Chapter - 2

Research Methodology
A research proposal is a sort of a blueprint. Apart from helping the ICSSR\(^1\) to process it quickly, a well conceived research proposal will later also help in its efficient implementation. Every effort made to formulate a proper research proposal will, therefore, pay rich dividends.

Social Science research is characterised by a diversity of theoretical perspectives, substantive orientation, methodological strategy, data collection practice and data analysis technique. It is, therefore, not possible to indicate in a short space all the possible ways in which a research proposal can be framed. However, there are certain characteristics that are common to all research proposals. These characteristics are:

a. formulation of a problem for research

b. delimiting the boundary of the proposed research and elaboration of its substantive components;

c. sources and method of data collection; and

d. data analysis.

Given these similar characteristics, individual research proposals will vary greatly in the selection of a researchable problem and the delineation of subsequent

\(^1\) Indian Council of Social Science Research (ICSSR) : The Planning Commission in August 1965 set up a Committee on Social Science Research under the chairmanship of Professor V.K.R.V. Rao. The Committee which submitted its report in 1967, recommended the establishment of an Indian Council of Social Science Research for promoting research in social sciences. The ICSSR was set up by the Government of India on 15 April 1969. Among the programmes and activities of ICSSR, the promotion of research occupies a central place. The research programme includes: (i) financial support to research proposals received from social scientists and institutes, (ii) fellowships.

The ICSSR Fellowship Programme includes (a) National Fellowships, (b) Senior Fellowships, (c) Fellowships for young social scientists, (d) Post Doctoral Fellowships, and (e) Doctoral Fellowships and other forms of assistance to doctoral students.

The Centre has established a Social Science Documentation Centre at New Delhi and six Regional Centres at Bombay, Calcutta, Chandigarh, Delhi, Hyderabad and Shillong.
steps necessary to complete the research. The selection of a researchable problem
depends on the inclination, training and experience of the research scholar. Whatever
the problem and one must take care to see that it is researchable one of the two
primary concerns often underlies a particular research:

To know and/or to explain particular aspect(s) of social reality. Whether one
is motivated by the former or the latter, will have an important bearing on how the
research proposal is developed and designed. The former objective requires a kind of
mapping out operation of usually a segment of social reality in respect of certain of its
characteristics supposed to be important. If, on the other hand, the purpose is to
explain the occurrence of a particular social phenomenon, the emphasis is on why
does that particular phenomenon occur and what factors explain its occurrence either
in causal or associational terms. It is obvious, then, that these two types of research
require entirely different strategies.

Whatever the purpose of research, it is apparent that the selection of essential
characteristics for either mapping out a particular aspect of social reality or for
explaining its occurrence, requires the placing of the problem and its dimensions in
some context. That context must be provided by the accumulated social science
knowledge, on the one hand, and the theoretical position one takes in regard to the
problem at hand, on the other. As such, a proper research design must start out with
formulating a researchable problem and proceed on to locate it in some theoretical
perspective and link it up with whatever social science findings exist in the area of
enquiry. An overview of pertinent literature in the area of enquiry, therefore, becomes
a crucial component of a research design. The purpose of this overview of literature is not to list the number of published, either all or a few, well known works but to cull out important findings that relate to the substantive concern of the proposed research. This culling out of important findings is necessary for determining the salience of the problem itself on the one hand, and illuminating the theoretical perspective one brings to bear on the problem of research on the other, thereby helping in the cumulation of social science knowledge.

That there is an intimate relationship between the delineation of theoretical perspective and the overview of literature needs no demonstration. Theoretical perspective informs the overview of literature in terms of selection of scholarly works and of findings in order to illustrate their relevance or insufficiency for enquiry into the problem at hand. Whether the delineation of theoretical perspective precedes or follows the overview of literature is a matter of individual preference. However, what must be emphasised here is the necessity of linking up in some meaningful way of the overview of literature and the delineation of theoretical perspective. This is most important since it provides the backdrop for choosing the dimensions that must be explored for a particular enquiry.

