CHAPTER 1

INTRODUCTION

1.1 Overview:

Human Resources Management has been considered as very vital aspect, right from inception, manpower planning, induction, training programme development & promotion. In every particular area HR Department helps for increasing the productivity & organizational goals both in long time and short time in the changing environment either for existence or for stability. For growth, the contribution of HR department is immeasurable though a considerable work has been done in this particular area a lot more is to be done. There is a change of concept from HRM to strategic HRM.

Indian pharma industry is facing a considerable change in its aims, objectives, parameters of growth in changing scenario on account of globalization at the corporate level merger, acquisition phases are taking place. Newer developments cropping on account of new innovation are to be made abreast, intrinsic life style, health care and health consciousness and caution’s has risen such an unimaginable heights never before an attempt is made here to focus on issue of development of HR practices in pharmaceutical industries. While in the pursuit of this search a reference has
been given to the earlier research in the field to avoid the repetition but some of the points have been thought in the uncommon and different ways. In the air of globalization, free economy, disinvestments policy, privatization of public sector & privatization of health matter on the agenda of central government a versatile thinking & square approach is made in this particular project.

Availability of information to the public on general, data & information available on net, face to face interviews with the authorities, formal & informal conversations even at the grass root level, response to the pre-designed questionnaire has helped in this research work, though there is an accessibility & proximity to the present principles, procedures & practices in HRM of every organization. Every organization has got its unique way of approach coupled with secrecy & confidentiality, the limitations on accounts of this has a major hurdle in the work undertaken. The survey carried out is for 12 pharma companies in the vicinity of Pimpri Chinchwad Industrial Belt as well as Pune District. This is a representative survey of different companies having different policies & distinct approaches thus the conclusion inferred after research can be if immense help to the other organization in the pharma industries for guidance,
reference & comparison to cost in future their approach to manpower planning & HRM.

1.2 Introduction to the Subject of Research :

1.2.1 Introduction :

Human Resource Development is concerned with people, dimensions of the organization. The organization objectives can be best achieved by acquiring human resources, develop them, cast them for our need & motivate them for still better performance and ensure that they continue to maintain their involvement, commitment, loyalty to the organizational. The Human Resource Development basically consists of three c’s i.e. competencies, commitment and culture.

During 1980 it was Larsen and Turbo Ltd. who introduced the concept of Human Resource Development and Practice in Indian Industry. Earlier to that personnel functions were used traditionally i.e. to look after salary, administration, absenteeism, new employment and maintenance of industrial relation. The employee was viewed in terms of laws and procedures laid down by personnel management but the management realized the importance of man above money, machine and material. Hence the concept of HUMAN RESOURCE DEVELOPMENT was introduced and gained ground.
The scope of HRM is very vast and it consists of:

a. Human Resource planning
b. Recruitment and selection
c. Training and development
d. Organizational development
e. Career development
f. Job Design
g. Performance Management System
h. Compensation and Benefits

There are as such no standard guidelines laid down by Government authorities and private organizations. Standard HR policies and practices differ from organization to organization depending upon size, type, purpose, classification and location of the organization.

These guidelines are designed and tailored as per the need of the hour and also organization as well as Government regulations. The data groups of industries have laid down the standard guidelines for their organizational set up. They do not follow the guidelines set up by other organizations as the other organizations follow their own guidelines. This is so because; these organizations have laid down their own guidelines on the basis of their own experience, expectations and to serve their primitive purpose. Hence as said
earlier no standard guidelines have been laid down and as such they differ from organization to organization.

In the wake of globalization and privatization policy, the organizations have to adopt innovative ways to survive and to remain in competition. It is being realized that "Human factor" gives competitive advantage to the organization. If human resources are treated as assets and by carefully nurturing their creativity, competence, the organization can successfully accept the challenges and encounter in a fast changing business environment, all organizations with enterprising, enthusiastic, competent, motivated and satisfied work force will remain successful. Creation of human assets calls for formulating appraisal, policies and practices in every developmental stage viz. planning, acquisition, nurturing, developing, motivating, rewarding and retaining of manpower. It calls for integrated policies, with a strategic planning of the organization and also aligning with a conclusive culture and climate. The policies have been such that it develops a culture of learning, encourages teamwork and result in enhanced performance. The practices should be such that the employee remains committed to the organization and adds value to the business. In the formal analysis, the HR policies and practices should have impact on bottom line of the organization.
1.2.2 Human Resources:

Our great Earth is, dominated by human beings. Human race that evolved throughout the great ages of struggle and development has brought about civilizations of spectacular and tremendous developments in all the fields of human activity. Scientific developments and splendid techniques have contributed to the development and progress in agriculture, industry, engineering medicine and pharmacy. To meet the requirements of human beings for their existence and qualitative living, human resources have been nurtured and developed. Industry thrives not only on money, machines and materials but more especially on human endeavours. Mother India has been marching along the path of progressive independence. Along with industrial and economic development, health care and quality of human life, have been emphasized as a “must” for the promotion of human welfare.

