CHAPTER - II
RESEARCH METHODOLOGY

Research is a powerful investigation, in fact an art of scientific investigation. Research in a common parlance, refers to a search for knowledge. It can also be defined as a scientific and systematic search for pertinent information on a specific topic. According to Kerlinger (1978), research is a systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among behavioural phenomena. Slessinger and Stevenson (1930) have defined research in social settings as a systematic method of exploring, analysing and conceptualizing a social phenomenon in order to extend, correct or verify knowledge, whether it aids in the construction of a theory or in the practice of an art. Redman and Mory (1923) have viewed research as "systematized effort to gain new knowledge". The Advanced Lerner's Dictionary of Current English, Oxford (1952) lays down the meaning of research as "a careful investigation or inquiry specially through search for new facts in any branch of knowledge.

Research is, thus an original contribution to the existing of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment.

2.1 KINDS OF RESEARCH

2.1.1 Descriptive Vs. Analytical Research:

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs, as it exists at present. Ex post facto terms is often used for such studies in social sciences.
and business research. The researcher has no control over the variables since he has to report on what has happened or what is happening. The methods of research utilized in descriptive research are survey methods of all kinds, including comparative and correlational methods.

In analytical research, the researcher has to use facts or information already available, and analyse these to make a critical evaluation of the material.

2.1.2 Applied Vs. Fundamental Research:

Research can either be applied (or action) research or fundamental (or basic or pure) research. *Applied research* aims at findings a solution for an immediate problem facing a society or an industrial/business organization whereas *fundamental research* is mainly concerned with generalizations and with the formulation of a theory. Research studies, concerning human behaviour carried on with a view to make generalizations about human behaviour are examples of fundamental research, but research facing a concrete conclusions (say, a solution) facing a concrete social or business problem is an example of applied research.

2.1.3 Quantitative Vs. Qualitative Research:

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity, Qualitative research on the other hand, is concerned with qualitative phenomena, i.e. phenomena relating to or involving quality of kind.

2.1.4 Conceptual Vs. Empirical Research:

Conceptual research is that related to some abstract idea(s) or theory. It is generally based by philosophers and thinkers to develop new concepts or to interpret
existing ones. On the other hand, empirical research relies on experience or observation alone, often without due regard for system and theory. It is data based research, coming up with conclusions, which are capable of being verified, by observation or experiment. It is also known as experiment type of research.

2.2 SAMPLE DESIGN

A sampling is a technique by which we select out measurement unit and in research it has a great value. It is the backbone of research experiment. If we have proper sample we have certainly good results. When a small group selected as representative of the population is contacted it is known as sampling method.

When a small group (technically known as 'sample') is drawn out of the entire population and this sample is studied in order to know the opinion of the citizens, then the study is following the sampling method of data collection. The findings derived out of the study of the sample are then regarded to be equally true for population. How far this is justified depends how the sample was drawn out of the population How far this is justified depends how the sample was drawn out of the population. The sampling methods can be classified under two categories:

1. Probability Sampling:

Probability samples use some kind of randomization in one or more of their phases. In probability sampling each unit of the population has equal chances of being selected in the sample.

2. Non-probability Sampling:

Non-probability samples do not use randomization. In case of the non-probability sampling neither each unit has equal chances nor the chances of its being included in the sample are known.
2.2.1 Major forms of probability sampling are:

1. Simple random sampling
2. Stratified random sampling
3. Various types of cluster sampling

2.2.2 Major forms of non-probability sampling are:

1. Accidental sampling
2. Quota Sampling
3. Purposive sampling

The study is descriptive in its nature. It is descriptive in a sense that the study will focus on the existing situation pertaining to recruitment and retention in the Indian IT industries and it is intended to see the relationships between the recruitment and turnover and in turn relationship between recruitment and retention strategies.

The present research study includes the IT industries of India. Further the study was confined to 25 North Indian IT companies. This sample of 25 companies was selected on the basis of simple random sampling. This sample of 25 IT companies constitute of 10 software companies, 7 Hardware companies and 8 Call centers of north India.

Further from these Software, Hardware and Call Centers the data was collected at three different levels i.e. Top level, Middle level & lower level, separately.

Recruitment and retention practice and strategies of these companies are studied. Also the factors which lead to employee turnover were also analysed.

From these 3 categories of IT companies the data was collected from 75 respondents which is inclusive of the CEO/Senior management people/HR managers
of Software Companies, Hardware Companies & Call Centres.

