CHAPTER 3

Research design

A research design is a map developed to guide the research. It is blueprint for collection, measurement and analysis of data (Kothari, 2004). It is a framework specifying the methodology for collecting and analysing the needed information. Before carrying out the research it is necessary for the researcher to take number of decisions. These include:

- Statement and formulation of research problem
- Reviewing the existing literature pertaining to the problem in hand
- Setting out the objectives of the research
- What type of data are relevant
- How and from where to collect required data
- Tabulation and presentation of data
- Statistical tools and techniques to be applied for the analysis and interpretation of data
- Chapter scheme of the study
- Time frame of the study
- Cost estimates
- Report Writing

These decisions are to be articulated in such a manner that basic purpose of the research is achieved with minimum money, time and energy. Research Design, thus is a symbolic representation of decisions essential for successful completion of a research with economy.
3.1 STATEMENT OF THE PROBLEM

With the policies of Liberalisation and Privatisation, financial sector was opened to large number of private players which has consequentially resulted in keen competition among the industry. Banking industry, being a pillar of financial sector, was not excused with such explosion in the Indian Market. Many Private and foreign players embraced with modern banking practices and sophisticated technologies have penetrated in the Indian Banking industry. This expansion of Indian Banking industry has seen a spurt in last couple of years. In 2014, RBI issued financial bank license to infrastructure financer IDFC and Microlender Bandhan. Forty one applicants including corporate giants - Airtel, Vodafone, Reliance industries, Idea Cellular, Future group and others are lined up to enter the banking service through payment banking permit. Till date 72 applicants have applied for the small finance bank license. These proposals for “differentiated banking” are making the competitive situation fierce. The banking amendment bill 2012, for issuing new bank licenses and use of social media to attract customers has made the competition more intense. Thus, to surpass competitors, it has become imperative for firms to look for proactive strategies that contribute to increase their market share. Delivering the superior quality has been recognised as one of the powerful weapon to attract and retain the customers. Service quality has emerged as one such vital strategy that is used to differentiate the product and services of one competitor from others. Delivering Service quality is the responsibility of human resources. Until human resources are motivated and empowered to take decisions, they will not be able to deliver customer satisfaction and secure customer retention. So understanding and delivering what motivates and satisfies an employee commands a powerful tool for creating and getting value from them. This linkage of employee satisfaction, customer satisfaction and profitability in fact has paved the way for the emergence of concept “Service Profit Chain”.

Thus service profit chain is an important phenomenon that stresses the importance of employees and customers equally for generating the corporate performance. Creating an excellent working environment can make the employees
satisfied and productive. Productive employees can cater to the needs of customers effectively and can contribute to successful service experiences which can result in customer satisfaction and loyalty which are critical to sustainable profit and growth. The theory of service profit chain seems very simple but the end results can be very critical. The present study makes an endeavour to assess the applicability of the concept of Service Profit Chain to Indian banking industry.

3.2 RESEARCH OBJECTIVES

The present study has made an endeavour to work out applicability of concept of service profit chain in Indian Banking Industry. In this context, the study aims at attaining following objectives:

- To know the extent to which concept of Service Profit Chain is applicable in Indian Banking Industry.
- To assess the internal service quality of selected banks as perceived by their employees.
- To assess the external service quality in selected banks as perceived by their customers.
- To see if the expectations of employees and customers of the selected banks on internal and external service quality fronts respectively are met by the banks.
- To assess the impact of internal service quality on external service quality and profitability of banks.
- To see which of the selected bank/s is /are more prompt in gainfully employing the concept of service profit chain.
- To give some practicable suggestions to the banks under study so that internal and external service quality and hence their profitability may improve hither –to –be.
3.3 **HYPOTHESES**

In the light of objectives of the study, it is hypothesised that:

- There is no significant difference in the expectations and perception of employees concerning internal service quality in their bank.
- There is no significant difference in the expectations and perception of customers concerning quality of services rendered by their bank.
- There is no significant difference among the selected banks on internal service quality front.
- There is no significant difference among the selected banks on external service quality front.
- Internal service quality, external service quality and profitability are positively co-related.

