### INTRODUCTION TO RESEARCH

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# CHAPTER - 1

## INTRODUCTION TO RESEARCH

### Topics Covered

- 1.1 Meaning of Research
- 1.2 Objectives/Purposes of Research
- 1.3 Scientific Base of Research
- 1.4 Criteria of A Good Research
- 1.5 Classification of Research
- 1.6 Significance of Research
- 1.7 Scope of Research
- 1.8 Steps in Conducting A Research
- 1.9 Phases of Research
- 1.10 Research Method/Technique Versus Methodology

#### 1.1 MEANING OF RESEARCH

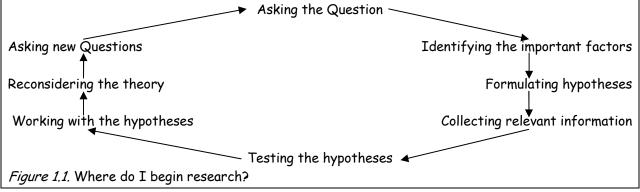
The word "research" originated from the old French word "recerchier" meaning to search and search again. It literally implies repeating a search for something and implicitly assumes that the earlier search was not exhaustive and complete in the sense that there is still scope for improvement. Research in common parlance refers to a search for knowledge. It may be defined as a scientific and systematic search for pertinent information on a specific topic/area. In fact, research is an art of scientific investigation. The Advanced Learner's Dictionary of Current English lays down the meaning of research as "a careful investigation or inquiry especially through search for new facts in any branch of knowledge". Redman and Mory define research as "a systematized effort to gain new knowledge". Some people consider research as a movement, a movement from known to unknown. It is actually a voyage of discovery.

Research is a scientific approach of answering a research question, solving a problem or generating new knowledge through a systematic and orderly collection, organization, and analysis of information with an ultimate goal of making the research useful in decision-making. Systematic research in any field of inquiry involves three basic operations-

- 1. Data collection: It refers to observing, measuring, and recording information.
- 2. Data analysis: It refers to arranging and organizing the collected data so that we may be able to find out what their significance is and generalize about them.
- 3. Report writing: It is an inseparable part and a final outcome of a research study. Its purpose is to convey information contained in it to the readers or audience.

In this context, legal research is defined as 'systematic' finding law on a particular point and making advancement in the science of law. It involves a systematic search of legal materials, statutory, subsidiary and judicial pronouncements. For making advancement in the science of law, one needs to go into the 'underlying principles or reasons of the law'. These activities warrant a systematic approach. An approach becomes systematic when a researcher follows scientific method. Research is systematic, because it follows certain steps that are logical in order. These steps are-

- > Understanding the nature of problem to be studied and identifying the related area of knowledge.
- > Reviewing literature to understand how others have approached or dealt with the problem.
- > Collecting data in an organized and controlled manner so as to arrive at valid decisions.
- > Analyzing data appropriate to the problem.
- Drawing conclusions and making generalizations.



Thus, legal research is the process of identifying and retrieving information necessary to support legal decision-making. It includes in it each step of a course of action that begins with an analysis of

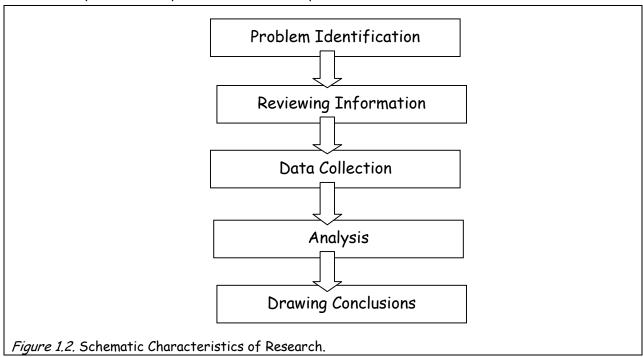
the facts of a problem and concludes with the application and communication of the results of the investigation.

#### Characteristics of Research

Research is a process through which we attempt to achieve systematically and with the support of data the answer to a question, the resolution of a problem, or a greater understanding of a phenomenon. This process has eight distinct characteristics.

Research...

- 1. Originates with a question or problem.
- 2. Requires a clear articulation of a goal.
- 3. Follows a specific plan of procedure.
- 4. Usually divides the principal problem into more manageable sub-problems.
- 5. Is guided by the specific research problem, question, or hypothesis.
- 6. Accepts certain critical assumptions.
- 7. Requires the collection and interpretation of data in attempting to resolve the problem that initiated the research.
- 8. Is by its nature, cyclical; or more exactly, helical.



#### 1.2 OBJECTIVES/ PURPOSES OF RESEARCH

The principal objective or purpose of research in any field of inquiry is to add to what is known about the phenomenon under the investigation through the application of scientific methods. The purpose of research is the following-

- 1. Exploration
- 2. Description
- 3. Causal Explanation
- 4. Prediction.

Exploration: Exploration is finding out about some previously unexamined phenomenon. It is particularly useful when researchers lack a clear idea of the problems they will meet during the course of the study. Through exploration, researchers -

- Develop concepts more clearly
- Establish priorities
- Develop operational definitions
- Formulate research hypotheses, and
- Improve the final research design.