Pharmaceutical industry plays “a key-role in promoting quality in health-care. Human ailments physical mental are caused by the exigencies and circumstances of urbanized life-styles. Cut throat competition, struggle for survival in rat race, nonmoving jobs, addition, oily, spicy and to enhance life-expectancy and promote healthy living, the research and development departments in the organizations of pharmacy and medicine need tremendous boost in terms of trained and
talented and committed human resources. This requirement which is increasing day by day necessitates the development of human resources. The parameter of progress of pharmaceutical productivity consists of the excellence of human resources in pharmaceutical industry. This encircles readily available, economically affordable with consistent standard quality, without side effect and result oriented medicines. Proximity and accessibility of medicines is in tune with existing need of the user. The lives saving medicines are as important as food, water, air and sunlight. The govt. should create a regulatory body for monitoring the affordable price, availability and quality.

1.2.3 Relevance of H.R. Development:

Human resource development plays a significant role in ‘pharmacy’ mainly because pharmacy does merely deliver products of health-care, but ‘quality’ of great-care. Through innovations in formulations and preparations of drugs, the drug manufacturers, both in the public and private sector, have been contributing significantly to the growth of pharmacy.

The growth of drug manufacturing industries actually; or accelerated during the 1960s, even though way back in 1930, the Bengal Chemicals and Pharmaceutical works, in Calcutta started drug manufacturing activity in India. Further the Planets Act in 1970 paved the way for progress. Human
Resource talents contributed to the growth of the Indian and world markets with their expertise in reverse-engineering new procedures for manufacturing drugs at comparatively low costs. Development of human resources in the pharmaceutical industry lead to rapid strides in drug innovation, especially in large drug manufacturing companies in India.

Noticeable changes in the life style, spectacular pay hike in certain sectors [e.g. IT industry] unscheduled working hours during long night hours [e.g. BPO service centres], nuclear families, craze for fast food, addiction etc leads to ill health. To restrict repercussions new drugs are to be invented.

1.2.4 The Indian Pharmaceutical Industry today:

The following table highlights the performance of top 13 pharmaceuticals in India during the year 2004.

Table 1.1

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Revenue 2004 (Rupees in Crore)</th>
<th>Revenue 2004 (USD millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ranbaxy Laboratories Ltd.</td>
<td>4,461</td>
<td>1,026</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Reddy’s Laboratories Ltd.</td>
<td>1,933</td>
<td>444</td>
</tr>
<tr>
<td>3</td>
<td>Cipla Ltd.</td>
<td>1,842</td>
<td>423</td>
</tr>
<tr>
<td>4</td>
<td>Nicholas Piramal India Ltd.</td>
<td>1,387</td>
<td>319</td>
</tr>
<tr>
<td></td>
<td>Company Name</td>
<td>Turnover</td>
<td>Profit</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>5</td>
<td>Aurobindo Pharma Ltd.</td>
<td>1,260</td>
<td>290</td>
</tr>
<tr>
<td>6</td>
<td>Glaxo SmithKlline Ltd.</td>
<td>1,228</td>
<td>282</td>
</tr>
<tr>
<td>7</td>
<td>Lupin Laboratories Ltd.</td>
<td>1,180</td>
<td>271</td>
</tr>
<tr>
<td>8</td>
<td>Sun Pharmaceutical Industries Ltd.</td>
<td>110</td>
<td>255</td>
</tr>
<tr>
<td>9</td>
<td>Cadila Healthcare Ltd.</td>
<td>1,091</td>
<td>251</td>
</tr>
<tr>
<td>10</td>
<td>Wockhardt Ltd.</td>
<td>980</td>
<td>225</td>
</tr>
<tr>
<td>11</td>
<td>Allegran Ltd.</td>
<td>1,110</td>
<td>255</td>
</tr>
<tr>
<td>12</td>
<td>Biochem Pharmaceutical Ltd.</td>
<td>1,091</td>
<td>251</td>
</tr>
<tr>
<td>13</td>
<td>Aventis Ltd.</td>
<td>980</td>
<td>225</td>
</tr>
</tbody>
</table>

