study. Another researcher can take a "devil's advocate" role with respect to the results, and this process could be documented. The researcher can actively search for, describe, and negative instances that contradict prior observations. In addition, after his study, one can conduct a data audit that examines the data collection and analysis procedures and makes judgments about the potential for bias or distortion. (H. Russell Bernard, 2000)

2.6 Result Presentation Method

Result presentation methods are divided in two different steps, initially we introduce the banking systems and the existing features, second stage we introduce the collaboration of the banking systems, third stage introduces the researches presentation for improving the banking systems finally analyze the data from theoretical and empirical study information.
3 Theoretical Studies

Theoretical studies have always been a very important method in scientific research. One important reason is that, it is an inexpensive activity. In the past, it was enough for people to have pen and paper to do theoretical studies. However, in modern time, it has been indispensable for scientists to read a lot of journals, publications, and, recently, use the internet to obtain a huge amount of information, theoretical study is still relatively a much cheaper scientific activity. (Theoretical study at ssc.igpp.ucla.edu)

3.1 Key Concepts

1. Banking systems
2. Collaboration in banking systems
3. Banking systems to everyone
4. Common branches
5. Effective Communication
6. Managing the customer’s Account
7. User Acceptance
8. Customer Satisfaction

3.1.1 Banking systems

The structural network of institutions, those offers financial services within a county. The members of the banking systems and the functions they typically perform and include
1. Commercial banks that take deposits and make loans,
2. Investment banks which focus in capital market issues and trading, and
3. National central banks that issue currency and set monetary policy. (Banking systems at Businessdictionary.com)
3.1.2 Collaborative Banking

In India, banks reach to every city or village is not easy they need more investments and at the same time customers and profit ratio of the bank depends for these issues. Collaborate banking systems are helpful in resolving the problem. If a customer opens an account in one
bank out of these 157 banks in India, customer has to find the same branch always to deposit the money. If the customer wants to send money to another bank account, here he may not find the bank in their village or in the nearer town, what he wants to do, spend the time to find the branch. This is not happening to one customer, as this is the case for all the customers in the present banking systems. If the bank accepts for collaborating, all the account details will be shared together. If the account information is available at time of sending the money it will be deposited at the same time. For the security reasons the banks may introduce the mobile messaging system to receive the messages of both customers.

Fig6: Collaborating banking server exchanging the information

If you observe the collaboration server all the accounts of the bank linked with the help of server, Collaborating bank server is not easy and the entire bank has to follow some rules to maintain the business ethics. Sometimes they may try to attract the big customers. Here the bank may be collecting some processing fee from the customers, better if it is less. It is a technique to attract the more customers. If we see the present trend of the ATM systems any one can draw from any ATM three times at free of cost. If the customer wants to use fourth time, they are collecting some amount as a processing fee. In India, some of the banks have their branches in the particular states in this case; the customers really need these exceptions.
If it means customer uses these exceptions when they really need. If the banking customer wants to deposit the money to the local state account from some other state, customer has to stop transaction. In less amount transactions, it is not a problem to carry the money. In case of the business transaction, they cannot carry the total amount of money with them. For the concept of the collaborating banking systems, all the customers draw or they may deposit money from the different places. Banks may have some extra work for other bank customers as well the other banks also and it is a vice versa process. If it is a huge problem, banks may introduce the concept of ATMs, as 3 transactions are at free of cost remaining with processing fee. Now the banking is easy and we could avail the service when it is necessary. The collaboration of the banking cards systems changes the old era of banking. It creates a new trend in banking.

The collaboration makes the new trends of customer service. Customers use anywhere any time banking and by the collaborative banking systems, we exceed customer satisfaction.

3.1.3 Banking systems to everyone

Any banks can launches its new branch anywhere it means any one of the other bank customer may use this service. The main problem is the bank may not reach to all the places in villages and small towns. The banks divide, locations by villages with the help of random sampling or any other sampling. After some years every village they have the one bank for every thousand people and for the people in rural areas there will not be any necessary to go to urban area banks.

When the banks are available in the same location the customers of the bank rapidly increase. For the uneducated people in rural areas there will not be any necessaries to take other persons with them to urban area. If the bank is available in the same location, any one can help them.

The most problematic issue in banking is waiting in a queue, it mean waste of time, the customer wants to send the money from one account to another account they have to wait in queue for hours. In this case, they do not need to find the exact bank and customer saves time. If 4000 people shares one branch is not easy to manage with 4 employees. In the new concepts 1000 customers share the branch the work is less to the employees and the service is faster than the previous systems. Customer is satisfied for receiving the better service.
3.1.4. Common Branch

If the banking sector providing more service that meets customer’s expectation, we believe that customer is satisfied all the time. As for our research-banking sector, provide the new services like common branch banking. The bank in the city has more customers all the time we have to introduce a special counter for sending money or withdraw money from other bank accounts. If the bank is located in the villages, we do not need to launch the special counters because such branches in the villages have the minimum number of customers.

With the facility of the common bank, if the customer wants to open the account they do not need to provide any proofs, using the existing account information they may open the new account if they are in need of more account likes personnel and business account or current accounts.

When we focused the public sector banks in India, there are many customers waiting in the queue to withdraw the money and to send the money to their children has or purposes like business transaction. It is an extra burden on the bank employees to provide a better solution and the customers want to spend more time for receiving the better services.