3.4 **RESEARCH METHODOLOGY**

This is an Empirical study. The researcher has made use of both primary and secondary data to accomplish the objectives of the study. Primary data have been collected through self-designed structured questionnaires addressed to front office employees’ (those who interact with customers) and the customers of the selected banks. The employees’ of the banks have been approached to assess the internal service quality while customers’ survey has been conducted to evaluate external service quality as rendered by the banks.

In all, 360 employees (120 of SBI, 100 of ICICI bank and 70 each of Vijaya bank and Federal Bank) and 690 customers (250 for SBI, 200 for ICICI and 120 each of Vijaya and Federal Bank) have acted as respondents to the questionnaires on Internal and External Service quality respectively. Various sampling planks have come into picture while selecting banks, respondents and geographical areas to be covered etc.

At the outset, judgement sampling has been used to select the banks to be surveyed. A deliberate effort has been made to include both public
sector/nationalised banks as well as private sector banks. Moreover two largest banks (SBI and ICICI Bank) and two relatively small banks (Vijaya Bank and Federal Bank) in each of the above categories have been included in the study. Their size in terms of branches, income and deposits etc has been duly considered while making choice of the sample.

The choice of the areas to be surveyed has been based on the convenience of the researcher. It was convenient for the researcher to cover selected North Indian States. Hence the samples of the employees and the customers have been taken from the states of Haryana and National Capital Region (NCR) including Delhi. Further from Haryana state, subareas selected for data collection are Panipat, Rohtak, Jhajjar, Bahadurgarh (Distt.Jhajjar), Sonipat, kundli (Distt. Sonipat), Faridabad and Gurgaon. The selection of employees as respondents is based on the judgement of the researcher. For instance a deliberate attempt has been made to include those employees of selected banks who are directly serving the customers. This is perhaps the way to go if the applicability of the concept of Service Profit Chain has to be seen. The customers meanwhile have been selected randomly.

Secondary data have been collected through annual reports of the banks, prowess software, magazines, newspapers, journals, other published and unpublished reports, and official websites of the banks, other legal and authenticated websites and so on.

The data so collected has been analyzed with the help of SPSS software using various statistical techniques like ANOVA, combined t-test, mean, linear regression, standard deviation and Post-Hoc etc. and presented using appropriate statistical tables and charts etc. The Prominent statistical techniques used in the study are as under:

- **ARITHMETIC MEAN**

Arithmetic mean gives us the average figure for the entire data. It is the value obtained by adding together all the items and by dividing this total by the number of items. The arithmetic mean has been calculated by using the following formula:
\[ \bar{X} = \frac{\sum x}{N} \]

Where,

\( \sum x \) = Sum of all values of variable x.

N = Number of observations.

In the present study, Arithmetic mean has been computed to know the average scores of perception and expectations of customers and employees of selected banks (SBI, ICICI Bank, Vijaya Bank, Federal Bank). This, in fact, is a very good indicator of how well the bank is doing on a particular aspect of Internal or External service quality.

- **STANDARD DEVIATION**

  It is a measure of how widely values are dispersed from the average value (mean). It has been used to study the variation in the responses disclosed by the respondents. The formula of standard deviation used in the study is shown below:

  \[ s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}} \]

  Where, \( x \) = a score in the distribution

  \( \bar{x} \) = the sample mean

  n = sample size

  In the present study, Standard Deviation has been used to find the variability in the responses of customers and employees in each of the selected bank.

- **PAIRED T-TEST**

  For testing the difference between two means (expectation and perception) combined t-test has been used. The statistic is used to test whether the means are significantly different from each other. It has been calculated as follows.
\[ t = \frac{\bar{d} \sqrt{n}}{s} \]

Where, \( \bar{d} \) = mean of the differences

\( s = \) standard deviation of the differences.

The value of S is calculated as follows:

\[ s = \sqrt{\frac{\sum(d - \bar{d})^2}{n-1}} \]

Where \( n - 1 = \) degree of freedom.

In the present study, paired t-test has been used to find out whether there exists a significant difference in the perception and expectations of employees and customers of the selected Banks. (SBI, ICICI bank, Vijaya bank and Federal bank).

- **Linear Regression**

Linear regression is a statistical analysis assessing the association between two variables. It is designed to test the relationships between two variables that take linear form. The theoretical assumption is that for every one-unit change in the independent variable, there will be a consistent and uniform change in the dependent variable.

