UNIT 1 INTRODUCTION TO BUSINESS RESEARCH

STRUCTURE

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1.0 OBJECTIVES

After studying this unit, you should be able to:

- explain the meaning of research,
- differentiate between Science and Knowledge,
- distinguish between inductive and deductive logic,
- discuss the need for research in business,
- classify research into different types,
- narrate different methods of research,
- list the difficulties in business research, and
- explain the business research process and its role in decision making.

1.1 INTRODUCTION

Research is a part of any systematic knowledge. It has occupied the realm of human understanding in some form or the other from times immemorial. The thirst for new areas of knowledge and the human urge for solutions to the problems, has developed a faculty for search and research and re-research in him/her. Research has now become an integral part of all the areas of human activity.

Research in common parlance refers to a search for knowledge. It is an endeavour to discover answers to problems (of intellectual and practical nature) through the application of scientific methods. Research, thus, is essentially a systematic inquiry seeking facts (truths) through objective, verifiable methods in order to discover the relationship among them and to deduce from them broad conclusions. It is thus a method of critical thinking. It is imperative that any type of organisation in the globalised environment needs systematic supply of information coupled with tools of analysis for making sound decisions which involve minimum risk. In this Unit, we will discuss at length the need and significance of research, types and methods of research, and the research process.

1.2 MEANING OF RESEARCH

The Random House Dictionary of the English language defines the term 'Research' as a diligent and systematic inquiry or investigation into a subject in order to discover or revise facts, theories, applications, etc. This definiton explains that research involves acquisition of knowledge. Research means search for truth. Truth means the quality of being in agreement with reality or facts. It also means an established or verified fact. To do research is to get nearer to truth, to understand the reality. Research is the pursuit of truth with the help of study, observation, comparison and experimentation. In other words, the search for knowledge through objective and systematic method of finding solution to a problem/answer to a question is research. There is no guarantee that the researcher will always come out with a solution or answer. Even then, to put it in Karl Pearson's words "there is no short cut to truth… no way to gain knowledge of the universe except through the gate way of scientific method". Let us see some definitions of Research:

L.V. Redman and A.V.H. Mory in their book on "The Romance of Research" defined research as "a systematized effort to gain new knowledge"

"Research is a scientific and systematic search for pertinent information on a specific topic" (C.R. Kothari, Research Methodology - Methods and Techniques)

"A careful investigation or inquiry specially through search for new facts in any branch of knowledge" (Advanced learners Dictionary of current English)

Research refers to a process of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the same, and reaching certain conclusions either in the form of solution to the problem enunciated or in certain generalizations for some theoretical formulation.

D. Slesinger and M. Stephenson in the Encyclopedia of Social Sciences defined research as: "Manipulation of things, concepts or symbols for the purpose of generalizing and to extend, correct or verify knowledge, whether that knowledge aids in the construction of a theory or in the practice of an art".

To understand the term 'research' clearly and comprehensively let us analyze the above definition.

i) Research is manipulation of things, concepts or symbols

- manipulation means purposeful handling,
- things means objects like balls, rats, vaccine,

- concepts mean the terms designating the things and their perceptions about which science tries to make sense. Examples: velocity, acceleration, wealth, income.
- Symbols may be signs indicating +, –, ÷, ×, $\bar{x}$, σ, Σ, etc.
- Manipulation of a ball or vaccine means when the ball is kept on different degrees of incline how and at what speed does it move? When the vaccine is used, not used, used with different gaps, used in different quantities (doses) what are the effects?

ii) Manipulation is for the purpose of generalizing

The purpose of research is to arrive at generalization i.e., to arrive at statements of generality, so that prediction becomes easy. Generalization or conclusion of an enquiry tells us to expect some thing in a class of things under a class of conditions.

Examples: Debt repayment capacity of farmers will be decreased during drought years.

When price increases demand falls.

Advertisement has a favourable impact on sales.

iii) The purpose of research (or generalization) is to extend, correct or verify knowledge

Generalization has in turn certain effects on the established corpus or body of knowledge. It may extend or enlarge the boundaries of existing knowledge by removing inconsistencies if any. It may correct the existing knowledge by pointing out errors if any. It may invalidate or discard the existing knowledge which is also no small achievement. It may verify and confirm the existing knowledge which also gives added strength to the existing knowledge. It may also point out the gaps in the existing corpus of knowledge requiring attempts to bridge these gaps.

iv) This knowledge may be used for construction of a theory or practice of an art

The extended, corrected or verified knowledge has two possible uses to which persons may put it.

a) may be used for theory building so as to form a more abstract conceptual system. Eg. Theory of relativity, theory of full employment, theory of wage.

b) may be used for some practical or utilitarian goal.

Eg. 'Salesmanship and advertisement increase sales' is the generalization. From this, if sales have to be increased, use salesmanship and advertisement for increasing sales.

Theory and practice are not two independent things. They are interdependent. Theory gives quality and effectiveness to practice. Practice in turn may enlarge or correct or confirm or even reject theory.