When we have a common counters people choose the banks nearer to their places, that mean the burden is reduced to the customers and employees. The employees in the banks divide the work pressure. If the customer strength is very high in the cities, they may have many branches. The branches divide them.

Initially we focused on the Government banks that operate the common extension counters in the cities therefore, the extension counters helps the students and business people, employees focused on extension hours. The extension hours introduced basic level from the time of closing the banks from normal timings to ten at the night and opens early in the morning at eight.

With this extension counters they may divide the duties to everyone, if the business increase they will have respective employees employee in the bank to maintain the respective counters.
<table>
<thead>
<tr>
<th>Year of Merger</th>
<th>Name of Bank</th>
<th>Merged With</th>
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<tbody>
<tr>
<td>1969</td>
<td>Bank of Bihar Ltd.</td>
<td>State Bank of India</td>
</tr>
<tr>
<td>1970</td>
<td>National Bank of Lahore Ltd.</td>
<td>State Bank of India</td>
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<tr>
<td>1985</td>
<td>Miraj State Bank Ltd.</td>
<td>Union Bank of India</td>
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<td>1985</td>
<td>Lakshmi Commercial Bank</td>
<td>Canara Bank</td>
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<td>1985</td>
<td>Bank of Cochin</td>
<td>State Bank of India</td>
</tr>
<tr>
<td>1986</td>
<td>Hindustan Commercial</td>
<td>Punjab National Bank</td>
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<tr>
<td>1988</td>
<td>Trader Bank</td>
<td>Bank of Baroda</td>
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<tr>
<td>1989</td>
<td>United Industrial Bank</td>
<td>Allahabad Bank</td>
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<td>1990</td>
<td>Bank of Tamilnadu Ltd.</td>
<td>Indian Overseas Bank</td>
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<td>1990</td>
<td>Bank of Thanjavur Ltd.</td>
<td>Indian Bank</td>
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<td>1990</td>
<td>Parur Central Bank Ltd.</td>
<td>Bank of India</td>
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<td>1990</td>
<td>Purbanchal Bank Ltd.</td>
<td>Central Bank of India</td>
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<tr>
<td>1993</td>
<td>New Bank of India</td>
<td>Punjab National Bank</td>
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<tr>
<td>1993</td>
<td>BCCI (Mumbai)</td>
<td>State Bank of India</td>
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<td>1994</td>
<td>Bank of Karad Ltd.</td>
<td>Bank of India</td>
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<td>1996</td>
<td>Kashi Nath Seth Bank Ltd.</td>
<td>State Bank of India</td>
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<td>1997</td>
<td>Bari Daob Bank Ltd.</td>
<td>Oriental Bank of Commerce</td>
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<td>1999</td>
<td>Bareilly Co op Bank Ltd.</td>
<td>Bank of Baroda</td>
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<tr>
<td>1999</td>
<td>Sikkim Bank Ltd.</td>
<td>Union Bank of India</td>
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<td>2000</td>
<td>Times Bank Ltd.</td>
<td>HDFC Bank Ltd.</td>
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<td>2001</td>
<td>Bank of Madura</td>
<td>ICICI Bank Ltd.</td>
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<tr>
<td>2002</td>
<td>Benares State Bank Ltd.</td>
<td>Bank of Baroda</td>
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<tr>
<td>2003</td>
<td>Nedungadi Bank Ltd.</td>
<td>Punjab National Bank</td>
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<tr>
<td>2003</td>
<td>Bank Muscat</td>
<td>Centurion Bank of Punjab</td>
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<tr>
<td>2004</td>
<td>South Gujarat LAB Ltd.</td>
<td>Bank of Baroda</td>
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<tr>
<td>2004</td>
<td>Global Trust Bank Ltd.</td>
<td>Oriental Bank of Commerce</td>
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<td>2005</td>
<td>IDBI Ltd.</td>
<td>IDBI Bank Ltd.</td>
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<td>2005</td>
<td>United Western Bank</td>
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<tr>
<td>2006</td>
<td>Lord Krishna Bank</td>
<td>Centurion Bank of Punjab</td>
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<tr>
<td>2007</td>
<td>Sangli Bank</td>
<td>ICICI Bank Ltd.</td>
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<tr>
<td>2008</td>
<td>State Bank of Saurashtra</td>
<td>State Bank of India</td>
</tr>
<tr>
<td>2008</td>
<td>Centurion Bank of Punjab</td>
<td>HDFC Bank Ltd.</td>
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</tbody>
</table>

Fig7. Merging of Banks (Source: Report on trend and progress RBI & Various Bank websites)
3.1.5 Effective Communication

The Collaborative banking from informatics Perspective:
An Important questions from the collaborative banking systems. Is the system going to reach the all its customers and it provides the better service compared to the old systems. If we analyze all these perspectives, we need to follow some Information system perspectives like surveys, meetings with employees and customers as well as the management.

(P.Pocatilu & C.Ciurea, 2009)The collaborative banking systems was included by the collaborative functional systems and cross all the activities taking place in the economy, providing required information and on the whole coordination for production and finance management. The collaborative informatics systems implemented in a bank must be able to deal with an enormous number of daily transactions, consisting in different types of operations:
- Transfers between existing accounts;
- opening new accounts;
- Realization or liquidation of deposits;
- according loans;
- Overseas exchanges;
- Payments to state budget and customers;
- Direct payments to suppliers;
- Some other operations.