Source: India Business Insight – Dec-2004

1.3 Need and objectives of the study:

1.3.1 Need for the Study:

Although an earlier study on the subject has been made, there is still a large and wide scope for scientific study over the HR policies and practices in the pharma industries. Pharmaceutical industries play a major role in the annual turnover of Indian economy. The same is the situation about Pimpri-Chinchwad Pharma industries. These industries have an annual turnover of approximately 1000 crores. These industries not only prove backbone to the economy but also play vital role in the maintenance of public health. If the working of these pharma industries is not smooth and well organized then
there is a possibility that these organizations may collapse resulting in bottlenecks of career of the employees working in these industries. Also it will affect the well being of the consumers since pharma industries are directly related to the public health. Over the HR policies & practices was done however the study did not stretch up to the pharmaceutical industries. Due to globalization liberalization and liberal polices of Indian Govt. the small, middle as well as the large scale Pharmaceutical companies are on the way of expansion, amalgamation, joint ventures, enriching present market with penetration and concentration therein. Hence there is a growing need for skilled and scientific study of Human Resource Management in these Pharmaceutical companies. Privatization, introduction of new technology, latest machinery are all responsible for the expansion of the companies however the HRM study focuses on the utilization of manpower which is the need of the Day. Proper utilization of manpower helps in the growth, expansion and success of the company and study of HRM policies and practices deals with this utilization of manpower and hence the need of the Day.
1.3.2 Objectives of the Study:

It has been summarized that the World Health Organization (WHO) has given an impetus health & health related aspects, pharma industries are playing a major role in achieving objectives desired and defined at the global level. However the success of any organization specially pharma industries relates with the contribution of the manpower employed in that organization considering the importance and necessity there of “The Study of Human Resource Development Practices Performed in Pharmaceutical Industries in and around Pune” is carried out with this main objective in mind the study has other objectives as below:

1. To study the impact of changes of a
   a. Improved Technology in Pharma Industries.
   b. Globalization on Pharma Industries.

2. To study the HR policies in the selected Pharmaceutical Industries.

3. To study the organizational setup and structure of the HR department in selected Pharma Industries.

4. To study the HR practices followed in selected Pharma Industries.

5. To examine HR practices and appraise the same in the light of HR policies.
6. To recommend ways and means for the improvement in the HR policies and practices in selected Pharmaceutical Industries.

1.4 Hypothesis:

1.4.1 First Hypothesis:
Effective HR policies and practices lead to the improvement of productivity.

1.4.2 Second Hypotheses:
Effective HR policies and practices bring about better operational performance.

1.4.3 Hypotheses Explained:

The above hypotheses have been framed in accordance with the objectives of the research study. The First Hypotheses emphasizes on the need for effective and appropriate H.R. policies in an organization. Appropriate H.R. policies in an organization for bringing about improvement in every sphere of an organization with the aim of achieving noticeable productivity. Further the employer attitude 15 turn as positive, practical, programmatic, proactive.

The second Hypotheses points out that if H.R. policies in organization pharmaceutical are neatly knitted, well directed, properly implemented and effectively co-ordinate then that would activate and accelerate better
operational performance, thereby increasing the effective functioning of the entire organization.

The effectiveness conglomeration time management not overlooking micro level objects level approaches of trivial nature.

1.5 Research Methodology:

The very common meaning of research a Search for knowledge “Research is an art of scientific investigation. It is movement from known to unknown. Curiosity is an essential natural feeling of every human being, whenever unknown facts confront us we try to find meaning and causes of that. This feeling of human being is the mother of all knowledge and method which he employs for obtaining the knowledge of whatever the unknown is called as “Research”.

Human Resource Development department plays very important role in pharmaceutical industries, while completing this research as described earlier types of data will be collected as under.

A. Primary Data

B. Secondary Data.

Primary Data: A standard set of questionnaires has been prepared for various categories of the employees, random sampling method used to collect this data.
Secondary Data: Secondary data has been collected from Library books, Annual Reports of selected pharmaceutical industries, Journals and Magazines.

i) Analysis of Data: The collected data has been systematically analyzed.

ii) Tabulation and Interpretation of results: Analyzed data has been tabulated properly it will help in interpreting data in relation to previous findings, generalization of the findings any additional facts.