Regression Equation \( (y) = a + bx \)

Slope of the regression line \( (b) = (N\Sigma XY - (\Sigma X)(\Sigma Y)) / (N\Sigma X^2 - (\Sigma X)^2) \)

Intercept \( (a) = (\Sigma Y - b(\Sigma X)) / N \)

Where, \( x \) and \( y \) are the variables.
\( N = \) Number of values or elements
\( X = \) First Score
\( Y = \) Second Score
\( \Sigma XY = \) Sum of the product of first and Second Scores
\( \Sigma X = \) Sum of First Scores
\[ \Sigma Y = \text{Sum of Second Scores} \]
\[ \Sigma X^2 = \text{Sum of square First Scores} \]

In this study, linear regression has been used to test the relationship between internal service quality and External service quality of the selected banks in Indian Banking Industry.

- **ANOVA (Analysis of Variance)**

  The analysis of variance technique is a statistical technique designed to test whether the means of more than two quantitative populations are equal and if not then how much different they are. Basically, it consists of classifying and cross classifying statistical results and testing whether the means of specified classification differ significantly. The following formulae have been used in the study to calculate ANOVA:

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>SS(Sum of squares)</th>
<th>Degree of freedom</th>
<th>Mean Square (MS)</th>
<th>Variance Ratio of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Samples</td>
<td>SSC</td>
<td>V1=c-1</td>
<td>MSC=SSC/(c-1)</td>
<td>MSC/MSE</td>
</tr>
<tr>
<td>Within Samples</td>
<td>SSE</td>
<td>V2=n-c</td>
<td>MSE=SSE/(n-c)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>SST</td>
<td>n-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where,

\[ \text{SST} = \text{Total sum of square of variation} \]
\[ \text{SSC} = \text{Sum of square between samples (columns)} \]
\[ \text{SSE} = \text{Sum of square within samples (rows)} \]
\[ \text{MSC} = \text{Mean sum of squares between samples} \]
\[ \text{MSE} = \text{Mean sum of square within samples} \]
In this study, ANOVA has been used to find the similarities in the perception mean score (of customers and employees) amongst selected banks on different dimensions of service quality.

- **Post-Hoc Test**

  Post-hoc test is a method that is used to determine which groups among the sample have significant differences. This method calculates the difference between the means of all the groups and explores all possible pair-wise comparisons of means. LSD stands for Least significant difference. In the present study, Post-Hoc has been used to find out which banks, among the selected banks, are significantly different from each other when one to one comparison is done.

### 3.5 Scope of the Study

As mentioned earlier, the present study has made an attempt to see the applicability of concept of “Service Profit Chain” in Indian Banking Industry. Prominent aspects of the Service Profit Chain viz. Internal and External service quality have been deliberated upon in detail in the study. The researcher has made a deliberate attempt to bring in greater representation of various categories of the banks in the study. Both Public/nationalised and private banks have been included in the study. Even an attempt has been made to include both large as well as small banks from the selected categories of the banks. Following banks, in fact, have been included in the study:

- State Bank of India, A Public sector and Largest bank of India
- ICICI Bank, A private Sector and second largest bank of India.
- Vijaya Bank, A nationalised and relatively small bank of the country.
- Federal Bank, An old private and relatively small bank of the country.

In the present study views of employees and customers have been gathered. These respondents have represented the selected branches of the selected banks situated in the state of Haryana and National Capital region (NCR). The profitability
of the selected banks of last ten years has been derived from the published reports of the banks.

3.6 SCHEME OF THE STUDY

Chapter one is introductory. It has incorporated various theoretical aspects pertaining to the problem in hand. At the outset, Indian banking Industry has been scanned on various aspects such as its historical background, structure and recent trends etc. The themes of the study viz. Service Profit Chain, Internal service and External Service Quality have been explained in the chapter. A brief profile of the selected banks has further been incorporated in this chapter.

Chapter 2 has reviewed the literature relevant to the problem in hand. It includes the essence of pertinent studies carried out by various researchers from time to time. It has helped the researcher in understanding the present research problem and clarified where to focus more.

Chapter 3 is related to research design. It emphasises the background against which the present research has been carried out, objectives to be accomplished, analytical techniques used in the study, scheme of the study and its scope, significance and limitations.