When conducting survey and discussions with the customers support they may find the results. How the new system works, is that reached the customer’s needs, is there anything more expectations from the customers this is to be raised in the concept.

The following aspects help to find the better solutions.

1. Board Meeting with all banks Management
2. Employees
3. Customers
4. Management
5. Students and researchers

1. Board Meeting
The board meeting always reviews the old and new concepts. The business management scenario calculates the profits. Board meeting with all the bank management helps to review the common work in collaborative platform. If any challenges arise in the customer services and the problem with the services. In the concepts of arranging, the meetings among the different banks are process of finding the problems as well the challenges in the environment. Review the service and customer response from the new systems to find any other alternative solutions for the business problems.

2. Employees
The organization development of the company is totally depending on the performance of the employees. Maximum companies always concentrate the employee’s response. In the collaborative banking concept, the employees are merging in the workstations. In form of union, it is very easy to discuss with their own problem. Most common employees in the same organizations have the same problems among them. In these banking services, they are ready to work with different banks that merge with different organizations. It is challenging to create
good work environment. Here better to introduce common guidelines to all employees. This concept makes a good relation one to another. The management explains how the customer is important to increase the company profits. What is the role of the employees for making the company to the top most level?

3. Customers
The management needs to know the satisfaction of the customer always. However, there is only one way to know the response of the customers that are surveys and discussions. In the surveys, the management gets the new solutions for the problems of the customers. How many are using the online banking systems, how are this new services helpful to them. The processing fee for the cards is reasonable and wants to know the recommendations and suggestions from the customers regards the fee. What are the customer’s expectations from the bank? They want any new services from banks. If the customer is not satisfied, any organizations that matter will not function efficiently as expected. The main responsibility of any organization is to find the customer needs and to exceed customer satisfaction.

4. Management
The main role of the management is to review the decisions and new changes effects to the successful business. The requirements needs are to be reviewed from the survey reports. Receive the information from employees regards the problems and find solutions to the problems. The new concepts were introduced to attract the customers so that they always try using the new services. The new concepts help in increasing the profits and expanding the business. It is better way to review the new decisions with the help of the financial experts.

3.1.6 Managing the Customer’s accounts
Banking sector concentrate the concepts of managing the customer account. Now a day we have many concepts in banking. Customer manages their accounts through the online, telephone banking and directly reaches to the bank. The current scenario mostly depend on the ATM machines, when there is a risk to deposit the money in the ATM, people only reach the bank to deposit the money.
3.1.7 User acceptance

Users mean the real business users, who will have to operate the systems; normally the staff of an organization or it could be your suppliers or customers. They are the only people who understand exactly what the business is, and how it operates. Therefore, they are the only people eligible to check systems to see if it will deliver any benefit to the business or organization. (Users at coleyconsulting.co.uk)

The acceptance of a systems means that you are confident it will give benefit to the organization. It does not mean that it only meets the original specification as requested. Systems may very well meet all the specifications asked from it, but when trying to see how it works in the business is realized that it will not give anything positive to the organization, or may even damage the organization. There may be several reasons such as a change in the business or business environment, such as a takeover.

The point is that a system may not be acceptable, even if it meets specification. You may still have to pay the supplier, but you will not incur any costs to implement it. Of course, it may not even work to specification, which makes the question of acceptance even difficult to answer. There are cases where it is worth implementing and paying for systems, which are imperfect, but that deliver real business value. (Source at coleyconsulting.co.uk)

3.1.8 Customer satisfaction

Customer satisfaction, is common term frequently used in marketing, it is a measure of how products and services are released by the company that meets customer expectation. According to (Farris, Paul W.; Neil T.B; Phillip E.P; David J.R, 2010) Customer satisfaction is defined as the number of customers whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals. In a survey of nearly responded, they found a customer satisfaction metric very useful in managing and observing their businesses and products. It is seen as a key performance indicator within business and is often part of a Balanced Scorecard. In a competitive market place where business competes for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy (Gitman, Lawrence J; Carl D. McDaniel, 2005).
(Farris, Paul.W. Neil T.B; Phillip E.P; David J.R, 2010) within organizations, customer satisfaction ratings can have powerful effects. They focus employees on the importance of fulfilling customer’s expectations. Furthermore, when these ratings dip, they are aware of problems that can affect sales and profitability. These metrics quantify an important dynamic. When a brand has loyal customers, it gains positive word-of-mouth marketing, which is both free and highly effective.

3.2 Subject areas relevant for the research

Banking sector more customers, there is big competition between the banks and services, the below diagram explains the average rating hour by hour in the banking sector.

![Fig9. Frequencies of hourly operations in a banking day](image)

- 30 -
3.2.1 Using and managing accounts

Managing security to the bank account is a big challenge to the banking systems. Present banking systems are not connecting with accounts of other banks. If the customers wants to send the money to from one bank account to another bank they have only 2 options

1. RTGS [Real Time Gross Settlement]
2. NEFS [National Electronics Funds Transfer System]

1. Real Time Gross Settlement

The acronym “RTGS” stands for Real Time Gross Settlement. RTGS system is a funds transfer mechanism where transfer of money takes place from one bank to another on a “real time” and on “gross” basis. This is the fastest possible money transfer system through the banking channel. Settlement in “real time” means payment transaction is not subjected to any waiting period. The transactions are settled as soon as they are processed. “Gross settlement” means the transaction is settled on one to one basis without bunching with any other transaction. Considering that money transfer takes place in the books of the Reserve Bank of India, the payment is taken as final and irrevocable. (RTGS at rbidocs.rbi.org.in)