Approximately twenty pharmaceutical industries are functioning in and around Pune Industrial area from which twelve representative industries are selected for study of Human Resource Development. Department policies and practices implemented.

The Period of the study for the said research will be 5 years i.e. the data be use for the research.

In accordance with the nature of the research study, the entire research work was carried out by using an appropriate methodology as explained below. The methodology consists of two parts.

Part I deals with the collection of Primary Data. It is the Primary Data that provides authenticity with regard to the originality of the facts and figures pertaining to the selected companies. A good deal of care was taken to collect primary data, precisely and accurately. For the Purpose of
supplementing, and supporting adequately, the collected primary data, was felt necessary to collect secondary data from a number of relevant sources such as well-known books, reported journals; records, reports and financial statements pertaining to the selected Pharmaceutical Companies.

With a view to achieve the objectives and establishing the validity of both the hypotheses, the basic requirement is primary data and the strength of the methodology depends on the nature and reliability of the primary data. For this purpose an exhaustive and structured 'Questionnaire' consisting of 128 properly framed questions, was prepared for collecting the necessary data.

1.5.1 The Experience Survey:

Some people in the course of their day-to-day experience, by virtue of their peculiar placement as officials, social workers, professionals, etc. are in a position to observe the effects of different policy actions and to relate these to problems of human welfare. The block development officer and his village level workers, for example, are likely to develop certain rare insights into the characteristics of the rural people and the estimated effectiveness of various approaches to their welfare. The professionals too may acquire rich insights in respect of the relevant categories of clients. The administrators are typically very advantageously positioned to obtain fruitful insights into
what really works in a practical situation. The specialists acquire in the routine of their work, a rich fund of experience that can be of tremendous value in helping social scientists to develop awareness about the important influences operating in a situation they may be called upon to study. It is the purpose of the experience survey to gather and synthesize such experience.

Since the aim of experience survey is to obtain insights into the nature of the problem and useful leads to the possible hypotheses and since the experience surveyor is looking for provocative ideas and useful insights, the cases are chosen on the basis of the likelihood that they will be able to contribute such ideas and insights. It is indeed a waste of time in an experience survey to interview people who have little competence, relevant experience and communicability. The best method of selecting informants may be to ask strategically placed administrators working in the field one desires to study, to point out the most experienced and informative people. Efforts are made to select informants so as to ensure a representation of different types of experience. Variations in the points of view also need to be given adequate representation in the sample of respondents selected. Thus, in an experience survey of factors likely to resist, say, planned rural development, it may prove advantageous to interview the officials charged
with plan-implementation as well as the village leaders. It would be ideal to interview people at different levels in each group.

In an experience survey, the best way to determine the sample size is to identify the point during the process of interviewing informants after which additional interviews do not provide new insights and answers seem to fall into the pattern which has already emerged from the earlier interviews.

Before any systematic attempt is made to collect the insights of experienced persons, it is, of course, necessary to have some preliminary idea of the important issues in the general area of the subject-matter. In the systematic interviewing of the informants, it is necessary to maintain a considerable degree of flexibility. The formulative or the discovery aspects of the experience survey require that the interviewer allow the respondent to raise issues and questions the investigator has not previously thought of.

Even at the cost of repetition, it must be stated that the problem before a person undertaking an exploratory study is that he has no clearly formulated problem; at the best he may have a vaguely felt originating question. His exploration is directed toward problem-finding. Naturally, the researcher does not have any clear-cut idea as to what specific, predetermined set of questions he should put to the informants to be able to
get the 'relevant' information or answers. Since he has no specific problem, every information is relevant, every information, irrelevant. Hence, the investigator cannot frame definite questions in advance of the actual questioning of the informants. He thus casts his net wide; asks the informant all manner of general, flexible questions, viz., “what would you say about the people of this area?” On picking up a clue in the course of conversation, for which maximum opportunity and freedom is allowed to the informant, the investigator slowly tightens the net, i.e., asks the respondent more pointed questions. If this leads to the strengthening of the hunch initiated by the earlier clue, he tightens his net further still, asking very definite and pertinent questions. The culmination of this process, if all goes well, is the discovery of the problem and/or meaningful hypotheses. Thus, in an experience survey, it is the 'non-structured' flexible methods of data collection that are generally used. Of course, as the clues start maturing and insights begin developing, the information seeking devices also shift toward greater pertinence and structuredness.

