Chapter-2

RESEARCH DESIGN
2.1 Introduction to Research Methodology:

The general meaning of research is the search for knowledge. Research is also defined as a careful investigation or inquiry, especially through search for new facts in any branch of knowledge. Redman and Mory defined research as a "systematized effort to gain new knowledge". Thus research can be conceptualized as the orderly process of investigation by which we increase our knowledge over the existing stock of knowledge. The thirst for knowledge arises from the question "why the world is as it is and how it might be changed".

2.1.1 Objectives of Research:

The main objective of research is to find out the truth which is hidden and which has not yet been known. Although each research study has its own specific purpose, research objectives may be considered to be falling into the following categories:

1. To gain familiarity with a phenomenon or to achieve new insights into the phenomenon (exploratory research).
2. To test hypothesis of causal relationship between/among variables (quantitative research).
3. To portray accurately the characteristics of a particular situation, individual or a group (descriptive research).
2.1.2 Types of Research:

Research can broadly be categorized into two types: basic research and applied research. Basic research is undertaken to develop new theory and law. In applied research, the new theories and laws are applied to assess their relevance under particular circumstances. Applied research is also undertaken to find immediate solution to problems being faced by a society, an entity or organization. Research concerning some natural phenomena of the whole universe or a particular department of the universe is an example of fundamental or basic research. Similarly, research studies concerning human behavior are also examples of fundamental research; but research aiming at ascertainment and solution of a concrete social and business problem is an example of applied research. Thus the central aim of applied research is to identify and find solution to some pressing practical problem, whereas basic research is directed towards finding new knowledge or information relating to a particular department of the universe and thus adds to the already existing organized body of scientific knowledge.

2.1.3 Research Method versus Methodology:

Research method refers to all those methods/techniques that are used for conducting a research. Research methods or techniques thus refer to the methods and tools the researchers use in performing research operations. In other words, all those methods and techniques which are used by the researcher in conducting research are termed as research methods. These methods and techniques fall into three broad categories: (a) methods used for selection of samples and collection of data, (b) statistical techniques used for establishing relationships between/among relevant variables and (c) methods
used for evaluating the accuracy of the results obtained. Research methodology, on the other hand, is a way of studying how research is done scientifically. A researcher not only needs to know how to apply particular research techniques, he also needs to know which of these methods or techniques are relevant and why. He also needs to understand the assumptions underlying various techniques and the criteria by which the techniques and procedures can be applied for conducting a particular research.

Thus the scope of research methodology is wider than that of research methods. When we talk about research methodology, we not only talk about research method but also consider the logic behind the methods we use in a particular context so that the research results are capable of being evaluated either by the researcher himself or by others.

2.1.4 Research and Scientific Method:

Research and scientific method are closely related terms. The methods applied in a research, particularly in basic research are based on methods of scientific inquiry. Science is defined as a systematized body of knowledge pertaining to the interaction of phenomena across the universe. Scientific conclusions are based on experimentation/observation, collection and analysis of data/information, logical arguments from accepted postulates and a combination of these in varying proportions.
The scientific methods encourage rigorous, impersonal mode of procedures dictated by the demands of logic and objective procedures. Accordingly, scientific method implies an objective, logical and systematic method, i.e.:

(i) a method free from personal bias or prejudice, (ii) a method to ascertain demonstrable qualities of a phenomenon capable of being verified, (iii) a method wherein the researcher is guided by rules of logical reasoning, (iv) a method wherein the investigation proceeds in an orderly manner and (v) a method that implies internal consistency.

2.1.5 Steps of Research:
Steps of research consist of a number of closely related activities. It should be remembered that the various steps involved in a research process are not mutually exclusive nor they are necessarily separate and distinct. However, as a matter of procedural guideline, the steps can be outlined in the following order:

1. Formulating a research problem
2. Developing hypothesis
3. Preparing the research design (experimentation/observation, collection of data/information)
4. Analysis of data/information obtained through experimentation/observation/survey
5. Testing of hypothesis
1. **Formulating the Research Problem:**

There are two types of research problems: those which relate to the states of nature and those which relate to relationships between/among variables. The researcher, at the very outset, will have to single out the problem he wants to investigate into. The feasibility of a particular solution also needs to be considered before a working formulation of the problem can be set up. Two steps are essentially involved in the formulation of research problem: understanding the problem thoroughly and translating the same into a meaningful task from analytical point of view. Study of the relevant theories and literature and setting up of objectives of research also fall within purview of formulation of research problem.