2. National Electronics Funds Transfer System

National Electronic Funds Transfer (NEFT) system is an electronic funds transfer system introduced by Reserve Bank of India (RBI) to facilitate banks to transfer funds electronically from one customer account of a participant bank / branch to another customer account of any other participant bank / branch. NEFT system uses the concept of centralized accounting system.
At present, there are 6 time zones in which customers can transfer their funds in NEFT on weekdays and 3 time zones on Saturdays. The time zones are 9.00 AM, 11.00 AM, 12.00 Noon, 1.00 PM, 3.00 PM and 5.00 PM. The messages received from the Member Banks up to the above time zones are consolidated and sent to Reserve Bank of India for inter-change and sending to the recipient bank/branch for crediting to the recipient customer. The beneficiary gets the credit on the same day if the funds are remitted in any time zone before 2.00 PM and on the next day latest for the remittances sent after 2.00 PM time zone. (NEFT at rbidocs.rbi.org.in)
From my research, we are not depending on the timing and not depending on the third party signature. For using NEFT and RTGS, we need swift codes and IFSC codes, customers who are not well educated do not know where they have the information about these codes. With the help of the collaboration banking we are connecting all the bank accounts through the server we only share the information of the accounts with the employees in the banks. If the customers applied for loans in a bank, bank managers has the right to check the information of the customers whether he has an existing loans in other bank, it is very helpful to avoid the financial burden of the banks and to find the customers credibility and payments history in one click.

3.2.2 User acceptance

The organization is focusing on the needs of the customers, they are really wondering of new services and improvements in the banking sector. If one business customer wants to send the money from one account to different accounts, he needs to travel one bank to another bank. If the customer having the collaboration facility, customer-sending money to different banks from the same place has no, need to travel to transfer the money. If you see the Figure:12 India is stand in top ten place in credit transfers in worldwide.
Even India is having huge amount of account to compare with to the population, if this services is, introduced user will easily, get adopted the banking systems.

In case of students, they are busy with college and employs are busy with work, it is a critical issue to manage their transaction in working hours, therefore we are introducing the concept of common branch with the help of all branches.

Fig12: Credit transfers in 20 countries (percentage of value of transactions). Source: Bank of International Settlements

3.2.3 Effective Communication

With the banking marketplace more competitive than ever, a banker’s ability to communicate effectively with customers and prospects is essential to retaining customer relationships and increasing revenue. A key factor in their ability to do their jobs effectively and profitably is their understanding of the customer. By understanding their customer’s needs, bankers are able to recommend and sell specific product solutions that meet those needs. In addition, by having and using an organized process for communicating with customers, bankers will be more professional in their approach to customers and will be able to service all facets of the relationship. (Effective Communication at tmctraining.com)
3.2.4 Organizational Improvements

Organizational improvement is based upon various management approaches, it guides five principles are being used to craft the outstanding improvements in organizational performance: 1.Measurements/benchmarking, 2.leadership, 3 employee involvement, 4.Process improvement and 5.customer focus. (Kenneth A. Potocki and Richard C. Brocato)

In Collaborative ATMs systems introduces money from one account to another account with the card numbers of the same account. In the future, after the bank collaborate the ATMs systems also with other bankcards the people do not need to go the bank’s ATM, instead they could withdraw money from any ATM. It reduces the employees. If the customers have been increased rapidly, the price of the opening accounts and card charges may be decreased by the banks. It makes a new research concept of opening the ATMs in all the locations including the villages. When the customers are more the economy of the banks will increase and the profit is more. When profits are more they provide a better service with less cost. After launching, the ATM machines all the banks will have average customers to all the ATM. There is a minimum amount of transaction allowed monthly in the branches after the minimum number of transaction they charge basic fee for every transaction.

If the concept applies to the collaboration of banking systems, customer initially allows using minimum number of transactions, when customer reaches the minimum number of transactions bank may collect the charge. It is initially benefited to the bank.

Banking sector having more competition, banks need to improve the service to provide the better services to the customers. It has an advantage to the customers. When the customers use the extension counter after the banking hours banks charge the service charge to each and every transaction. Initially it collects the transaction charge and there are no free transactions. It is an advantage of the bank to collect the service fee to improve the profit margin.

3.2.5 Lower cost services

Consider the present Indian banking systems with Swedish banking systems there are some major benefits for the customers. For example, the customer needs to open the account in
Sweden they do not need to pay for opening an account, but they need to pay every month two hundred ten rupees for providing the internet banking and the banking services.

If you consider that the bank charges the customers four times in a year, it mean once in every three months. For the Indian systems customer paid the five hundred rupees once to open the new account it is enough for the account. Internet banking facility is totally free. However, customer needs to pay one hundred twenty rupees once a year for using ATM card.

Compared to all the other countries in the world the banking systems are very less in India. Present ATMs system introduces money from one account to another account with the card numbers of the same account. In the future the bank Collaborates the ATMs system also with another bank ATM cards the people do not need to go the banks. It reduces the employees. If the customers have been increased rapidly then the amount of the opening accounts and card charges may be decreased by the banks.

It makes a new research concept of opening the ATMs in all the locations including the villages. When the customers are more the economy of the banks more profits more. When profits are more they provide a better service with less cost.

