CHAPTER-IV

RESEARCH METHODOLOGY

In this chapter, the need of study, objectives, scope of the study, hypothesis, sampling, sources and instruments of data collection as well as the limitations of the study have been presented systematically.

4.1 Need of the Study

Today's business environment is characterized by change and intense competition. Proactive steps are vital for any organization if it has to survive in dynamic times. Until the organizations of today show any willingness for change, no progression of any sort can take place in any area. In order to identify the areas for change, there is an urgent need to look within. First step is to identify the factors that influence the behavior of employees. This study will help to identify the factors influencing organizational climate that have an impact on employees' level of job performance on the basis of certain attributes such as their level of morale; their productivity; as well as their commitment towards the organizations.

In view of the above, there is a need to undertake a comprehensive study which can help to find out the causes that lead to better organizational performance or otherwise. An important aspect of this study is that the finding of the study will be useful for identifying and in creating an organizational climate in Electrical Companies of India for improving employees' performance. This study would highlight the weak spots reflecting poor organizational climate and would lay down the ground for working out relevant remedial measures to strengthen the system. Given this research a manager must have a clear understanding of an employee
attitude and perceptions in order to “Manage” them toward higher organization performance.

Hence, an attempt has been made to understand ‘climate’ and its effect on ‘performance’ and then to understand ‘Organizational Climate’ and ‘Employee Performance’ within the sample selected. Though the cluster of variables can be taken to measure organizational climate, the core ones that have been selected in the present study are job itself, culture, inter-personal relationships within the organization and leadership styles. The parameters considered to measure performance are morale, productivity and organizational commitment. Attributes such as accidents, wastage, training and quality of work have been considered to measure productivity; and job satisfaction, sabotage, conflicts, feeling enthusiastic and attitude of getting updated with latest techniques have been considered to study morale of employees in the organization. Likewise, absenteeism, labour turnover and a sense of belonging are the major variables that have been considered in order to study the commitment of employees in the organizations.

Though many studies have been conducted covering the climatic issues of the organizations, there are certain basic questions which have remained unanswered in such studies cited in the preceding paras. Some such questions are: How can the optimum level of organizational climate be achieved? To what extent can the organizational objectives be achieved? Which points do the managers need to explore and learn for the accomplishment of the organizational objective? To what extent the core values need to be fostered among the managers in order to adhere to the policies and procedures that have been developed by the organizational authorities? The study is an endeavor to answer these questions in relation to organizational climate and employees’ performance.
4.2 Statement of Problem

The study is focused on evaluating the performance of employees in light of organizational climate in certain selected electrical companies operating in India. The problem is entitled as below:

“Organizational Climate as a Determinant of Employees’ Performance: A Study of Electrical Companies of India.”

4.3 Objectives of the Study

Keeping in mind the rationale behind this study, the following objectives have been spelled out as under:

1. To study the status of organizational climate prevailing in the selected electrical companies in India.

2. To analyse empirically the position of organizational climate and culture existing in the electrical companies.

3. To evaluate the effect of organizational climate on employees’ performance.

4. To make a comparative study of different managements in respect to the organizational climate on the basis of certain selected parameters.

5. To examine the perception of respondents regarding the values existing in the selected organizations.

6. To brief out the perspective of top level management regarding the practices and performances in selected organizations.

7. To trace out the causes responsible for adverse organizational climate and to come out with recommendations to make the climate congenial in order to facilitate better performance.
4.4 Hypothesis

Hypothesis is simply a statement about the universe. It is a statement of the tentative solution of the problem. This statement may or may not be true; the research is designed to ascertain the truth. In view of the above objectives of the study, a number of research questions arise. On the basis of these research questions and review of related literature the following hypotheses have been formulated:

Ho1 There is no significant difference in the variables constituting organizational climate.

Ho2 There is no significant difference in the variables constituting organizational culture.

Ho3 Organizational policies and practices do not have significant relationship with organizational climate.