2. **Developing Working Hypothesis:**

Hypothesis is a tentative statement made in order to draw out and test the logical or empirical consequences of the research. The role of hypothesis is to guide the researcher by delimiting the area of research and to keep him on the right track. It sharpens the understanding of the problem and focuses attention to the more important facets of the problem. It also indicates the types of data required and the methods of data analysis to be used. Hypothesis should be very specific and limited to the piece of research because it has to be tested.
3. Preparing the Research Design:

Preparation of a research design refers to deciding upon the ways and means of collecting evidence, information and data, selection of techniques to be used in the analysis and interpretation of the data for drawing conclusions of the study. An important consideration involved in the research design is to set up the design for drawing samples for the study. This is followed by the consideration of the methods to be used in the collection and analysis of data. The study of whole 'population' or 'universe' in any field of inquiry is prohibitively expensive in terms of time, effort and money. This consideration calls for selection of appropriate sample in the study. Generally two types of sampling techniques are used for drawing samples for a study. These are (i) probability sampling and (ii) non-probability sampling.

Probability sampling refers to the various ways of drawing samples such that the probability of a particular individual/element being included in the sample is known or can be estimated with reasonable degree of precision. Probability sampling has the important advantages that the risk of sampling bias is minimized and it is possible to draw inferences from the sample about the population with levels of confidence that can be estimated statistically. Probability sampling includes random sampling, systematic sampling, stratified sampling, multistage sampling and cluster sampling.
Non-probability sampling procedures are generally used when probability sampling cannot be used either for technical reasons or by deliberate intention. One disadvantage of non-probability sampling is that the selected samples may entail subjective bias. The major non-probability sampling procedures are convenience sampling, accidental sampling, judgment sampling and quota sampling.

4. **Analysis of Data:**

Data can be obtained either from primary and secondary sources. The procedures generally include direct field survey, mailed questionnaire, case study and reconnaissance survey. The collected data need to be processed, transformed for use in the models specified for the analysis. Statistical and mathematical techniques such as correlation, regression, production function, programming of various kinds are generally used in the analysis.

5. **Testing of Hypothesis:**

After analysing the data, the researcher is in a position to test the hypothesis set earlier. The usual questions answered through testing of hypothesis are, do the findings support the hypothesis or they happen to be contrary? Various tests such as normal test, t-test and F-test are generally used for accepting or rejecting the hypothesis.

6. **Generalizations and Interpretations:**

The real value of a research lies in its ability to arrive at certain generalizations. Such generalization may lead to development of a new theory, law, principle or confirmation on the pertinence of the existing
theory, law, principles in a particular context. Generalizations and interpretations are often used for drawing policy implications which in turn many lead to formulation of new policy or change or existing policies of governments. Sometimes the interpretation of the findings may trigger off new questions which in turn may call for further research.

2.2 RESEARCH METHODOLOGY:

Research is a scientific and systematic search for pertinent information on a specific topic. A research methodology is a logical and systematic planning of a piece of research. In a present context, a research methodology includes:

1. Geographical Areas
2. Population and Sample
3. Research Tools
4. Procedure for Data Collection
5. Methods and Tools of analysis

2.3 OBJECTIVES OF THE STUDY: (RELATED TO THIS STUDY)

Objectives of the study are listed as below:

1. To examine the present practices of Human Resources Management and examine the financial aspects.
2. To examine the present Practices of Human Recourse Accounting techniques.
To examine the cost-benefit analysis of Human Resource Management System.

To study Comparative analysis of financial aspects of Human Resource Management practices of all four selected industries.

To Suggest improvements if any.

2.4 HYPOTHESES:

H1: All selected organization has an effective Human Resources Accounting System.

H2: Organization is bearing higher cost for Human Resources system.

H3: All the organization having the same aspects of Human Resources Management System.

H4: There is negative co-relation between organizational commitments, effectiveness & quality of work life and HRM and its financial aspects.