### 3.3 Summary of Theoretical findings

In this chapter, we have found some various subject areas that are related to our research on banking systems. From theoretical study we have learned regards the present banking systems in India. We have analyzed and compared the pros and cons of the present banking systems. We have come to know how the accounts are maintained in Indian Banking sectors and how the transactions are handled within a bank and to the rest of the banks in India. We have learned regards the Automatic Teller Machine and its operations. We have done a thorough study on the user acceptance regards the current operations of the present banking sectors and the customer satisfactory on the current banking services and the operations. Here we have done a study on the number of account holders in various banks and their branches and found why the customer strength less compared to other countries. Due to the insufficient and inefficient services many customers are either unwilling to open an account or withdrawing the account within a short span. People find it hard to reach the bank and follow the procedure
and they face difficulties in transferring money from one bank to another. By this study, we got few ideas regards with the Collaborative banking systems. In addition, how the collaborative informatics systems can be implement in banks. During this theoretical study, we have obtained few results and these results are ordered with the research questions.

3.4 Arguments for an empirical study

The outcome of the theoretical study has answered Arguments for an empirical study. Beyond these identified answers, still we have to verify our theoretical results to our empirical survey. As the technology advances every day, the information we obtained through theoretical findings are valid for short period. This has created a need for conducting the empirical study for the best and exact results for our research. For this reason, we have to take interviews with bank customers, employees, students, farmers etc.

4. Empirical survey

![Diagram: A.D.de Groot empirical cycle view](image)

Fig 13: A.D.de Groot empirical cycle view
The purpose of empirical study is data based and can be verified by formatting hypothesis-collected information and finally proving it in a research to get some practical knowledge about research (Goodwin, C.J.2005).

The outcomes which we are expecting from our research are (i) Difficulties with the present banking systems in India (ii) How collaboration banking information systems being efficient and effective to the customers (iii) How the present technology aids in serving the customers in an easier way (iv) What are the measures to be taken to avoid money transfer related issues.

The interview which we have carried online and face to face to the different people who are working in the field of banking sectors, bank customers, students and common people in different part of the states of India. The intention of the interview is to grain the ideas and suggestions about the problem of efficacy in banking. Selection of questions will be helpful in the process of our research. The respondent’s selection is related to problems that we have taken consideration in our research.

4.1 Purpose

The information obtained through theoretical findings are valid for a shorter time, as the technology advances every day, this has created a need for conducting the empirical survey for best and accurate results. The intention of the interview is to have an insight about the problems faced by both the customers and bank employees in day-to-day life. The purpose of the study also extends by means of seeking valuable and feasible suggestions, ideas from all the ends to sort out the problem. The feasible idea will be implemented further to prove its efficiency in solving the issues.

4.2 Sampling

Since researchers are not able to collect data from theoretical study, it is essential to sample the empirical study. Sampling criteria plays a vital role during the research (Lohr, Sharon L). The samples which we have carried online and face to face to the different people who are working in the field of banking sectors, bank customers, students and common people in different part of the states of India. The intention of the interview is to gain the ideas and suggestions about the problem of efficiency in banking. A questionnaire will be prepared
relevant to the problems identified in theoretical study. The respondent’s feedbacks are related to problems, which we have taken consideration in our research.

4.3 Preparation

The interview which we have carried online and face to face to the different people who are working in the field of banking sectors, bank customers, students and common people in different part of the states of India. The questions are prepared in a way to get a clear picture about the real problems faced by the banking employees and their customers in various banking activities.

The questions are expected to draw more relevant information to sort the issues related to informatics. The intention of the interview was to gain the idea and suggestions about the problem of efficiency in information interchange in collaboration of banking sectors the preparation we have made in the selection of question that will be helpful in the process of our research. Our question to that people is totally depends on our research. The problem that we are taking into the consideration to communicate with them is the same problem that we are writing in our research.

We have asked the question related to our concepts and they are information interchanges in banking, being more efficient and effective to the customers we have introduced ourselves to the respondents as the student working on the research for our thesis. Moreover, we added that we would use the results of the interview for our empirical study so we need some real and practical information regarding our questions.

After we received the answers from the people whom we have send the questions then we will put together the answer and we will include the results how those interviews are helpful for us. All the interviews are reviewed by the data validating methods, which we are explained in the strategies for validating findings in the chapter in the research design chapter. We reviewed all the results together.
4.4 Interviews

An Interview is an effective and the best tool to gather the information in relevant to the process. An interview is a conversation between two or more people where Questions are asked by the interviewer and the interviewee promptly and relevantly answers it. The main theme of the interviewing is to understand what the Interviewer needs and what the Interviewees conveys. The Interviewer as per his satisfaction towards the Interviewee responses completes the Interview. The interviews are of many types...ex Personal Interviews, Polling Surveys...

Most of the interview sessions are personal Interview sessions, wherein the interviewers have a chance to interview the Interviewee personally to check with the Opinions and conclude with a solution based on the impression created by the Interviewee. There comes the poll surveys, in which lot of questionnaires are posted by the Interviewer to the Interviewee and there is lot of opportunity for the Interviewer to probe with more questions to evaluate the opinion of the Interviewee (Seidman, Irving., 1998). Personal Interview is less time consuming than the polling as there may be chances to decide easily regards the Interviewee's decision in a personal Interview, wherein in polling surveys there will lots and lot of questionnaires and it would take a lot of time for the Interviewee to complete the Interview session.