Ho4 Inter-personal relationships do not have significant relationship with organizational climate.

Ho5 Organizational climate does not have significant influence on employees’ performance.

Ho6 Morale does not have significant influence on employees’ performance.

Ho7 There is no gender disparity in organizations.

Ho8 Productivity does not have any bearing with performance.

Ho9 Employees’ commitment does not have any bearing with performance.

Ho10 Performance of employees remains constant.
Ho11 Virtuous practices in organizations do not influence performance.

Ho12 There is no significant difference in the theories and practices of values in organizations.

Ho13 There is no significant difference in the concern of management towards different parties.

4.5 Sampling:

The sample for the present study includes the workers, officers and executives of the selected electrical companies operating in India. The process of selecting the sample is multi-stratified in nature. At the first stage four regions namely Mumbai, Pune, Baroda and Daman were selected on the basis of simple random sampling. At the second stage, one electrical company managed by the Japanese management and two electrical companies management by the U.S. management but operating in India were selected conveniently. Apart from these, two electrical companies managed by Indian management were selected for the study. At the third stage, the sample of 300 employees/ personnel belonging to lower level and middle level were selected with the help of random sampling. The sampling frame consists of respondents above 18 years of age. 189 males and 111 females have been selected. Likewise, 61 employees belonging to Indian management, 103 belonging to Japanese management and 136 belonging to American management were selected in proportion to their number being employed in each organization. In order to study the perception of the top level executives, a sample of 25 personnel belonging to top level management was selected on the basis of purposive sampling method. Special care was taken to see that the companies are restricted to electrical products and productions. The questionnaire has been divided into two broad categories— one set for employees, officers etc i.e. personnel belonging to middle level
management and the second one for personnel belonging to top level management. Thus, population represents the broader demographic profile of the respondents. Further, special care has been taken to ensure that the respondents of different age, gender, income and departments are represented.

4.6 Research Design

Research design refers to the blueprint for the research. It is a plan through which observations are made and data is assembled. It provides an empirical and logical basis for drawing conclusions and gaining perfect knowledge. To accomplish the above objectives of the study both primary as well as secondary data has been applied.

4.7 Sources of Data

The research plan can call for gathering secondary data as well as primary data. Secondary data are data that were collected for another purpose and already exist somewhere. Primary data are data gathered for a specific purpose or for a specific research project.

Secondary data provides a starting point for research and facilitates the comparison of the research with the existing data.

The analysis of present study has been based on primary as well as on secondary data. More emphasis has been laid on primary data.

A. Primary Data

Primary data are original in character and are collected fresh for some specific purpose. The primary data has been collected through the under mentioned methods.
i) **Questionnaire:** A well structural schedule of questions containing different aspects of the study was developed and circulated to persons concerned.

ii) **Interview:** The permission of the departmental heads of different companies was sought for the purpose of conducting personal interview. Also informal talks out of factory campus were conducted to extract true and genuine information.

iii) **Observation:** Certain information has been collected through personal observations. There are some incomplete questionnaires, which give ambiguous information. Therefore, personal observation has been made to reveal the data.

**B. Secondary Data**

Certain data collected by different agencies for other than present purpose have also been used. This type of data has been collected from the office records, publications, newspapers, magazines, existing literature and other scholarly work.

**4.8 Tools of Analysis**

The data collected from different sources has been classified and arranged in tables in one or more forms according to the requirements of analysis. For the analysis of results, the following techniques have been applied:

**A. Mathematical Tools**

In the present research work, mathematical tools viz. percentage and simple average have been used to analyse the collected data.
i) Tabular Analysis