1.3 MEANING OF SCIENCE

The development of Science can be considered as a constant inter play between theory and facts. The word "Science" comes from the Latin word "Scientia" which means "knowledge". As we have seen earlier, research involves acquisition of knowledge. Thus Science and research are related and go hand in hand.

At one time the word science was used to denote all systematic studies or organized bodies of knowledge. Let us see some definitions.

– "Science means a branch of (accumulated) knowledge". In this sense it refers to a particular field or branch of knowledge such as Physics, Chemistry, Economics.

– "The systematized knowledge about things or events in nature is called Science".

– "Science is popularly defined as an accumulation of systematic knowledge" (Goode & Hatt).

In these definitions the words 'systematic' and 'knowledge' are very important. Knowledge refers to the goal of science, while 'systematic' refers to the 'method' that is used to reach that goal. Now a days the stress is on the method rather than the knowledge. See the following definitions:

– Knowledge not of things but of their relations.

– Science is a process which makes knowledge.

– It is the approach rather than the content that is the test of science.

– Science is a way of investigation.

– Science is a way of looking at the World.

– " The unity of all sciences consists alone in its methods, not in its material" - (Karl Pearson).

From the above definitions two broad views emerge. They are: (a) Science as organized or accumulated knowledge. (b) Science as a method / process leading to knowledge. (a) is a STATIC view where as (b) is a DYNAMIC View. The view that Science is a method rather than a field of specific subject matter is more popular.

1.4 KNOWLEDGE AND SCIENCE

Knowledge has some thing to do with knowing. Knowing may be through acquaintance or through the description of the characteristics of certain things. The things with which we can be acquainted are the things of which we are directly aware. Direct awareness may come through perception and sensation. Most of our knowledge of things is by description.

Knowing has an external reference, which may be called a fact. A fact is any thing that exists or can be conceived of. A fact is neither true nor false. It is what it is. What we claim to know is belief or judgement. But every belief cannot, however, be equated with knowledge, because some of our beliefs, even the true ones, may turn out to be false on verification. Knowledge, therefore, is a matter of degree. However, knowledge need not always be private or individual. Private knowledge may be transformed into public knowledge by the application of certain scientific and common sense procedures.

Human knowledge takes the form of beliefs or judgement about a particular phenomenon. Some beliefs may be supported by evidence and some may not. The evidence may be based on our perceptions and experiences. The beliefs which are supported by evidence are called justified beliefs. Only justified beliefs are knowledge. Ordinary belief (not supported by evidence) is not knowledge.

We have shown that knowledge requires explanations and these come in Science. Knowledge and Science are not necessarily synonymous. Science implies knowledge, but the converse is not true. Therefore, we can say that "all Sciences are knowledge, but all knowledge is not science". Scientific knowledge is unified, organized and systematic, while ordinary knowledge is a jumble of isolated and disconnected facts. Science applies special means and methods to render knowledge true and exact, but ordinary knowledge rests on observations which are not methodical. But scientific knowledge and ordinary knowledge are not different in kind, but only in degree. Scientific knowledge is more specialized, exact and organized than ordinary knowledge.

Self Assessment Exercise A

1) What do you understand by Research?

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2) What is the relation between Science and Research?

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3) Distinguish between Knowledge and Science.

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4) What is a fact?

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1.5 INDUCTIVE AND DEDUCTIVE LOGIC

A rational man does not accept any statement without empirical verification or logic. After the data / facts have been collected, processed, analyzed, we have to draw broad conclusions / generalizations. Research provides an analytical framework for the subject matter of investigation. It establishes the relationship between the different variables. The cause and effect relationship between the different variables can also be identified, leading to valuable observations, generalizations and conclusions. Inductions and deductions are also possible in systematic research.

Induction is the process of reasoning whereby we arrive at generalizations from particular facts. It is a movement of knowledge from particular observations / instances to a general rule or principle. Induction involves a passage from observed to unobserved. It involves two processes - observation and generalization. For example, if it is observed in a number of cases that when price increases less is purchased. Therefore, the generalization is " when price increases demand falls".

Deduction, on the other hand, is a way of making a particular inference from a generalization. Deduction is a movement of knowledge from a general rule to a particular case. For example, 'All men are mortal' is a general rule. Ranjit is a man. Therefore, from the general rule it can be deduced that Ranjit is also mortal'. Similarly, All M.Com. degree holders are eligible for Ph.D. in Commerce is a general statement. Praneeth is a M.Com. degree holder. Therefore, it can be deduced that Praneeth is eligible for Ph.D. in Commerce.

Empirical studies have a great potential, for they lead to inductions and deductions. Research enables one to develop theories and principles, on the one hand, and to arrive at generalizations on the other. Both are aids to acquisition of knowledge.