In common, whatever method it may be the Interview session is a time consuming session. When choosing for an interview method to conduct a qualitative research it is important to approach it with more tactic and sensible way. Listening is the essential part of a personal Interview. It is the best skill of either the Interviewer or an Interviewee. There are three phases of the listening skill wherein the Interviewer has to listen to what the Interviewee conveys, they must listen to his inner mind, and should Concentrate on the time and questions involved in the interview (Foddy, William., 1993).

Its best to take notes or tape the conversation during an interview session so that the interviewer will have a best idea regards what the Interviewee has conveyed. The best way to approach the Interview session is to keep an open-ended question, do not interrupt in the middle, and make the participant feel more comfortable. The main advantage of the
qualitative interviewing is it brings out a clear report to the readers giving them the fuller understanding and the experiences of the Interviewee. Here are some sample interviews which conducted by us for our research.

4.4.1 The First Interview

The first interview conducted with Mr. Subbu.P, Employee in ICICI bank, Chennai India

Q: What do you mean by Collaborate Banking Information Systems?
Ans: It is interlinking systems between multiple banks for any transactions like money transferring, Saving Systems, Personnel loans, and business loans.

Q: How do you feel when the banks are getting collaborated?
Ans: Feels very happy.

Q: How banking systems collaborate is useful to you?
Ans: Time efficiency and other bank transaction is easy (because it’s very difficult to find other bank customer details, if one number changes in account details total transaction will be crushed)

Q: How banking systems collaborate is useful to customers?
Ans: Using these collaborating banking systems customers can easily use the banking services with in the short period without any interruptions and transaction 100% accurate.

Q: How collaborative banking information systems help to improve the service?
Ans: By comparing the individual banking systems with collaborate banking systems improves in different views that customer ease of satisfaction, efficient way of information interchange, easily tracking of customer database and so on.

Q: Is there are any security problems regarding to the collaborative banking information systems?
Ans: If the bank employees accessing the total information of the bank is raising the security issues. Bank employee had permission to access the account information and checking the
account information existing in the system. Only the manager has right to check the loan
information of the customers.

4.4.2 The Second Interview

The second interview conducted with Mr. Siva Prasad A Guntur, Businessman, Andhra Pradesh, India

Q: What type of banking account you have?
Ans: Current account.

Q. What type of problems you have faced in individual banking?
Ans: Problems in transactions and lack of time efficiency.

Q: How efficient is collaboration in banking services when compare to individual banking?
Ans: Collaborate banking information systems are very effective and easy to understand and to use it transferring of money is taking less time and there is no waste of time

Q: Is There is any difficulties in understanding the collaborate services?
Ans: No it’s easy to understand and very useful.

4.4.3 The third Interview

The third interview conducted with Mr. Narasimha G, College student, Narasaraopet, India

Q: Do you have bank account?
Ans: No

Q: What are the difficulties you find in current banking systems?
Ans: Bank working time is very less hours 10am-3 pm so it is very difficult for me to do
transactions in bank.

Q: Will you create a bank account, if banks are collaborating and give extra counter service up tonight?
Ans: Yes off course I will do 😊

Q: How many transactions you may go for in a month to Non-account customers?
Ans: I may go for a maximum five to eight transactions in a month.

4.5 Observation Procedure

The questions are prepared based upon the theoretical findings to gather more information about the problem and to match the information with the past studies about the topic. We have introduced ourselves as a research student of the University of Boras, and addressed about our research work to know the real status of the problem in the current banking scenario. The individuals who attended the interview are very curious in answering about their grievances.

4.6 The empirical research results

Through our empirical study, Collaborate banking Information Systems has become one of the most expected changes for any kind of banking sector in the present scenario. With the help of the interview conducted with the people who are working in banks, common people, and businesspersons is who are using their bank accounts and interviewed non-account holders.

In the result of this survey, we find the difficulties of customers who are expecting the banking services above the regular working hours and the students who are busy in the daytime and private companies who have more business transactions every day. In addition, People in the villages who are uneducated and farmers who are not wish to travel to the city for only for the bank work, which interrupts their regular work. Some of the bank employees also said that they are facing some troubles in banking sector for example: people are rushed in some particular time and other bank transaction is very difficult to do without knowing customer details.
In the survey, we find the respondents were very happy to accept our research implement of collaboration server in banking which helps customer and employees by various ways,

- Saving Time
- Accuracy
- Account Information Sharing
- Easily Accessible
- Transactions 100% accuracy
- Rendering Good service
- Increase in customer number
- Improves Customer satisfaction
- Reduces work fatigue to the banking employees
- Leads to introduce new plans in account openings
- Better relationship with the competitors

The result of our Empirical survey said the research would give some new customers to the banks.

5. Analysis and result

5.1 Analyses

As per the points discussed in the second chapter about the research analysis and methods, we analyzed the data collected through theoretical and empirical ways made us to foresee a positive and promising conclusion for the problems faced by the different participants of our research. Using the Qualitative analysis in this chapter, we tried to analyze our findings to draw a conclusion that improves the business of the banking sector to a maximum level, satisfy customers largely, and make the bank employees to serve with more dedication and inter activeness in their day-to-day work. The importance is mainly on the experiences and difficulties of the participants faced in transferring money with the current banking systems.