Whether it is a descriptive or an explanatory research design, the problem taken up for investigation is invariably rooted in a complex and multifaceted social reality. It is, therefore, necessary to indicate aspects of social reality most relevant for that particular problem. The determination of the appropriate aspects takes its character from the theoretical perspective one adopts. This also describes the boundary of research and provides a basis for ascertaining the nature of data required for the conduct of enquiry.
Usually the determination of the dimensions of a research enterprise is expressed in the language of concepts relating to particular domains of social reality. Since it is a concept or a domain that conjoins theoretical knowledge with empirical reality, it is very important to clearly and precisely define the various concepts or domains proposed to be used in a research project. Also, since a concept or a domain represents an abstraction, the empirical referents that constitute that abstraction must be specified. In other words, the concepts and domains have to be operationalised so that the passage between concepts and their empirical referents is made easy and scientifically valid.

While a descriptive research design need not go beyond the delineation of dimensions and their operationalisation, explanatory research design must provide additional information on how the explanatory exercise is to be carried out. It should, first, indicate clearly the factors with the help of which one proposes to explain a particular phenomenon and second, enumerate hypothesised relationships among variables. In other words, the proposal must furnish an explanatory model containing variables linked with one another by some kind of interaction supposed to be taking place among them. Thus, the determination of independent and dependent variables and formulation of appropriate hypotheses are the essential characteristics of an explanatory research design.

The next step in a research design consists of the specification of the type of data to be collected, the manner in which they are to be collected and the unit to which they pertain. The data to be collected may, depending upon the nature of the problem under investigation, be found almost "ready-made" in various types of secondary sources or it may have to be generated. In the former case the sources of required data must be indicated. In the case of the latter, construction of some kind of
instrument-questionnaire, schedule, etc., for data gathering becomes necessary. In
certain cases data have to be collected through interview, observation or the use of
informants. In any case the manner in which data are to be collected must be
specified. Also, the unit-individual, aggregate or some other entity about which data
are to be collected should be indicated.

In many cases it is just not possible to over all the cases of a particular
phenomenon even though it may seem desirable. The constraints of time and
resources impose the necessity of selecting a few cases that may be deemed to be
representing the entire class. Sampling then becomes an essential part of certain kinds
of research design, the sampling frame, sampling procedure and sample size must be
clearly elaborated and an adequate justification provided for the choice. In certain
other cases, especially in respect of case studies or exploratory studies, when the
focus of study is just one unit, detailed justification for a particular unit must find a
place in the proposal.

When requisite data have finally been gathered, the data must be recorded in
such a fashion that data processing according to some analysis plan becomes easy. It
should be pointed out that data collected for a particular purpose do not exhaust their
possibilities when that purpose is served. The data can fruitfully be used by other
scholar for secondary analysis. As such, the recording of data must provide for the
possibility of re-use by others. This is especially true of quantifiable or quantified data
which, when recorded in a machine readable form, lend themselves easily to re-
analysis. It is, therefore, desirable to put these data in machine-readable form. The
proposal should also provide for this and indicate the lines on which data are
proposed to be analysed. Specially in the case of an explanatory research design, the
analysis plan indicating coding design, the procedure of construction of indices and
scales, the use of various statistical techniques for testing the direction and strength of hypothesised relationships, etc., must be included in the research design.

Research, being a fact-finding process, profoundly influences business decisions. The business manager is interested in choosing that course of action which is most effective in attaining the goals of the organisation. Research not only provides facts and figures in support of such business decisions, but enables one to choose a measuring rod to judge the effectiveness of each decision. Research has a tremendous potentiality to assist him in this respect substantially. In management, it can, therefore, be defined as the process of systematic investigation of any management problem.

A considerable number of business problems are now given a quantitative treatment with some degree of success with the help of operation research. One cannot simply hold the view that a quantitative treatment of business problems is associated with operations research alone. Business decisions are now more quantitatively dealt with than ever before, irrespective of functional distinctions. There may not be any reason now to believe that business is more dependent on research than ever before. Research and development, however, have become an essential part of any business from now a development which is to be welcomed.