In tabular analysis, percentages are calculated to draw the inferences; it is very scientific and perfect analysis. In the present study, it is used to support the inferences drawn from the above statistical analysis as non-parametric analysis is not that powerful as parametric test. For the respondents the responses had been solicited on the five parameters of ‘I strongly agree, I agree to some extent, no opinion, I do not agree, and I do not agree at all’. For ranking purposes where the sum total of a row is equal, those higher either in response to fully agreed or very likely have been placed higher. For data calculation, “strongly agree” was given 5 points, “agree” was given 4 points, “undecided” was given 3 points, “disagree” was given 2 points and “strongly disagree” was given 1 point. In some questions, 3-Likert scale was used and the responses had been solicited of ‘yes’, ‘undecided’ and ‘no’.

ii) Ranking

The checklist of the possible reasons was prepared in the form of multiple choice questions. The aggregate of responses was taken & then ranked to find out which is the most important reason/factor.

B. Statistical Method

Statistics is an imposing form of mathematics. It is the aggregate of facts affected to a marked extent by multiplicity of causes, numerically expressed, enumerated or estimated according to a reasonable standard of accuracy, collected in systematic manner for a predetermined purpose and place in relation to each other. In the present study following statistical methods have been used:
i) **Mean**¹

One of the most useful and widely used techniques for doing this—one quite well-known, is the *average, or, as it is known in statistics, the mean.* It is possible to arrive at the mean by simply adding up a set of scores and then dividing it by the number of scores. This can also be done with the help of the most basic statistical formula:

\[ \bar{X} = \frac{\sum X}{N} \]

Where:

\( \bar{X} \) (sometimes call the X-bar) is the symbol for the mean.

\( \Sigma \) (the Greek letter sigma) is the symbol for summation.

\( X \) is the symbol for the scores.

\( N \) is the symbol for the number of scores.

So this formula simply projects the mean by summing up all the scores and dividing the total by the number of scores—the old average, which is normally a good place to begin.

ii) **Standard Deviation**²

It is the most important and widely used measure of studying dispersion. The standard deviation is also known as root mean square deviation for the reason that it is the square root of the mean of the squared deviation from the arithmetic mean. The standard deviation measures the absolute variability of distribution. The greater the standard deviation, the greater will be the magnitude of the deviations of the values from their arithmetic mean. A small standard deviation means a high degree of
uniformity of the observation as well as homogeneity of the series or vice-versa. The standard deviation has been calculated as under:

\[ \sigma = \sqrt{\frac{\sum x^2}{N}} \]

Where

\[ \sigma = \text{Symbol of standard deviation} \]
\[ x = (X - \bar{X}) \]
\[ N = \text{Number of observations} \]

iii) Co-efficient of Skewness

The co-efficient of skewness, as a statistical tool, helps in the study of the degree and direction of variation from the centre value. It also shows that a particular distribution is positively or negatively skewed. This method is useful in studying the concentration of responses of the respondents either on the lower side or on the higher side of mean score with respect to their opinion on different statements. In the case of normal distribution, the value of skewness will be zero. The positive skewness is denoted by Mode < Median < Mean and in case of the negative skewness we find Mean < Median < Mode. It has been calculated with the help of following formula:

\[ SK_p = \frac{\bar{X} - Z}{\sigma} \]

Where

\[ SK_p = \text{Karl person's co-efficient of skewness} \]
\[ \bar{X} = \text{Mean} \]
\[ Z = \text{Mode} \]
\[ \sigma = \text{Standard deviation} \]
i) **Kurtosis**

In statistics, kurtosis refers to the degree of flatness or peakedness in the region about the mode of a frequency curve. The measurement of kurtosis tells us the extent to which a distribution is more peaked than the normal curve. It is called **leptokurtic**. If a curve is called flat-topped than the normal curve, it is called **platykurtic**. The normal itself is known as **mesokurtic**.

\[ \gamma_2 = \beta_2 - 3 \]

For a normal distribution \( \gamma_2 = 0 \)

If \( \gamma_2 \) is positive, the curve is leptokurtic, and

If \( \gamma_2 \) is negatives, the curve is platykurtic.