According to our research question, “How can information interchange in banking networks be more efficient and more helpful for the customers of the bank?”
Theoretical Result Analysis:

Through Books, Technical reports and Market Surveys We came to know that the customer inflow with the present banking systems are less because of the difficulties in transferring money from one bank to other bank that cannot be done instantly, as the Non Customer account information is not readily available. Moreover, Customers seek more flexibility in transferring money from their bank to other bank customers with less time and risk as the need may be urgent and much required. The present banking systems are found to have no ways for retrieving the information about other bank customers in a faster way which a customer is expecting to happen from the present banking systems. Many customers have terminated their account as the present banking systems made them to experience more difficulties in transferring money to a customer of other bank. The information technology in the past days had no facility in viewing account information of non-account holders. The time span taken by the banks to transfer money to non-account holders was more without Collaborative Banking Information Systems.

Empirical Result Analysis:

Interview: The interview conducted has gained more valuable and accurate information than the theoretical analysis. We have probed Present and Longtime Customers of the bank, Bank officials, Non - account Holders, Students, Bank Management, and Market researchers about their experiences in transferring money from their bank to other bank customers with the present banking systems. Grievances, Money transferring difficulties, Time Span to transfer, Maximum amount that can be transferred, Service charges and Possibilities in money transfer have been seriously discussed. Different methods like online questionnaire, Telephonic Conversation, and face to face interviews have been to identify the true facts and difficulties behind the present banking systems. After identifying the above said, the participants were asked about the changes they expect. They are also explained about the Collaborative banking systems concept and their views in implementing the systems, as they are the real one who needs it. Many banking employees are showing their interest in implementing Collaborative banking information systems, as the systems exhibits a promising solution to the problems in money transfer.
5.2 Summary of results

Summary of results of theoretical analyses:

1. Present banking systems are not effective in transferring money to non-account holders
2. Takes more time for transferring money comparing to internal transfer
3. Collaborative banking promises effective customer service and satisfaction
4. More customer inflow is predicted in collaborative banking systems
5. Information Interchange ensures much reliable transaction in less time

Summary of results of the empirical research:

1. Customers are facing much difficulty in emergency cases to transfer money without collaborative banking systems.
2. Banking officials and Management expects a safe, reliable and faster way to transfer money
3. Bank officials have to spend much time to validate the Non-account customer information in transferring money.
4. Information interchange in collaborative banking enables a faster way to identify faulty transactions
5. Collaborative banking ensures safe and reliable customer service in money transactions
6. Common branch facility can be made to increase the time of customer service
7. Collaborative banking systems improves the banking performance and turnover
8. It consumes less time in money transfer and highly reliable
6. Discussions

6.1 Conclusions

The Collaborative Banking Information Systems are a more advantageous aspect to the people in the villages and urban areas who expects the banking services to be more flexible in their banking activities. It is not only to the customers also to the banking sector and bank employees. This concept makes a big change in banking field. Non-account holders are ready to use the banking systems by means of opening new accounts. It saves the time and cost of banking and it improves the performance of the bank employees. It is being predicted that the percent of the account holders may be increase to another 35% in coming ten years in India. The percentage of literature is increasing it means all the students, the small employee’s, and farmers in the villages are the new customers in the coming years. It will bring a positive economic growth for the country. If the banking systems comes with different attractive plans to the developing country people may invests more money in banking sector. It is an asset to the country’s economic growth.

In the research, we reveal the strategies to provide the services

- Collaborative Banking systems
- Using and managing accounts
- Common Branch
- Effective Information Exchange
- Organizational Improvements
- Lower cost services
- Banking systems to everyone

With the help of collaborative bank information systems and common branch services, banks reach very closer to the customers and reduces the cost of the banking activities and they easily satisfies the users with the help of collaborative banking. Adding some special features in the future with the help of voice systems, automatic teller machines which helps people like blind and un-educated people easily use these services. Worldwide transaction lists that India
is in the top 10 list in money transfer. If the collaborative banking concepts are reaching to the customers then the non-account holders may interest on banking and possibly open the new accounts. Therefore banks are expected to reach target from 16% to 35%, it is double to the present, and India may stand in top 5 in the world wide transactions. Increasing the customers in the bank adds more benefits to the banking sector and many features can be introduced in the future. It is helpful to the economic growth of the country. The research is to provide the service for the people in villages where the banking systems are not flexible.

6.2 Implications for Informatics

Information systems plays major role for conducting business today. A collaborative information systems are signify throughout many software programs, operation on a network whose nodes consist of computers, multi-processors, massive parallel Processors or workstations, each having right to use its own memory or to some common shared memory. (I.Dzitac & G.Moldovan, 2006).

The informatics deals with the development and use of the information system in banks. In the banking industry related to globalization, consolidation and technology optimization were facing more challenges in day-to-day life. Information technology has developed a lot and it is developing continuously in banking sectors. In our research, the banking systems are the most significant collaborative systems, with large number of components and a large variety of links between them.

Our research is related to the fields of informatics, as we have worked on the information interchange in banking networks, which are parts of the information systems. The information networking is necessary when it comes to connection of two or more banking systems together and it is used to gain effective results. Information system works to make the banking networks more responsive to customer needs.

“Collaborative Banking Information Systems collect the details of account holders; store’s it in collaborative server and process in sharing the account information within banks easily”.
From our research, Banking Information Interchange helps customer by various ways,

**Saving Time** – The research is about to save time by collaborating data’s of the customers from various banks in a location and access the data’s from one location, through which we save time in money transferring and making the customer satisfied.