An experience survey, in addition to being a source of hypotheses, can also provide information about the practical possibilities for doing different kinds of research, e.g., where can the facilities for research be obtained? Which factors can be controlled and which not, in the situation intended for
study? How ready are the agencies or citizens to co-operate in study of the problem in question? In addition, the experience survey may provide information about the problems considered urgent by personnel working in a given area. This information may prove to be useful in establishing priorities in specific research programme. The report of an experience survey also provides a consolidated summary of knowledge of skilled practitioners about the effectiveness of various methods and procedures for achieving specific goals.

1.5.2 Analysis of 'Insight-stimulating' Cases:

Scientists working in relatively unformulated or uncharted problem areas where there is little experience to serve as guide have found intensive study of selected examples an especially fruitful method for stimulating insights and for suggesting hypotheses for more structured inquiries. The anthropological studies of certain 'primitive' cultures have contributed profound insights into the relationship between the individual and society. The famous psychoanalyst Sigmund Freud based many of his theoretical insights about the workings of the human psyche on the findings of his intensive studies of patients.

The following characteristics of this approach which is geared to developing insights are worthy of mention:
(a) The attitude of the researcher must be one of alert receptivity, of seeking significant clues.

His enquiry is in a process of constant reformulation and redirection as new information keeps coming. This implies frequent changes in the focus in relation to data to be obtained and in the criteria for selection of cases proposed to be investigated.

(b) The second feature is intensity of the study of the person, group, culture or situation selected for investigation. In the study of the individual, for example, an extensive examination of his present situation and his life history may be undertaken.

(c) The third characteristic of this approach is its reliance on the integrative powers of the investigator, i.e., on his ability to thread together many diverse bits of information into a unified interpretation. Since evoking new hypothesis is the central concern of such an approach, this characteristic is quite desirable; after all, the emerging hypothesis will be testing on the anvil of empirical evidence subsequently.

The experience of the social scientists working with this approach has been that a study of certain types of cases produces a harvest of new insights. We list below some such type of cases. Since experience indicates
that for particular problems certain types are more appropriate, we shall also indicate which types are particularly apt for what category of problems.

(a) The observations of strangers or newcomers to a particular community may point out the characteristics of a culture or community that might otherwise be overlooked by an investigator reared in that culture. A stranger's eye is more sensitive to social customs and practices that are generally taken for granted or explicitly rationalized by the members of the community and thus do not incite surprise or bewilderment in them as they do in the newcomer stranger. Away of seeing is indeed, also, away of not seeing.

(b) Marginal individuals or groups which are moving from one cultural grouping to another and hence on the periphery of both groups are typically exposed to conflicting pressures of these groups. Therefore, they can reveal dramatically the major influences operating in both groups.

(c) Study of persons or groups who are in transition from one stage of development to the next has proved fruitful in providing insights into the relations between culture and personality development. The study of groups or societies in transition may be of substantial
value in understanding the process of social change and disorganization.

(d) Deviants and pathological cases do throw light on the more common cases. The study of deviants may highlight the normative reference from which they are deviating, as also, the types of pressure to conform and the socio-psychological consequences of non-conformity. The contributions of psychoanalysis to the understanding of personality are illustrations of the insights that may be gained by a study of pathological cases which frequently serve to underscore the basic processes of the diametrically opposite type of cases, i.e., non-pathological or normal cases.

(e) The characteristics of individuals who fit well in a given situation as also, of those who do not fit well provide valuable clues about the nature of the situation. The contrast in the characteristics of the two types of individuals provides an insight into the distinct nature of a community or group.

(f) A rounded view of any situation can be had if the individuals intended to be covered by the study are selected in such a manner that they represent different positions in the social structure. Persons occupying different positions are likely to see a given
situation from different perspectives and this very diversity is a potent producer of insights.

(g) A review of investigator's own experience and a careful examination of his own reactions as he attempts to project him into situation of the subjects studying, may be valuable source of insights. As one of Freud's biographer’s states, many of Freud's valuable insights emanated from his efforts to understand himself. This, of course, involves subjective introspection on the part of the investigator. Nevertheless, it must be emphasized that in maintaining a great distance between themselves and the objects of their study, i.e., an overly objective attitude, the scientists often neglect a very powerful source of ideas. During the specific phase of research when one is, in the main, looking for ideas such objectivity may not be appropriate.

There are many more cases, which could have been included in this list; the above list of insight-stimulating cases is not exhaustive. Which type of cases will be of most value and will depend largely on the problem under investigation? Nevertheless, by way of general statement, it may be said that cases that provide
sharp contrasts or engender striking features are the ones that are likely to prove most useful.