1.6 SIGNIFICANCE OF RESEARCH IN BUSINESS

Research is the process of systematic and indepth study or search for a solution to a problem or an answer to a question backed by collection, compilation, presentation, analysis and interpretation of relevant details, data and information. It is also a systematic endeavour to discover valuable facts or relationships. Research may involve careful enquiry or experimentation and result in discovery or invention. There cannot be any research which does not increase knowledge which may be useful to different people in different ways. Let us see the need for research to business organizations and their managers and how it is useful to them.

i) Industrial and economic activities have assumed huge dimensions. The size of modern business organizations indicates that managerial and administrative decisions can affect vast quantities of capital and a large number of people. Trial and error methods are not appreciated, as mistakes can be tremendously costly. Decisions must be quick but accurate and timely and should be objective i.e. based on facts and realities. In this back drop business decisions now a days are mostly influenced by research and research findings. Thus, research helps in quick and objective decisions.

ii) Research, being a fact-finding process, significantly influences business decisions. The business management is interested in choosing that course of action which is most effective in attaining the goals of the organization. Research not only provides facts and figures to support business decisions but also enables the business to choose one which is best.

iii) A considerable number of business problems are now given quantitative treatment with some degree of success with the help of operations research. Research into management problems may result in certain conclusions by means of logical analysis which the decision maker may use for his action or solution.

iv) Research plays a significant role in the identification of a new project, project feasibility and project implementation.

v) Research helps the management to discharge its managerial functions of planning, forecasting, coordinating, motivating, controlling and evaluation effectively.

vi) Research facilitates the process of thinking, analysing, evaluating and interpreting of the business environment and of various business situations and business alternatives. So as to be helpful in the formulation of business policy and strategy.

vii) Research and Development (R & D) helps discovery and invention. Developing new products or modifying the existing products, discovering new uses, new markets etc., is a continuous process in business.

viii) The role of research in **functional areas** like production, finance, human resource management, marketing need not be over emphasized. Research not only establishes relationships between different variables in each of these functional areas, but also between these various functional areas.

ix) Research is a must in the production area. Product development, new and better ways of producing goods, invention of new technologies, cost reduction, improving product quality, work simplification, performance improvement, process improvement etc., are some of the prominent areas of research in the production area.

x) The purchase/material department uses research to frame alternative suitable policies regarding where to buy, when to buy, how much to buy, and at what price to buy.

xi) Closely linked with production function is marketing function. Market research and marketing research provide a major part of marketing information which influences the inventory level and production level. Marketing research studies include problems and opportunities in the market, product preference, sales forecasting, advertising effectiveness, product distribution, after sales service etc.,

xii) In the area of financial management, maintaining liquidity, profitability through proper funds management and assets management is essential. Optimum capital mix, matching of funds inflows and outflows, cash flow forecasting, cost control, pricing etc., require some sort of research and analysis. Financial institutions also (banking and non-banking) have found it essential to set up research division for the purpose of collecting and analysing data both for their internal purpose and for making indepth studies on economic conditions of business and people.

xiii) In the area of human resource management personnel policies have to be guided by research. An individual's motivation to work is associated with his needs and their satisfaction. An effective Human Resource Manager is one who can identify the needs of his work force and formulate personnel policies to satisfy the same so that they can be motivated to contribute their best to the attainment of organizational goals. Job design, job analysis, job assignment, scheduling work breaks etc., have to be based on investigation and analysis.

xiv) Finally, research in business is a must to continuously update its attitudes, approaches, products goals, methods, and machinery in accordance with the changing environment in which it operates.

1.7 TYPES OF RESEARCH

Research may be classified into different types for the sake of better understanding of the concept. Several bases can be adopted for the classification such as nature of data, branch of knowledge, extent of coverage, place of investigation, method employed, time frame and so on. Depending upon the BASIS adopted for the classification, research may be classified into a class or type. It is possible that a piece of research work can be classified under more than one type, hence there will be overlapping. It must be

remembered that good research uses a number of types, methods, & techniques. Hence rigid classification is impossible. The following is only an attempt to classify research into different types.

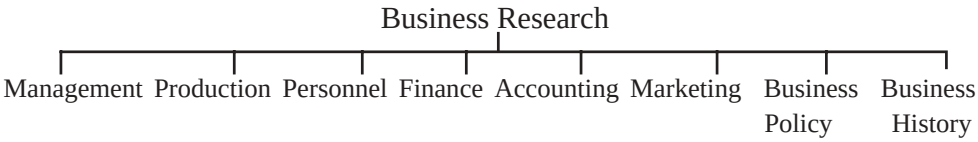
i) According to the Branch of Knowledge

Different Branches of knowledge may broadly be divided into two:

a) Life and physical sciences such as Botany, Zoology, Physics and Chemistry.

b) Social Sciences such as Political Science, Public Administration, Economics, Sociology, Commerce and Management.

Research in these fields is also broadly referred to as life and physical science research and social science research. Business education covers both Commerce and Management, which are part of Social sciences. Business research is a broad term which covers many areas.



The research carried out, in these areas, is called management research, production research, personnel research, financial management research, accounting research, Marketing research etc.