Research and analysis of management problems would result in certain conclusions, by means of logical analysis. The decision maker may base his action or solution on these conclusions. If the logic in deriving the conclusions from abstracted variables is correct and if the relevant variables have been aptly abstracted, then the solution to the problems arrived at by research findings would be helpful in solving identical problems. In assessment of cost, of a given product, an observation to buy or manufacture a product the ceteris paribus (other things being the same) principle
applies. Sometime consideration of all variables to a problem would enable the
decision maker to arrive at an appropriate decision. But sometimes consideration of
all variables is not required in a given situation. Research therefore, is the very core of
managing, a business economically. Research in management is, broadly, a
systematic activity directed towards investigating managerial or business problems
and results in an invention or a discovery of management tools for problem solving
and decision making. It can be a detailed investigation of the existing problem,
practice or processes.

The given research work concentrated on the following areas:

1. Introduction to drug industry,
2. Growth of Drug industry, drug policy, legislations and operational
   problems
3. Findings and observations.

PLAN OF ACTION

The above areas taken together constitute the research plan. Once the
research plan is drawn, the next stage involves carrying out the assignment. The plan
of action would consists of the following:

1. Collection, processing and analysis of data obtained from published
   sources and in companies industrial and organisational records.
2. Identification of the remaining gaps in information.
3. Preparation of a research brief for field research to collect information on
   the gaps.
4. Designing of a questionnaire or schedule.
5. preparation of a sample of respondents.
6. Interviewing of these respondents.
7. Analysis of the information obtained and evaluation of the results.

8. Arrivings at decisions.

The subject of the research is “An analysis of the growth and operational problems of Indian Drug Industry with special reference to selected Ayurvedic, alopatic, Homeopathic and Unani drug manufacturing units”

**Plan of Action**

1. **Introduction to Drug Industry:**

The first chapter consists history of drugs industry in India, various section in Indian Drugs Industry, India’s contribution in worlds production of drugs.

Public sectors and private sectors in drug manufacturing, statewise distribution of drug industry, development of pharmaceutical and other sectors drug industry under the plans.

Multinational companies in India: Drug research in various sectors.

Production of various life saving drugs and other drugs.

The second chapter dealt the design of the research work. The data collected and its representation is described in this chapter.

The third chapter emphasizing the growth of drug industry and the policies relating there to. The governing legislations are also the part of drug industry structure in India. The growth is described in two segments first is public sector and second is private sector.

A critical view is taken to evaluate the government policies.

The fourth chapter dealt the operational problem in economic situation and development of drug industry in India.

The fifth chapter is in suggestive form. The measures are given to promote the drug industry.
Sixth chapter presents the long-term perspectives of drug industry in India. The industrial growth of drug industry in India is compared with developed and developing countries.

Chapter seventh is the conclusion, findings and observations. The conclusions are the forming body of this chapter.

Techniques of study:

**Design of descriptive studies:**

Descriptive studies at portraying accurately the characteristics of a particular group or situation. One may undertake a descriptive study about the works in a factory their age distribution, their community wise distribution, their educational level the state of their physical health and so on and so forth. Also one may study the conditions of work in a factory, health, safety and welfare. One may undertake to describe the organisation of an industrial establishment or of a trade union congress. A descriptive study may be concerned with the attitudes or views (of a people) towards anything e.g. attitudes towards presidential form of government, rights to strike, capital punishment, prohibition, college autonomy and growth reform of any industrial structure.

A descriptive study involves the following steps:

1. Formulating the objectives of the study.

2. Defining the population and selecting a sample.

3. Designing the methods of data collection

4. Analysing the data.

So, this study is also designed to answer the above steps.

Study of the subject and methods used in research.
It is necessary for the subject to collect the figures and informations relating to the industry. On the basis of the data collected the evaluation, description and suggestive measures are represented. The figures given are examined before the representation. The data have been analysed fully, but the statistical limitations are there. In any descriptive study, the derivatives are also accepted as well standards.

Collection of data and their problems:

In research work, primary and secondary, both are used. To collect primary data observation, schedules questionnaire and interviews are included in the methods.

In the collections of secondary data the reports published in pharmaceutical journals, published policies of the government been included. News papers are also helpful to some extent. A researcher has to find always facts and authenticate data. Unless then, one cannot analyse the given situation so it is necessary to be very cautious in data collection. To find out the conclusions a logical and creative attitude adopted.