In closing, it is important to remind ourselves that the exploratory studies merely lead to insights or hypotheses they do not test them. An exploratory study may rightly be regarded as a first step; more carefully controlled studies are needed to test whether the hypotheses that emerge (from the exploratory study) have a broader applicability and generic significance.

1.5.3 Design for Descriptive and Diagnostic Studies:

The descriptive studies are the ones that aim at describing accurately the characteristics of a group, community or people. A researcher may be interested in studying the people of a community, their age composition, sex composition, caste-wise distribution, occupational distribution and so on.

A researcher may be concerned with estimating the proportion of people in a particular population who hold certain views or attitudes. How many favor lowering the age of voting? How many students favor student representation on university bodies?

Quite a few other researches may be concerned with specific predications. What percentage of people will vote for particular party candidates? What will be the volume of unemployment within a decade? It
is understandable that when one does not know anything at all about a problem, he must attempt to understand it in a general way before beginning to make specific the various aspects of the subject. Explorers and missionaries wrote such descriptions of many exotic lands. They chose to describe what they thought to be important and interesting, unconcerned with any rigid rules of scientific proof. Even such reports had their importance, for anthropologists subsequently rushed to study these 'natives' who were only hinted at in the explorer's reports.

Descriptive studies often provide a jumping pad for the study of new areas in social sciences. It is worthy of mention that Freud's compilation of case histories of patients laid the foundation for clinical Psychology. Freud remarked "the true beginning of scientific activity consists... describing phenomena and (only) then in proceeding to group, clarify and correlate.

Most anthropological research may be characterized as descriptive in as much as the thrust is on portraying a rounded picture of a total culture or some aspect of it. In more mature social sciences, sophisticated theories and statistical techniques of description may also be used. A general description of the situation, rather than nearly narrowing down of the field, helps one grasp the essence of the problem.
It may not be very useful to conceive of descriptive research only as a phase on the evolutionary continuum of researches. This is so, firstly, because a piece of descriptive research may be of important scientific value for itself, although it cannot be generalized to apply to other situations. It can provide information which is of value in policy formulation and secondly, because the notion of stages assumes that we have knowledge about the various stages in the supposed continuum. There is hardly any firm evidence to substantiate such an evolutionary view of scientific research.

Another class of researches called diagnostic, may be concerned with discovering and testing whether certain variables are associated, e.g., do more villagers than city dwellers vote for a particular party? Are people who have had co-educational background better adjusted to married life than those who had not this background? As was indicated earlier, both descriptive as well as diagnostic studies share common requirements in regard to the study design. So we may group those two kinds of research interest - descriptive and diagnostic, together, since from the point of view of research procedure both these studies share certain important characteristics. It should be noted that in contrast to the problem (of problem findings) which forms the basis for exploratory studies, the research questions characteristic of the descriptive and diagnostic studies demand much prior
knowledge of the problem to be investigated. Here the researcher must be able to define clearly what he wants to measure and must identify adequate methods for measurement. In addition, the researcher must be able to specify who are to be included in the definition of the given population with reference to which conclusions are to be drawn. In collecting evidence for studies of this type, what is needed is not so much the flexibility (as for exploratory studies) as a clear formulation of what is to be measured and the techniques to be adopted for precise, valid and reliable measurements.

The procedures to be used in descriptive/diagnostic study must be carefully planned since here the aim is to obtain complete and accurate information. The research design for these studies must make a much greater provision for protection against bias. Because of the amount of work involved in descriptive/diagnostic studies, concern with economy (of time, money and labour) in the course of research is extremely important. Considerations of economy and protection against bias permeate every stage of the research process.

Let us now turn to consider some of the ways in which economy and protection against bias are taken into account in the design of a descriptive/diagnostic study.
The first step in a descriptive/diagnostic study is to define the question that is to be answered. Unless the questions are formulated with sufficient precision to ensure relevance of the data collected to the questions raised, the study will be fruitless. It is necessary to formally define the concepts entering into the question and also to indicate how the concept is to be measured. Considerations of economy would need to be entertained at the stage of specifying the research question. This restricts the area of the study to the bounds of manageability.

After the problem has been formulated specifically enough to indicate what data would be required, the methods by which data can be obtained must be selected. Tools for collecting the information must be devised if no suitable ones already exist. Each of the various methods of data collection—observation, interview, questionnaire etc has its peculiar advantages and limitations. The researcher should consider the nature of the problem, the scope of the study, the nature of respondents, type of information needed, the degree of accuracy needed, etc., and in view of these, balancing the gains and losses, should select one or more methods of data collection.