Explorative studies tend toward loose structures with the objective of discovering future research tasks. One might think, for example, of initiating an exploratory research in the following situations

- Crime is increasing in the city at an alarming rate, the reasons for which remain unknown. The problem is ambiguous and what is actually happening is to be cleared.
- A new product is to be marketed, the manufacturer remains in worry if the product will be accepted by the people or not.

Description: Description refers to the data based information-gathering activities. The situations and events which are described through studies are referred to as descriptive studies. Descriptive studies try to discover answers to the questions who, what, when, where and sometimes how. A descriptive study may be feasible in the following cases -

- What are the characteristics of the people who are involved in city crime? Are they young?
   Middle aged? Poor?
- Who are the potential buyers of the new product? Men or women? Urban people or rural people?

Causal Exploration: An explanatory study goes beyond description and attempts to establish cause-and-effect relationship between variables. It explains the reason for the phenomenon that describes study observed. Thus, if a researcher finds that communities having higher family size have higher child death, s/he is performing a descriptive study. If researcher is explaining why it is so and tries to establish cause-and-effect relationship, s/he is performing an explanatory study. Such studies are also called causal studies. Following examples fit to causal studies -

- Why people are involved in crime? Can we explain this as a consequence of present crisis in the job market? Or for lack of parental care?
- Will buyers be motivated to purchase the new product in a new container? Can attractive advertisement motivate them?

*Prediction:* Prediction seeks to answer when and in what situations the event will occur, if it can be provided plausible explanation for the vent in question. In addition to being able to explain an event after it has occurred, it will be able to predict when the event will occur.

Hence, research objective of a given research study may fall under either of the following broad categories.

To...

- Gain familiarity with a phenomenon or to achieve new insights into it.
- Portray accurately the characteristics of a particular individual, situation or a group.
- Determine the frequency with which something occurs or with which it is associated.
- Test causal relationship between two or more than two facts or situations.
- Know and understand a phenomenon with a view to formulating the problem precisely.

Describe accurately a given phenomenon and to test hypotheses about relationships among its different dimensions.

Some others objectives of research may be spell out as follows.

To...

- Provide solutions to complex problems;
- Investigate laws of nature;
- Make new discoveries:
- Develop new products;
- Save costs;
- Improve our life, and
- > Human desires.

#### 1.3 SCIENTIFIC BASED OF RESEARCH

For clear perception about research one should know the meaning of scientific method. Scientific method is the pursuit of truth as determined by logical considerations. The ideal of science is to achieve a systematic interrelation of facts. Scientific method attempts to achieve this ideal by experimentation, observation, logical arguments from accepted postulates and a combination of these three in varying proportions. The scientific method is based on certain basic postulates which can be stated as follows. It...

- ✓ relies on empirical evidence,
- ✓ utilizes relevant concepts,
- ✓ is committed to only objective considerations,
- √ presupposes ethical neutrality,
- ✓ results into probabilistic predictions,
- ✓ is made known to all concerned through replication, and
- ✓ aims at formulating most general axioms.

Thus, scientific method implies an objective, logical and systematic method, i.e., a method free from personal bias or prejudice, a method to ascertain demonstrable qualities of a phenomenon capable of being verified, a method wherein the researcher is guided by the rules of logical reasoning, a method wherein the investigation proceeds in an orderly manner and a method that implies internal consistency.

Table 1.1
Characteristics of Scientific and Nonscientific Method to Knowledge

Research	Non-scientific Method	Scientific Method
General Approach	Intuitive	Empirical
Observation	Casual, uncontrolled	Systematic, controlled
Reporting	Biased, subjective	Unbiased, objective
Concepts	Ambiguous, with surplus meanings	Clear definitions, operational specificity
Instruments	Inaccurate, imprecise	Accurate, precise
Measurement	Not valid or reliable	Valid and reliable
Hypotheses	Un-testable	Testable
Attitude	Uncritical, accepting	Critical, skeptical

#### 1.4 CRITERIA OF A GOOD RESEARCH

Whatever the types of research works have been done, they all meet on the common ground of scientific method. Scientific research to satisfy the following criteria -

Purpose of the research should be clearly defined and common concepts be used.

- \* Research procedure used should be described in sufficient detail to permit another researcher to repeat the research for further advancement.
- Procedural design of the research should be carefully planned to yield results that are as objective as possible.
- \* Researcher should report with complete frankness, flaws in procedural design and estimate their effects upon the findings.
- Analysis of data should be sufficiently adequate to reveal its significance and the methods of analysis used should be appropriate. The validity and reliability of the data should be checked carefully.
- Conclusions should be confined to those justified by the data of the research.