Management research includes various functions of management such as planning, organizing, staffing, communicating, coordinating, motivating, controlling. Various motivational theories are the result of research. **Production (also called manufacturing) research** focuses more on materials and equipment rather than on human aspects. It covers various aspects such as new and better ways of producing goods, inventing new technologies, reducing costs, improving product quality. **Research in personnel management** may range from very simple problems to highly complex problems of all types. It is primarily concerned with the human aspects of the business such as personnel policies, job requirements, job evaluation, recruitment, selection, placement, training and development, promotion and transfer, morale and attitudes, wage and salary administration, industrial relations. Basic research in this field would be valuable as human behaviour affects organizational behaviour and productivity. **Research in Financial Management** includes financial institutions, financing instruments (egs. shares, debentures), financial markets (capital market, money market, primary market, secondary market), financial services (egs. merchant banking, discounting, factoring), financial analysis (e.g. investment analysis, ratio analysis, funds flow / cash flow analysis) etc.,

Accounting research though narrow in its scope, but is a highly significant area of business management. Accounting information is used as a basis for reports to the management, shareholders, investors, tax authorities, regulatory bodies and other interested parties. Areas for accounting research include inventory valuation, depreciation accounting, generally accepted accounting principles, accounting standards, corporate reporting etc.

Marketing research deals with product development and distribution problems, marketing institutions, marketing policies and practices, consumer behaviour, advertising and sales promotion, sales management and after sales service etc. Marketing research is one of the very popular areas and also a well established one. Marketing research includes market potentials, sales forecasting, product

testing, sales analysis, market surveys, test marketing, consumer behaviour studies, marketing information system etc.

Business policy research is basically the research with policy implications. The results of such studies are used as indices for policy formulation and implementation. **Business history research** is concerned with the past. For example, how was trade and commerce during the Moghul regime.

ii) According to the Nature of Data

A simple dichotomous classification of research is Quantitative research and Qualitative research / non-quantitative. **Quantitative research** is variables based where as qualitative research is attributes based. Quantitative research is based on measurement / quantification of the phenomenon under study. In other words, it is data based and hence more objective and more popular.

Qualitative research is based on the subjective assessment of attributes, motives, opinions, desires, preferences, behaviour etc. Research in such a situation is a function of researcher's insights and impressions.

iii) According to the Coverage

According to the number of units covered it can be **Macro study** or **Micro study**. Macro study is a study of the whole where as Micro study is a study of the part. For example, working capital management in State Road Transport Corporations in India is a macro study where as Working Capital Management in Andhra Pradesh State Road Transport Corporation is a micro study.

iv) According to Utility or Application

Depending upon the use of research results i.e., whether it is contributing to the theory building or problem solving, research can be Basic or Applied. **Basic research** is called pure / theoretical / fundamental research. Basic research includes original investigations for the advancement of knowledge that does not have specific objectives to answer problems of sponsoring agencies.

Applied research also called Action research, constitutes research activities on problems posed by sponsoring agencies for the purpose of contributing to the solution of these problems.

v) According to the place where it is carried out

Depending upon the place where the research is carried out (according to the data generating source), research can be classified into:

a) Field Studies or field experiments

b) Laboratory studies or Laboratory experiments

c) Library studies or documentary research

vi) According to the Research Methods used

Depending upon the research method used for the investigation, it can be classified as:

a) Survey research, b) Observation research , c) Case research, d) Experimental research, e) Historical research, f) Comparative research.

vii) **According to the Time Frame**

Depending upon the time period adopted for the study, it can be

a) **One time or single time period research -** eg. One year or a point of time. Most of the sample studies, diagnostic studies are of this type.

b) **Longitudinal research** - eg. several years or several time periods (a time series analysis) eg. industrial development during the five year plans in India.

viii) **According to the purpose of the Study**

What is the purpose/aim/objective of the study ? Is it to describe or analyze or evaluate or explore? Accordingly the studies are known as.

a) **Descriptive Study:** The major purpose of descriptive research is the description of a person, situation, institution or an event as it exists. Generally fact finding studies are of this type.

b) **Analytical Study:** The researcher uses facts or information already available and analyses them to make a critical examination of the material. These are generally Ex-post facto studies or post-mortem studies.

c) **Evaluation Study:** This type of study is generally conducted to examine / evaluate the impact of a particular event, eg. Impact of a particular decision or a project or an investment.

d) **Exploratory Study:**The information known on a particular subject matter is little. Hence, a study is conducted to know more about it so as to formulate the problem and procedures of the study. Such a study is called exploratory/ formulative study.

Self Assessment Exercise B

1) Distinguish between inductive and deductive logic.

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2) What is the role of R & D in business?

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3) How does research influence business decisions?

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4) Distinguish between qualitative and quantitative data.

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5) List the various types of studies according to the purpose of the study.

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1.8 METHODS OF RESEARCH

The researcher has to provide answers at the end, to the research questions raised in the beginning of the study. For this purpose he has investigated and gathered the relevant data and information as a basis or evidence. The procedures adopted for obtaining the same are described in the literature as methods of research or approaches to research. In fact, they are the broad methods used to collect the data. These methods are as follows:

1) Survey Method
2) Observation Method
3) Case Method
4) Experimental Method
5) Historical Method
6) Comparative Method

It is now proposed to explain briefly, each of the above mentioned methods.