(Table No. 1) Composition of Sample of (25 IT Companies)

<table>
<thead>
<tr>
<th>Software Companies</th>
<th>Hardware Companies</th>
<th>Call Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HCL Technologies Ltd.</td>
<td>HCL Infosystems Ltd.</td>
<td>Sepecteamind Ltd.</td>
</tr>
<tr>
<td>2. Polaris Ltd.</td>
<td>Wipro</td>
<td>Convergys Ltd.</td>
</tr>
<tr>
<td>3. Xansia Ltd.</td>
<td>TCS (Pati Computers)</td>
<td>Daksh (IBM) Ltd.</td>
</tr>
<tr>
<td>5. Keane Ltd.</td>
<td>IBM</td>
<td>HCL BPO Ltd.</td>
</tr>
<tr>
<td>6. IBM</td>
<td>Compaq, H.P.</td>
<td>E Serve Ltd.</td>
</tr>
<tr>
<td>7. Ericson</td>
<td>LG Ltd.</td>
<td>NIIT Smart Service Ltd.</td>
</tr>
<tr>
<td>8. Siemens</td>
<td></td>
<td>Global Vantage Ltd.</td>
</tr>
<tr>
<td>9. TCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. NIIT (Okhala) Ltd.</td>
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<td></td>
</tr>
</tbody>
</table>

(Table No. 2) Distribution of Respondents

<table>
<thead>
<tr>
<th>Software Companies</th>
<th>Hardware Companies</th>
<th>Call Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>21</td>
<td>24</td>
</tr>
</tbody>
</table>

Total respondents = 75
2.3 DATA COLLECTION

The study is completed through both primary as well as secondary data.

2.3.1 Primary Data:

The Primary Data for the present study was obtained by the administration of questionnaires and schedules. The questionnaire was structured and closed ended. The four point rating scale were used in the questionnaire.

The questionnaire was distributed individually to the CEO/Senior Management People/HR Managers. The participants were assured that their responses would be confidential and shall be used only for research purposes.

The questionnaire was framed in four sections in accordance with the specified objectives.

1. Section - i (Demand and Supply Questionnaire)

   It is related to the analysis of qualitative demand and supply of IT Professionals in three categories of companies i.e. Software, Hardware & Call Centres at three different levels i.e. Top Level, Middle Level and Lower Level. It was framed with respect to three variables - 1. Knowledge, 2. Skills, 3. Attitude.

   3 Questions were framed to know the level of qualitative demand & supply of IT Professionals.

2. Section - ii (Recruitment Questionnaire)

   It deals with questions related to the recruitment practices followed by three categories of IT companies (S/W, HW and Call Center) at three different levels (i.e. Top Level, Middle Level and Lower Level). In all it includes 28 questions. Partially this questionnaire is designed with the help of the questions framed by Academy of Human Resource Development's T.V. Rao & Udai Pareek based on HR Audit.
3. **Section - iii (Employee Turnover Questionnaire)**

It deals with the questions related to employee turnover. In all 14 questions were framed to know the factors that lead to employee turnover in the three categories of the IT companies.

4. **Section - iv (Retention questionnaire)**

It deals with the questions related to the factors which lead to employee retention in the 3 categories of IT companies at 3 different organizational levels. It includes 18 questions. This questionnaire is basically the same as T.V. Rao's "Employee Satisfaction" questionnaire.

### 2.3.2 SECONDARY DATA

The secondary data was collected through review of existing literature, organisational records, magazines, journals and booklets.

### 2.4 DATA ANALYSIS

#### 2.4.1 MEAN VALUE ANALYSIS

The data thus collected was analysed by computing the mean values of all the 62 variables related to demand & supply, Recruitment, Turnover & Retention at three different levels of organizations i.e. Top level, Middle Level & Lower Level in all the three categories of IT Companies i.e. Software Company, Hardware Company & Call Centers.

Apart from presenting the data in tabular form, the mean values have been explained in details showing graphical depiction with respect to Demand & Supply, Recruitment & Turnover in the Chapters III, IV & V respectively.

#### 2.4.2 PRINCIPAL COMPONENT FACTOR ANALYSIS

Further the data was subjected to 'Principal Component Factor' analysis in order
to identify the grouping or clustering among the variables. The "factor analysis" was computed of three different categories of IT Industry i.e. Software Industry, Hardware Industry and Call Centers separately. We conducted this analysis because the number of variables when clubbed together (of the three major variables i.e. Turnover, Recruitment & Retention) came out to be 62 variables which is a good number for the manipulation of this kind of advanced statistical analysis though the data has been subjected to the analysis in terms of 3 variables in a global way which means that the molar approach for the computation of Factor Analysis has been taken up. This analysis has enabled us to make some fruitful interpretations regarding the clustering of sub variables emerging into separate "factors" or somewhere overlapping and somewhere showing unitary existence.