v) **Chi-square Test**

This test is a non-parametric test. Non-parametric data does not follow the normal curve of the probability and have unequal or unmeasurable scale intervals between categories. Chi-square test is a test, which describes the magnitude of difference between observed frequencies and the frequencies expected under certain assumptions. With the help of Chi-square test, it is possible to find out whether such differences are significant or are insignificant and could have arisen due to fluctuations of sampling. The information gathered through questionnaires from the different categories of voters, media personnel and managers of political parties is in the form of nominal data. Hence Chi-square test is considered more appropriate in the present study. In the chi-square test, the only problem is to decide as to how the expected frequencies have to be arrived at. There is no hard and fast rule of it and the method of arriving at the expected frequencies would depend upon the nature of the problem. Once
the expected value has been arrived at, the calculation of chi-square and its interpretation are very easy. In the present research work $\chi^2$ test is applied to study the relationship between quantities variables and for analysing the opinion of respondents regarding different factors.

$\chi^2$- test of Independence

This test is used to study the relationship between demographic variables of respondents and purpose of loan taken, recovery mechanism, etc. It describes the magnitude of differences between observed frequencies and expected frequencies under certain hypothesis.

$\chi^2$- test of Goodness of fit

This test enables us to ascertain how appropriately the theoretical distribution such as Binomial, Poisson, Normal etc. fit into empirical distribution. It is used to know the impact of the RRBs' credit in the development of rural areas of the state. The static of $\chi^2$ is calculated as:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where

$\chi^2 = \text{Chi-square}$

$O = \text{Observed frequencies}$

$E = \text{Expected frequencies}$

i) Calculate the expected frequencies (denote them E).

ii) Find out the differences between observed frequencies (denoted by O) and expected frequencies. In other words find (O-E).
iii) Square up the various values of (O-E) or find out (O-E)^2 and divide each value of (O-E)^2 by the respective value of E or the expected frequency. In other words find all values (O-E)^2 /E.

iv) The total of all the values of (O-E)^2/E i.e. \( \sum [(O-E)^2 /E] \) will be the value of \( \chi^2 \).

v) Compare the calculated value of \( \chi^2 \) with the independent value of chi-square (available in tables) for the desired level of significance.

vi) If the calculated value of \( \chi^2 \) is more than the relevant table values, the difference between observed and expected values is significant. If the calculated value of \( \chi^2 \) is less than the table value the difference between observed and expected frequencies is not significant and could have arisen due to fluctuations in sampling.

4.9 Significance of the Study

An important aspect of this study is that the finding of the study will be useful for identifying and in creating an organizational climate that will enhance employees' job satisfaction, their morale ultimately increasing their performance and productivity. It's a deliberate effort to highlight the areas causing an adverse organizational climate.

An organizational climate survey is like a weather report that quantifies attitudes and beliefs. The results can help to create a holistic picture of the organization and allow the company to leverage its strengths. The feedback also highlights issues that may be inhibiting individual and organizational success.

While individuals may feel inhibited to be open and honest in one-on-one interviews, anonymous surveys can help to identify the cause of employee turnover and describe the impact of current programs and policies.
Surveys also give employees the opportunity to describe their desired culture. And organizations can establish a benchmark for evaluating changes in overall performance over time. Finally, management can demonstrate that they care about their employees by taking action based upon the feedback.

4.10 Limitations of the Study

To know the extent of reliability of the study, it is important to state the limitations under which it has been conducted. The main limitations of the present study are:

1. The study has been restricted to a limited sample of 300 employees plus 25 members belonging to top level management in 5 electrical companies. The number is quite inadequate. Also, the paucity of time and money may have affected the findings and the study may suffer from inbuilt biases.

2. The general accepted human behaviour of the respondents may have resulted in ideal kind of answers which may be quite contrary to the factual positions.

3. Organizational climate concept is very complex phenomenon and the indicators taken in the study may not adequately describe it. It is tough to measure abstract variables.

4. The statistical tools used for data analysis may not meet all the assumptions.
References