1.8.1 Survey Method

The dictionary meaning of 'Survey' is to oversee, to look over, to study, to systematically investigate. Survey research is used to study large and small populations (or universes). It is a fact finding survey. Mostly empirical problems are investigated by this approach. It is a critical inspection to gather information, often a study of an area with respect to a certain condition or its prevalence. For example: a marketing survey, a household survey, All India Rural Credit Survey.

Survey is a very popular branch of social science research. Survey research has developed as a separate research activity alongwith the development and improvement of sampling procedures. Sample surveys are very popular now a days. As a matter of fact sample survey has become synonymous with survey. For example, see the following definitions:

Survey research can be defined as **"Specification of procedures for gathering information about a large number of people by collecting information from a few of them".** (Black and Champion).

Survey research is **"Studying samples chosen from populations to discover the relative incidence, distribution, and inter relations of sociological and psychological variables".** (Fred N. Kerlinger)

By surveying data, information may be collected by observation, or personal interview, or mailed questionnaires, or administering schedules or telephone enquiries.

Features of Survey method

The important features of survey method are as follows:

i) It is a field study, as it is always conducted in a natural setting.

ii) It solicits responses directly from the respondents or people known to have knowledge about the problem under study.

iii) Generally, it gathers information from a large population.

iv) A survey covers a definite geographical area eg. A village / city or a district.

v) It has a time frame.

vi) It can be an extensive survey involving a wider sample or it can be an intensive study covering few samples but is an in-depth and detailed study.

vii) Survey research is best adapted for obtaining personal, socio-economic facts, beliefs, attitudes, opinions.

Survey research is not a clerical routine of gathering facts and figures. It requires a good deal of research knowledge and sophistication. The competent survey investigator must know sampling procedures, questionnaire / schedule / opionionaire construction, techniques of interviewing and other technical aspects of the survey. Ultimately the quality of the Survey results depends on the imaginative planning, representative sampling, reliability of data, appropriate analysis and interpretation of the data.

1.8.2 Observation Method

Observation means seeing or viewing. It is not a casual but systematic viewing. Observation may therefore be defined as "a systematic viewing of a specific phenomenon in its proper setting for the purpose of gathering information for the specific study".

Observation is a method of scientific enquiry. We observe a person or an event or a situation or an incident. The body of knowledge of various sciences such as biology, physiology, astronomy, sociology, psychology, anthropology etc., has been built upon centuries of systematic observation.

Observation is also useful in social and business sciences for gathering information and conceptualizing the same. For example, What is the life style of tribals? How are the marketing activities taking place in Regulated markets? How will the investment activities be done in Stock Exchange Markets? How are proceedings taking place in the Indian Parliament or Assemblies? How is a corporate office maintained in a public sector or a private sector undertaking? What is the behaviour of political leaders? Traffic jams in Delhi during peak hours?

Observation as a method of data collection has some features:

i) It is not only seeing & viewing but also hearing and perceiving as well.

ii) It is both a physical and a mental activity. The observing eye catches many things which are sighted, but attention is also focused on data that are relevant to the problem under study.

iii) It captures the natural social context in which the person's behaviour occurs.

iv) Observation is selective: The investigator does not observe every thing but selects the range of things to be observed depending upon the nature, scope and objectives of the study.

v) Observation is not casual but with a purpose. It is made for the purpose of noting things relevant to the study.

vi) The investigator first of all observes the phenomenon and then gathers and accumulates data.

Observation may be classified in different ways. According to the setting it can be (a) observation in a natural setting, eg. Observing the live telecast of parliament proceedings or watching from the visitors gallery, Electioneering in India through election meetings or (b) observation in an artificially stimulated setting, eg. business games, Tread Mill Test. According to the mode of observation it may be classified as (a) direct or personal observation, and (b) indirect or mechanical observation. In case of direct observation, the investigator personally observes the event when it takes place, where as in case of indirect observation it is done through mechanical devices such as audio recordings, audio visual aids, still photography, picturization etc. According to the participating role of the observer, it can be classified as (a) participant observation and (b) non-participant observation. In case of participant observation, the investigator takes part in the activity, i.e. he acts both as an observer as well as a participant. For example, studying the customs and life style of tribals by living / staying with them. In case of non-participant observation, the investigator observes from outside, merely as an on looker.

Observation method is suitable for a variety of research purposes such as a study of human behaviours, behaviour of social groups, life styles, customs and traditions, inter personal relations, group dynamics, crowd behaviour, leadership and management styles, dressing habits of different social groups in different seasons, behaviour of living creatures like birds, animals, lay out of a departmental stores, a factory or a residential locality, or conduct of an event like a meeting or a conference or Afro- Asian Games.

1.8.3 Case Method

Case method of study is borrowed from Medical Science. Just like a patient, the case is intensively studied so as to diagnose and then prescribe a remedy. A firm, or a unit is to be studied intensively with a view to finding out problems, differences, specialties so as to suggest remedial measures. It is an in-depth/intensive study of a unit or problem under study. It is a comprehensive study of a firm or an industry, or a social group, or an episode, or an incident, or a process, or a programme, or an institution or any other social unit.