2.5 RESEARCH DESIGN:

In this study, the descriptive research design is used. The purpose of descriptive surveys is to collect detailed and factual information that describes an existing phenomenon.

2.6 SAMPLING TECHNIQUE:

A Simple Random Sampling and convenience Sampling technique was used to select 400 units from KRIBHCO, Reliance, L&T and Essar of Hazira Area, Surat.
2.7 THE POPULATION:

The target population of the study was financial aspects of HRM system of selected companies in Hazira from Surat District of Gujarat.

8. SAMPLING UNITS:

KIRBHCO
L & T
RELIANCE
ES SAR

For the present study, researcher has taken 400 employees as respondents from above mentioned units.

2.9 SAMPLING SIZE:

The total sample size of 400 employees in Gujarat state are considered for this study. For this present study Gujarat state is divided into one group South Gujarat. From each of the area of Hazira is selected except South Gujarat. Selected cities and sample size are mentioned below in table:

<table>
<thead>
<tr>
<th>Region</th>
<th>City</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Gujarat</td>
<td>Surat</td>
<td>400 (100 from each Company)</td>
</tr>
</tbody>
</table>

Total: 400
From the above table it is clear that sample size for each cites are equally distributed among three regions even though the total population is different for these three regions.

2.10 DATA COLLECTION:

For this present study both primary as well as secondary source of information are used.

A. Primary Data Source:

Primary data are original and firsthand information for a particular statistical enquiry.

Primary data are collected directly by the researcher for the first time to the best knowledge and belief of the researcher. A primary data are vital for any research project. Primary data are very important source of information. It is directly collected from employees. Though primary source are costly to collect, but whenever you collect the source and use the data the data are reliable for the research.

Primary data collection methods are as under:

- Direct personnel Interview
- Indirect personnel Interview
- Information from co employees
- Mailed Questionnaires
- Questionnaires to be field by the enumerators.
Primary data has been collected by conducting survey of the 400 employees in different Department in Nationalized Company in Surat city – Hazira area. The researcher has collected primary data through talks with employees and interview with them with questions from questionnaire designed by me with the help of my guide Dr. Manisha S. Bhatt.

**B. Secondary Data Source:**

Secondary data are those which are already collected by others. The secondary sources represent social incidents conditions and systems. In information received through sufficient and useful. Secondary sources in the study comprise official record, booklets; brochures and other published and unpublished Material-having being on the study. The researcher has also used the technique of non-participant observation as himself personally visited the field and contacted the employees. The observation method helped him in getting better insight in to the problems connected with the study.

The researcher initially had to establish rapport with all the employees by clearly explaining the objectives of the study and seeking their whole hearted co-operation. He had to use all his persuasive and communication skills besides exuding patience and perseverance.

**2.11 FINANCIAL AND STATISTICAL TOOLS FOR ANALYSIS:**

It includes the statistical analysis done with statistical tools and provides results of information collected by the experimenter. The researcher has
used non-parametric tests “Chi-Square test” and “ANOVA test” to perform data analysis.

2.12 DATA ANALYSIS TECHNIQUES & METHOD:
Different suitable statistic techniques have been adopted so as to arrive at justified result. Both secondary and primary data have been used for the study. A Probability sampling and Non-Probability sampling method were used for the study.

2.13 PERIOD OF STUDY:
Research period is from 2006-07 to 2012-2013. It contains the 7 years’ time span as research period.

2.14 LIMITATIONS OF THE STUDY:
The study has its own importance but the same has to be seen in the preview of the following limitations:

- The researcher faced difficulty in regard of the availability of organized and up to date data. Statistical figure have not always been readily available.
- Some of the employees reply may be not sure.
- The number of employees was limited.
- Researcher has covered only selected companies in Hazira belt, Surat.
- Limited time period is considered.
- Limited variables of human resource aspects are studied.
### 2.15 OUTLINE OF CHAPTER PLAN:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
<td>Introduction</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Research Design</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Literature Review</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Profile of selected Organisations in Hazira Area</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Analysis and Interpretation of Data</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>Conclusion &amp; Suggestions</td>
</tr>
</tbody>
</table>