The stage of developing the data-collection procedures is one of the major points at which safeguards against bias and unreliability would need to be introduced. Questions to be asked to the respondents must be carefully
examined for the possibility that their wording may suggest one answer rather than another. Interviewers must be instructed not to ask leading questions, observers need to be trained so that all the observers involved in the study record their observations uniformly. Once the data collection instruments are constructed, the must be pre-tested. Pre-testing the data-collection instruments before they are used in the study proper greatly minimizes difficulties of comprehension, ambiguousness and sterility of questions.

In many descriptive/diagnostic studies, the researcher wants to make statements about some specific class of people or objects. However, it is rarely necessary to study all the people comprising the group in order to provide an accurate and reliable description of certain characteristics of its members. Quite often a sample or a fragment of the population about which inferences are to be drawn, affords an adequate basis for making such statements.

Much work has been done on the problem of designing the sample in a manner that it would yield accurate information with minimum amount of expenses and research effort. Its important that the study findings based on the sample (a part of the population under study) should be a reasonably accurate indicator of the state of affairs in the total group (population).
This means that the sample should be selected in such a way that findings based on it are likely to correspond closely to those that would be obtained if the 'population' were studied. The researcher must select his sample in full consideration of the relative advantages and limitations of different methods of sampling and adopt the one (or a combination of two or more) that will provide the most accurate estimate of the population it represents, with maximum economy.

With a view to obtaining consistent data free from the errors introduced by different interviewers, observers and others working with the project, it is necessary to supervise the staff of field workers closely as they collect and record information. Effective checks must be set up to ensure that the interviewers continue to be honest and that the data they collect are unbiased. As the data are being collected, they should be examined for completeness, comprehensibility, consistency and reliability.

The process of analyzing the data after these are in, involves coding the responses, i.e., placing each item in the appropriate category, tabulating the data and performing statistical computations. These steps will be discussed elaborately in a later chapter. Hence, we may simply note that both the considerations, i.e., of economy and need for safeguards against error, enter into each of these steps. The considerations of economy indicate
that analysis be planned in detail to the extent possible before work on it is started. Of course, complete and intricate planning of analysis is neither always possible nor desirable. But excepting exploratory studies, it is generally feasible and advisable to work out in advance the basic outlines of analysis.

Safeguards against errors in coding ordinarily take the form of checking the reliability of coders through continual supervision. Decision needs to be taken on whether the tabulation is to be done by hand or by machine since mechanical tabulation while more efficient, may prove prohibitive in cost if the responses to be tabulated are not large in number. Accuracy of tabulation must be checked. Statistical computations, e.g. averages, dispersions, correlations etc., must be computed (as and when needed). Statistical operations of another sort are needed to be introduced for the purpose of safeguarding against drawing unjustified conclusions from the findings. These involve such procedures as estimating from the sample findings the probable occurrence of some characteristic in the population which the sample purports to represent and estimating the probability that differences found between the sample sub-groups represent the true differences between the two sub-groups in the total population, etc. We will have more to say about this later.
The following table attempts to show the salient points of difference between the exploratory and the descriptive/diagnostic study designs. A note 'of caution, however, is warranted. The table represents only an ideal typical' formulation, i.e., exploratory studies have been considered as an ideal type; so also the descriptive studies. The points of difference high lighted in the table must, therefore, be understood as those between these two 'ideal' models of studies. In practical situations, these differences may not be found in such a clear form.

Table 1.2

<table>
<thead>
<tr>
<th>Study Type</th>
<th>Basic Design</th>
<th>Observational design</th>
<th>Sampling Design</th>
<th>Statistical Design</th>
<th>Operational Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory</td>
<td>Flexible</td>
<td>Flexible</td>
<td>Flexible</td>
<td>Flexible</td>
<td>Flexible No fixed decisions about operationalizing the study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(unrestricted instruments)</td>
<td>(Non-Probability judgement)</td>
<td>No. Pre-Planned design for analysis</td>
<td></td>
</tr>
<tr>
<td>Descriptive; Diagnostic</td>
<td>Rigid</td>
<td>Rigid</td>
<td>Rigid</td>
<td>Rigid</td>
<td>Rigid Advance decisions about operationalizing the study</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Structural instruments)</td>
<td>(Probability design Random samples )</td>
<td>Preplanned design for analysis</td>
<td></td>
</tr>
</tbody>
</table>

We now turn to consider the study designs necessitated by the class of studies we call the Experimental studies.
1.5.4 Data Collection:

The primary data through structured questioner of top level, middle level, skilled personnel and unskilled personnel of twelve selected pharmaceutical companies is collected and scientifically processed with justification in terms of its adequacy.