According to P.V. Young “a comprehensive study of a social unit, be that unit a person, a group, a social institution, a district, or a community, is called a Case Study”.

Case Study is one of the popular research methods. A case study aims at studying every thing about something rather than something about everything. It examines complex factors involved in a given situation so as to identify causal factors operating in it. The case study describes a case in terms of its peculiarities, typical or extreme features. It also helps to secure a fund of information about the unit under study. It is a most valuable method of study for diagnostic therapeutic purposes.

1.8.4 Experimental Method

Experimentation is the basic tool of the physical sciences like Physics, Chemistry for establishing cause and effect relationship and for verifying inferences. However, it is now also used in social sciences like Psychology,

Sociology. Experimentation is a research process used to observe cause and effect relationship under controlled conditions. In other words it aims at studying the effect of an independent variable on a dependent variable, by keeping the other interdependent variables constant through some type of control. In experimentation, the researcher can manipulate the independent variables and measure its effect on the dependent variable. The main features of the experimental method are :

i) Isolation of factors or controlled observation.

ii) Replication of the experiment i.e. it can be repeated under similar conditions.

iii) Quantitative measurement of results.

iv) Determination of cause and effect relationship more precisely.

Three broad types of experiments are:

a) The natural or uncontrolled experiment as in case of astronomy made up mostly of observations.

b) The field experiment, the best suited one for social sciences. "A field experiment is a research study in a realistic situation in which one or more independent variables are manipulated by the experimenter under as carefully controlled conditions as the situation will permit". (Fred N. Kerlinger)

c) The laboratory experiment is the exclusive domain of the physical scientist.

"A laboratory experiment is a research study in which the variance of all or nearly all of the possible influential independent variables, not pertinent to the immediate problem of the investigation, is kept at a minimum. This is done by isolating the research in a physical situation apart from the routine of ordinary living and by manipulating one or more independent variables under rigorously specified, operationalized, and controlled conditions". (Fred N. Kerlinger).

The contrast between the field experiment and laboratory experiment is not sharp, the difference is a matter of degree. The laboratory experiment has a maximum of control, where as the field experiment must operate with less control.

1.8.5 Historical Method

When research is conducted on the basis of historical data, the researcher is said to have followed the historical approach. To some extent, all research is historical in nature, because to a very large extent research depends on the observations / data recorded in the past. Problems that are based on historical records, relics, documents, or chronological data can conveniently be investigated by following this method. Historical research depends on past observations or data and hence is non-repetitive, therefore it is only a post facto analysis. However, historians, philosophers, social psychiatrists, literary men, as well as social scientists use the historical approach.

Historical research is the critical investigation of events, developments, experiences of the past, the careful weighing of evidence of the validity of the sources of information of the past, and the interpretation of the weighed evidence. The historical method, also called historiography, differs from other methods in its rather elusive subject matter i.e. the past.

In historical research primary and also secondary sources of data can be used. A **primary source** is the original repository of a historical datum, like an original record kept of an important occasion, an eye witness description of an event, the inscriptions on copper plates or stones, the monuments and relics, photographs, minutes of organization meetings, documents. A **secondary source** is an account or record of a historical event or circumstance, one or more steps removed from an original repository. Instead of the minutes of the meeting of an organization, for example, if one uses a newspaper account of the meeting, it is a secondary source.

The aim of historical research is to draw explanations and generalizations from the past trends in order to understand the present and to anticipate the future. It enables us to grasp our relationship with the past and to plan more intelligently for the future.

For historical data only authentic sources should be depended upon and their authenticity should be tested by checking and cross checking the data from as many sources as possible. Many a times it is of considerable interest to use Time Series Data for assessing the progress or for evaluating the impact of policies and initiatives. This can be meaningfully done with the help of historical data.

1.8.6 Comparative Method

The comparative method is also frequently called the evolutionary or Genetic Method. The term comparative method has come about in this way: Some sciences have long been known as “Comparative Sciences” - such as comparative philology, comparative anatomy, comparative physiology, comparative psychology, comparative religion etc. Now the method of these sciences came to be described as the “Comparative Method”, an abridged expression for “the method of the comparative sciences”. When the method of most comparative sciences came to be directed more and more to the determination of evolutionary sequences, it came to be described as the “Evolutionary Method”.

The origin and the development of human beings, their customs, their institutions, their innovations and the stages of their evolution have to be traced and established. The scientific method by which such developments are traced is known as the Genetic method and also as the Evolutionary method. The science which appears to have been the first to employ the Evolutionary method is comparative philology. It is employed to “compare” the different languages in existence, to trace the history of their evolution in the light of such similarities and differences as the comparisons disclosed. Darwin’s famous work “Origin of Species” is the classic application of the Evolutionary method in comparative anatomy.

The whole theory of biological evolution rests on applications of evolutionary method. This method can be applied not only to plants, to animals, to social customs and social institutions, to the human mind (comparative psychology), to human ideas and ideals, but also to the evolution of geological strata, to the differentiation of the chemical elements and to the history of the solar system.