**Accuracy** – The Information systems are built in a way that the data of the customers are collected from the respective bank’s server so that there is no chance of mismatch of data’s, from which we can assure how secure the systems are.

**Account Information Sharing** - Through collaborating banking information systems we collect the account information of all the customers and share the data’s from a single server to whoever are in need of the data’s.

**Easily Accessible** – The information systems are designed in a way that the data’s can be easily accessed from a single collaborative server.

**Successful Transactions** – The information systems collects the data’s from the Collaborative banking server and the data’s are accurate and it is shared between banks from a single server, hence the transactions are faster and successful.

**Rendering Good service** - By using the Information Interchange systems we can assure accuracy, faster transaction, hence we could provide service exceeding customer expectation.

### 6.3 Method Evaluation

We have used two methods to collect the data’s for this research work,

1. Theoretical Study
2. Empirical Study

**Theoretical Study**

Theoretical study plays a major role in any research. The important reason why it plays major role is that, it is an inexpensive activity. Theoretical study is mainly used to understand what the process is about. Theoretical study has helped us in several ways to collect the data’s
regards the collaboration of banking systems and its implementation. Although a theoretical study has its own limitations, we followed various processes in this research.

We referred textbooks and journals from the university library, in this modern era there is lot other sources to collect information as we used internet to surf the data’s through the previous research papers regarding the banking systems for the research.

In this research of gathering data’s there were times wherein we have enough sources regards the research and in times there were mismatch of data’s or insufficient data’s. To rectify these errors we referred lot of resources related to the Collaborative banking systems from the Internet. The data is relevant to the present banking systems methodology, efficiency in transferring money to non-account holders have been gathered through theoretical analysis,

**Empirical study**

In this research, we gathered information via interview with the people who hold their accounts with different banking sectors. The questionnaire prepared for the interview was simple and open ended regarding the Collaboration of banking systems. The method of interviewing is the best alternative for collecting data through empirical study. The interview was held with different type of account holders,

- Current a/c holders (company a/c)
- SBI account holders
- Bank employees
- Students and Researchers
- Village Peoples

We had an interview session with non-account holders to know the pros and cons of the process. This research has been done to collect information about the problems faced by end users with the present banking systems and also their relevant suggestions and ideas to overcome such issues. In this research the method of interviewing the end users through online and face to face have been adopted to receive feedbacks to improve and implement the systems successfully.
6.4 Result Evaluation

Result evaluation is the tool or method used to improve the quality of the process as we have compared the qualitative and quantitative analysis of the data. After collecting all the data is required for the process, we have followed the strategies of the analysis throughout the process.

We have checked all the data’s which is collected and validated. Lots of research has been made in collecting the information like online and face to face interviewing and verified the same with the online resources, which helped us to cross check and update the data in real time. As per the result evaluation the data’s which are collected are trustworthy and reliable.

6.4.1. Credibility

Credibility involves to the results of qualitative from our research perspective, in the research using theoretical and empirical surveys. With the help of theoretical studies, using books and journals related to banking information systems and we referred the libraries to finding the related literature. With help of these all books and journals, we elaborated the founding on trustworthy of authors.

In other hand, we performed the interviews and surveys based on empirical study. We consider the people related to the research like banking employees and researchers and customers. As for the findings, we believe that the people have relative knowledge of banking systems. We believe that empirical and theoretical study is worthy.

6.4.2. Transferability

It refers to banking systems to which the results of qualitative research can be generalized or transferred to systems. We have considered with existing systems and found there is lack of service in the entire place and there is lack of knowledge. We have done an egregious transferability with the help of both studies like empirical and theoretical study. With help of theoretical studies, we went little bit wrong with the research. When we consider the empirical study, we have got the result, which is transferable.
6.4.3. Dependability

When we start the research, we depended most of the work on the internet and libraries. It is not that worthy. Therefore we are interacting the banking people and the customers, were satisfied with help of banking sites and interview with customer and employees. Thereafter we have a diagram. After finding the solutions, we depended on the existing systems and lack of things in the systems. Reviewed these two we analyze the problems.

6.4.4. Conformability

We followed different procedures for unique perspective to the study. In conformability We followed a procedure of checking and rechecking information’s which is collected through the theoretical and empirical study interviews, the data we collected through the theoretical study analyzed by the trustworthy of the authors’ which follows in the study and result of the authors previous researches. In the empirical study we follow the trusted people who are working with banking systems and information systems and customers in the bank, It is the responsibility of the person who are working under the banking systems and using the systems. After all these studies, we analyzed the data based on the results.

6.5 Possibilities to generalize

We built our case study in two ways theoretical and empirical study. In theoretical study, we have selected some literature sources, texts, and journals. As well as for empirical study we conducted interviews with bank employees, account, & Non-account holders and the outcome was exceptionally good.

As per the feedback, analysis we have noticed that the customers are satisfied with the effort taken in regards with the research. With the implementation of Collaborative Banking Information Systems, the money transactions can be made easy and faster in the banking sector. It makes banking very easy to use even in Indian villages. Time management is the important feature of the research as we could save lot of time. In this study we have found that the customers are happy and the banking transactions are reliable. Our research is valid to upcoming developers.
6.6 Ideas for continued research

Now, we are in the final stage of our research, the ideas for continued research. Yes, we do have the banking systems to improve the service with “voice command for ATM machines “. It helps the blinds and uneducated people to use ATM cards easily in ATM machines.
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