1.5.5 Primary Data Collection:

It is an indispensable activity in research. Without appropriate, adequate and reliable facts, figures and informative details there can be no basis for original investigative research. Hence, much stress, significance and relevance was given to the process of primary data collection through the administration of the 'Questionnaire' to an adequate random sample size of personnel from each of the 12 selected companies. From each of these Pharmaceutical Companies a random sample of 18 persons belonging to the top management cadre, middle level management, skilled and unskilled employees, was considered for the research purpose.

In regard to Pharmaceutical Companies the right direction and motivation provided by the top management is an essential factor that contributes to the proper nurture, growth and effectiveness of the human resources. Therefore, from each company one representative and responsible individual from the top level management was selected and interviewed.
These interviews were conducted during the year 2004. Their responses which were quite convincingly informative have been analyzed and explained.

1.5.6 Data Collection Methodology:

To maintain uniformity and appropriate representativeness, of the employees from each of the companies, it was considered adequate to select randomly one person from the top level management, three persons from middle level management, nine persons from the skilled employees who include operators and technical personnel, and five persons from the unskilled group of employees. Therefore, each company was represented by a total of 18 persons. In this manner, the entire final random sample of persons from all the 12 companies amounted to $12 \times 18 = 216$. Thus, the composition of the entire sample was 12 from the top management plus 36 from the middle level management plus 108 from the category of skilled employees plus 60 from the category of unskilled employees. These details have been provided in the table 1.3 (Data Collection Particulars).
Data Collection Particulars:

Table 1.3

<table>
<thead>
<tr>
<th>Company Sr. No.</th>
<th>Top Level Management</th>
<th>Middle Level Managers</th>
<th>Skilled Employees</th>
<th>Unskilled Personnel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>9</td>
<td>5</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>7</td>
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<td>5</td>
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<td>5</td>
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<tr>
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<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
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<tr>
<td>11</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Sample out of approximately</td>
<td>50</td>
<td>110</td>
<td>900</td>
<td>1200</td>
<td>2260</td>
</tr>
<tr>
<td>Sample size percentage of the respective category</td>
<td>24%</td>
<td>33%</td>
<td>12%</td>
<td>5%</td>
<td>10%</td>
</tr>
</tbody>
</table>
The above data was in accordance with the strength of the approximate number of employed in the selected pharmaceutical companies in and around Pune, during the period 1998-2003.

1.5.7 Questionnaire Details:

In order to elicit accurate information subjectively and substantially from the right type of informants it was considered necessary to divide the entire Questionnaire into nine different sections.

Section (I) dealt with 'General Information' about the organization. This section contains questions, from Q.1 to Q.9 Section (II) is on "Manpower Planning". It contains question from Q.10 to Q. 19. Section (III) is focusing "Recruitment and Selection". It contains question from Q.20 to Q. 26. Section (IV) is concerned with "Placement and Induction Training". It contains question from Q.27 to Q. 36. Section (V) deals information on "Human Resources". It contains questions from Q.37 to Q. 39. Section (VI) is related with "Performance Appraisal". Contains question from Q.40 to Q. 58. Section (VII) is Concern with "On the Job and Career Development Training". It contains question from Q.59 to Q. 87. Section (VIII) is related to "Career Planning". It contains question from Q.88 to Q. 90. Section (IX) relates "Job Satisfaction and Related Questions". These questions have been numbered separately and range from Q1 to Q38.
As all these 128 Questions ranging from Q 1 to Q 90 and also from Q.1 to Q 38 spread over 9 sections were quite exhaustive and adequate, appropriate informative details could be collected from the respondents.

1.6 Sampling and Survey Methodology:

The Sampling methodology related to 60% random samples of the Pharmaceutical Industries, existing during the period 1998 to 2003, in and around Pune. The number of Pharmaceutical Companies whose annual turnover was more than 50 cores, during the period 1998 to 2003, in and around Pune was estimated as 20. Out of these a random sample of 12 companies (60% sample as shown in figure 1.1) was taken for the purpose of collecting data. This sample is very much adequate and representative. The Questionnaire was administered to all these 12 randomly selected companies. The list of these 12 companies has been given in the chapter 5.

Figure 1.1