The term comparative method as a method of research is used here in its restricted meaning as synonymous with Evolutionary method. To say that the comparative method is a ‘method of comparison’ is not convincing, for comparison is not a specific method, but some thing which enters as a factor

into every scientific method. Classification requires careful comparison and every other method of science depends upon a precise comparison of phenomena and the circumstances of their occurrence. All methods are, therefore, "comparative" in a wider sense.

1.9 DIFFICULTIES IN BUSINESS RESEARCH

In India, researchers in general, and business researchers in particular are facing several problems. This is all the more true in case of empirical research. Some of the important problems are as follows:

i) The lack of scientific training in the business research methodology is a major problem in our country. Many researchers take a leap in the dark without having a grip over research methodology. Systematic training in business research methodology is a necessity.

ii) There is paucity of competent researchers and research supervisors. As a result the research results many a time do not reflect the reality.

iii) Many of the business organizations are not research conscious and feel that investment in research is a wastage of resources and does not encourage research.

iv) The research and Development Department has become a common feature in many medium and large organizations. But decision makers do not appear to be very keen on implementing the findings of their R & D departments.

v) At the same time, small organizations which are the majority in our economy, are not able to afford a R & D department at all. Even engaging a consultant seems to be costly for them. Consequently, they do not take the help of research to solve their problems.

vi) Many people largely depend on customs, traditions and routine practices in their decision making, as they feel that research does not have any useful purpose to serve in the management of their business.

vii) There are insufficient interactions between the University departments and business organizations, government departments and research organizations. There should be some mechanism to develop university and industry interaction so that both can benefit i.e. the academics can get ideas from the practitioners on what needs to be researched upon and the practioners can apply the research results of the academics.

viii) The secrecy of business information is sacrosanct to business organizations. Most of the business organizations in our country do not part with information to researchers, except public sector organizations which have the culture of encouraging research, many of the private sector organizations are not willing to provide the data.

ix) Even when research studies are undertaken, many a time, they are overlapping, resulting in duplication because there is no proper coordination between different departments of a university and between different universities.

x) Difficulty of funds. Because of the scarcity of resources many university departments do not come forward to undertake research.

xi) Poor library facilities at many places, because of which researchers have to spend much of their time and energy in tracing out the relevant material and information.

xii) Many researchers in our country also face the difficulty of inadequate computerial and secretarial assistance, because of which the researchers have to take more time for completing their studies.

xiii) Delayed publication of data: There is difficulty of timely availability of upto date data from published sources. The data available from published sources or governmental agencies is old. At least 2 to 3 years time lag exists as a result the data proves irrelevant.

xiv) Social Research, especially managerial research, relates to human beings and their behaviour. The observations, the data collection and the conclusions etc must be valid. There is the problem of conceptualization of these aspects.

xv) Another difficulty in the research arena is that there is no code of conduct for the researchers. There is need for developing a code of conduct for researchers to educate them about ethical aspects of research, maintaining confidentiality of information etc.

In spite of all these difficulties and problems, a business enterprise cannot avoid research, especially in the fast changing world. To survive in the market an enterprise has to continuously update itself, it has to change its attitudes, approaches, products, technology, etc., through continuous research.

Self Assessment Exercise C

1) What is meant by Survey?

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2) Distinguish between observation and experiment.

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3) What are the comparative sciences?

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4) What is a Case Study?

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5) List out five important difficulties faced by business researchers in India.

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1.10 BUSINESS RESEARCH PROCESS

In abstract terms research is research everywhere and the research process also is more or less the same, whether it is business research or agricultural research or educational research. Of course, here and there certain modifications may be required to suit the specified requirements of the area of research. The business research process also consists of a number of stages: Planning the research activity, execution of the plan and finally consolidation of the results of the research activity or reporting. The important activities involved in the research process are listed below:

i) Selection of a research problem or researchable area.

ii) Acquaintance with the current theory and knowledge and work done in that area.

iii) Definition and specification of the research problem more clearly.

iv) Formulation of research hypothesis or at least research objectives.

v) Identification of the sources of data.

vi) Creation and construction of data collection instruments like Questionnaire, Schedules, Scales etc.

vii) Pre-testing of the instruments and their possible revision.

viii) Formal acquisition of data and information, through survey, observation, interview etc.

ix) Processing and analysis of the data.

x) Interpretation of the data and formal write up i.e., reporting.

These aspects are dealt with in detail in the units that follow:

Specifically, aspects (i) to (iv) are covered in unit-2, aspects (v) to (viii) are covered in units 3,4 and 5, processing and presentation aspects of (ix) are discussed in units 6 & 7, and analytical tools and techniques of data analysis of (ix) are elaborated in units 8 to 17, interpretation aspects of (x) are discussed in unit 18 and reporting aspects in unit 19. Therefore, the above aspects are not elaborated in this unit.

1.11 LET US SUM UP

Research is a part of any systematic knowledge. It is essentially a systematic investigation to discover answers to problems, seeking facts / truth. The word Science can be understood in two senses.

– Science as an organized body of knowledge and science as a method leading to knowledge. All sciences are knowledge, but all knowledge is not science.