Chapter 4, 5 and 6 are, in fact, the backbone of present study. These measure and critically examine the Internal Service Quality, External Service quality and the impact of Internal Service quality on externals service quality and thereby profitability of selected companies. These chapters incorporate the analysis and interpretation of the questionnaire on above aspects by garnering the views of the respondents.

Chapter 7, of course, highlights the major findings of the study. Further, it explains significant recommendations which if exercised may prove crucial in improving the Service Quality and profitability of not only of selected companies but of all those companies which can not be incorporated in the study for one or other reason.
3.7 SIGNIFICANCE OF THE STUDY

As discussed earlier, Service quality (both Internal and External) are absolutely crucial to the success of service organisations. It is in this context that the study assumes significance for various entities.

At the outset, the performance of the banks on external service quality front would give them an idea about satisfaction level of their customers. There is no denying the fact that success of any organisation hinges on the extent to which its customers are satisfied. The selected banks by looking their grey areas on service quality front may work on improving upon those and hence enhance the satisfaction level of their customers which in turn can give a boost to their profitability.

The findings of the study on internal service quality would reflect the satisfaction level of the employees of the bank. The employees of the service organisations provide interactive services to the customers and hence are crucial to the satisfaction of the customers. Once again the banks can use findings of the study to find out the areas where in aspirations of the employees are not met with. By addressing the grey areas in right earnest, banks can hope to change their fortunes on external service quality too. The banks can get the best out of their employees by meeting their expectations. The expectations of the employees are obviously revealed in the present study.

Banking regulators of India can use the study to assess the direction in which Indian Banking industry is heading towards. The issues addressed in the present study viz. Internal Service quality, External Service Quality and profitability are the true indicators of the robustness of the banking industry. The banking regulators can obviously eye such indicators and get necessary clues.

The study has included both large as well as small banks and public/nationalised as well as private banks. Any stakeholder interested in making comparisons on bases as mentioned above may find the present study a very relevant one.
Not only the selected banks but other banks may also take inputs from the present study concerning how to serve their customers better, keep their employees in high spirits and enhance their profitability.

The customers may also use the study to identify areas in which they need to be served better by their banks. They can push banks to work on those areas wherein customers’ grievances are high.

Even the employees’ of the banks on seeing the findings of the study can bargain with their employers to treat them as the internal customers so that they can serve their final customers in the most appropriate way.

Not only the banks but other service organisations too can use the study in their endeavour to improve their service quality, both internal as well as external.

Last, but not the least, budding researchers willing to undertake their research in areas such as internal or external service quality or banking or other service industry may find this study a useful one for reference purpose.

3.8 LIMITATIONS

There is no denying the fact that doctoral research demands herculean efforts from the one who is carrying out the same. Numbers of limiting factors plays a role during the course of study. Acknowledging such factors not only makes the concerned research more expressive but also prepares the budding researchers to cope up with such challenges. The researcher too encountered such limiting factors during the course of the study.

The resource constraints and not so conducive research environment usually hampers research in a country like India. The present study may not be an exception to it. However, more than these, there are various factors that have posed problems in the present study.

The study has garnered customers’ responses on External Service quality and employees’ responses on internal service quality of the selected organisations to
attain its objectives. Needless to say, all the said aspects are bit technical in nature and may not be easily comprehended by customers and employees. The same, in turn may jeopardise the responses given by them. Although every effort has been made by the researcher to make respondents’ understand the questions being incorporated in the questionnaire yet, technicality aspect might have acted as a limiting factor in their responses and subsequent analysis of the same.

Making respondents’ understand the questionnaire was one thing, convincing them to fill the questionnaire was also not easy. This was especially true in case of employees of the banks. The researcher had to literally run after them to get the desired responses.

Even getting the secondary information from the selected banks was not a cake walk for the researcher. Researcher was made to visit the banks again and again to get slightest of the information.

Assessing the impact of various variants of service profit chain (Internal service quality, External Service quality and profitability) on one another was quite challenging for the researcher. Infact, there are countless other factors which influences these. Thus it is impossible to conclude that one is solely influencing the other.

Researcher has taken various permutations and combinations to make the present study more meaningful. For instance, both public/nationalised and private sector banks have been chosen for the study. Further, deliberately large as well as small banks have been included in the study. Working on such different entities and comprehending the results was also bit cumbersome.

Inspite of above mentioned and other less significant limitations the researcher is quite optimistic about these not hampering the quality of research.