Empirical studies have a great potential for they lead to inductions and deductions. Induction is the process of reasoning to arrive at generalizations

from particular facts. Deduction is a way of making a particular inference from a generalization.

Research is very useful to business organizations and their managers in a number of ways. It facilitates timely and objective decisions. It helps in solving business problems. It helps in providing answers to many business questions. It is of immense use to business in its functional areas. Marketing research, personnel research, production management research, financial management research, accounting research are examples.

Research can be classified into different types for the sake of better understanding. Several bases can be used for this classification such as branch of knowledge, nature of data, coverage, application, place of research, research methods used, time frame etc., and the research may be known as that type.

The research has to provide answers to the research questions raised. For this the problem has to be investigated and relevant data has to be gathered. The procedures adopted for obtaining the data and information are described as methods of research. There are six methods viz., Survey, Observation, Case, Experimental, Historical and Comparative methods.

Survey is a fact finding enquiry conducted in a natural setting/field, soliciting responses from people known to have knowledge about the problem under study. Observation is a systematic viewing of a specific phenomenon in its proper setting for gathering information. A comprehensive or in-depth study of an element of research is called a case study. Experimentation is a research process used to observe cause and effect relationship under controlled conditions. Historical research depends on past observations or past data and hence is a post facto analysis. The comparative method is an evolutionary method employed to trace the evolution, similarities and differences between the elements under study.

The business researcher in India has to face certain difficulties such as lack of scientific research training, paucity of competent researchers and research supervisors, non-encouragement of research by business organizations, small business organizations are not able to afford R & D departments, lack of scientific orientation in business management, insufficient interaction between industry and university, funding problems, poor library facilities, delayed availability of published data etc.

The business research process involves a number of stages such as selection of a researchable problem, review of previous work on that problem, specification of the problem, formulation of hypotheses / objectives, identifying sources of data, construction of data collection instruments and their pre-testing, collection of data, processing and analysis of data and finally interpretation and Report writing.

1.12 KEY WORDS

Deduction : It is a way of making a particular inference from a generalization.

Empirical : Relying/based on experience/observation/experiment

Fact : An event that is true/happened

Induction : It is a process of reasoning to arrive at generalizations from particular facts.

Knowledge : Having Information, acquaintance with facts.

Method : A way or mode of doing anything.

Observation : Systematic viewing of things to gather information.

Research : It is a systematic search for pertinent information on a specific topic.

Science : It may mean accumulated body of knowledge or it may mean a process leading to knowledge.

1.13 ANSWERS TO SELF ASSESSMENT EXERCISES

A. 1) Research is a systematic endeavour to discover answers to questions.

2) Science means Knowledge.

3) All Sciences are knowledge but all knowledge is not science.

4) A fact is a verifiable observation.

B. 1) Induction is a reasoning from particular to general, where as deduction is a reasoning from general to particular.

2) R & D helps the organization in discovery and invention.

3) By providing not only facts and figures to support decisions, but also enabling to choose one which is best.

4) Quantitative is variables based, where as qualitative is attribute based.

5) Descriptive, analytical, evaluation, exploratory studies.

C. 1) It is a fact finding from the respondents

2) Observation is an uncontrolled experiment, and experiment is a controlled observation.

3) Comparative philology, comparative anatomy, comparative religion, comparative psychology etc.

4) An intensive study of a person, a group, an incident or an institution is a case study.

1.14 TERMINAL QUESTIONS

A. Short answer Questions:

1) What do you mean by research?

2) What do you mean by Science?

3) What is knowledge?

4) What is inductive logic?

5) What is meant by deduction?

6) What are the different areas of business research?

7) What are the bases used for classifying research into different types?

8) List the various methods of research.

9) Distinguish between qualitative and quantitative data.

10) What are the stages in the business research process?

B. Essay Type Questions:

1) Define the concept of research and analyze its characteristics.

2) Define the term Science and distinguish it from knowledge.

3) Explain the significance of business research.

4) Write an essay on various types of research.

5) What do you mean by a method of research? Briefly explain different methods of research.

6) Explain the significance of research in various functional areas of business.

7) What is Survey Research? How is it different from Observation Research?

8) Write short note on:

   a) Case Research

   b) Experimental Research

   c) Historical Research

   d) Comparative Method of research

9) What are the difficulties faced by researchers of business in India?

10) What is meant by business research process? What are the various stages / aspects involved in the research process.

> **Note:** These questions/exercises will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the university for assessment. These are for your practice only.

1.15 FURTHER READING

The following text books may be used for more indepth study on the topics dealt with in this unit.

Fred N. Kerlinger. *Foundations of Behavioural Research*, Surjeet Publications, Delhi

J.F.Rummel & W.C.Ballaine. *Research Methodology in Business*, Harper & Row, Publishers, Newyork

P.V.Young. *Scientific Social Surveys and Research*, Prentice-Hall of India, New Delhi

C.R.Kothari, *Research Methodology (Methods and Techniques)*, New Age International Pvt. Ltd. New Delhi

T.S. Wilkinson & P.L.Bhanarkar. *Methodology and Techniques of Social Research*, Himalaya Publishing House, Mumbai