A good research has also the following qualities -

- 1. It is systematic: Research is structured with specified steps to be taken in a specified sequence in accordance with the well defined set of rules. Systematic characteristic of the research does not rule out creative thinking but it certainly does reject the use of guessing and intuition in arriving at conclusions.
- 2. It is logical: Research is guided by the rules of logical reasoning and the logical process of induction and deduction are of great value in carrying out research. Induction is the process of reasoning from a part to the whole whereas deduction is the process of reasoning from some premise to a conclusion which follows from that very premise. In fact, logical reasoning makes research more meaningful in the context of decision making.
- 3. Good research is empirical: Research is related basically to one or more aspects of a real situation and deals with concrete data that provides a basis for external validity to research results.
- 4. *Good research is replicable:* Research results to be verified by replicating the study and thereby building a sound basis for decisions.

#### 1.5 CLASSIFICATION OF RESEARCH

It is beneficial if you can classify a research study under a specific category because each category or type of research uses a specific set of procedures. There are two ways of classifying research -

- > One way is to classify research on the basis of its purpose, and
- > The other is to classify research on the basis of the *method* employed in research.

Taking purpose as the basis of classification, research is considered to be three types - Basic, Applied (including Developmental research) and Evaluative. The other basis for classifying research is by the method it employs. Research method is characterized by the techniques employed in collecting and analyzing data. On the basis of method, research can be classified as historical, descriptive, correlational, ex-post facto and experimental.

Basic Research: When the solution to the research problem has no apparent applications to any existing practical problem but only of the scholarly interests of a community of a researcher, the research is called basic reach. Basic research attempts to generate and expand the fundamental knowledge about social world. It has no practical value or has little direct impact on action, performance or policy decision. Basic researchers are more detached and academic in their approach and tend to have their own motives. Example of pure research is - a social researcher in a developed country has investigated if there is any relationship between religion and occupation. If we attempt to see the relationship found in developed countries is also present in the developing country, we are doing a basic research. *Pure basic research* is experimental and theoretical work

undertaken to acquire new knowledge without looking for long-term benefits other than the advancement of knowledge. Strategic basic research is experimental and theoretical work undertaken to acquire new knowledge directed into specified broad areas in the expectation of useful discoveries. It provides the broad base of knowledge necessary for the solution of recognized practical problems.

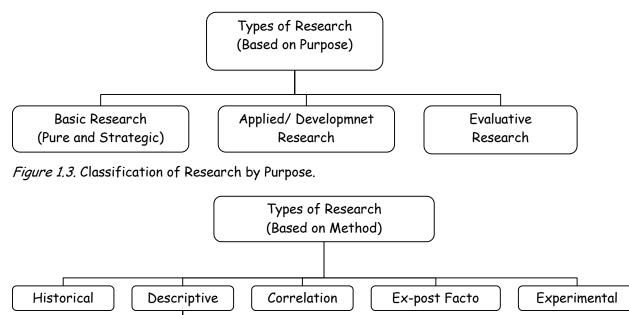


Figure 1.4. Classification of Research by Method.

Survey

Case

Applied Research: It variously known as action research, operations research, social research, decision-linked research, is a type of research that covers a wide range of social science areas. Applied research is inspired by the needs of social action and aims at finding a practical solution for an immediate problem of the sociality making optimal use of the available resources. The problem-solving nature of the applied research means it is conducted to reveal answers to specific questions related to action, performance or policy needs. Example that demonstrates what the applied research is - it has been observed that in Bangladesh, the proportion of women who are delivered through Caesarian section is very high. It is suspected that small height is one of the risk factors to difficult deliveries. A study may therefore be conducted to verify if this is the case.

Content Analysis

**Evaluative Research:** It is concerned with the evaluation of such occurrences as social and organizational programs or intervention. Evaluative research attempts to-

- Assess implemented activities;
- Examine effects of activities;
- Assess short-term effects;
- Determine the impact of a program; and
- Evaluate success of intervention.

The use of the principles of experimental design is fairly entrenched in evaluation research, but other approaches have merged in recent years. An example is cited - Goiter is highly, prevalent in

many parts of Bangladesh. UNICEF, Bangladesh initiated lipiodol injection campaign in some selected Thana in 1989. After a period of two years, the impact of this campaign was evaluated. The results were compared with another area where no such campaign was launched.

Table 1.2

Comparison between Basic and Applied Research

comparison between basic and Applied Research	
Basic Research	Applied Research
Research problems and subjects are selected	Research problems are narrowly constrained to the
with a great deal of freedom.	demands of client or the sponsor.
Research is judged by absolute norms and	The rigor and standard of scholarship depend on the
scientific rigor, and the highest standard of	uses of results.
scholarship is sought.	
The primary concern is with the internal logic	The primary concern is with the ability to generalize
and rigor of research design.	findings to areas of interest to sponsor/client.
The driving goal is to contribute to basic,	The driving goal is to have practical payoffs or use of
theoretical knowledge.	results.
Success comes when results appear in a	Success comes when results are used by sponsor/
scholarly journal and have an impact in the	client in decision making.
scientific community.	

**Historical Research:** It is that which utilizes historical sources like documents, remains, etc. to study events or ideas of the past, including the philosophy of persons and groups at any remote point of time. The purpose of historical research is to arrive at conclusions concerning trends, causes or effects of past occurrences. This may help in explaining present events and anticipating future events.

Descriptive Research: It includes case studies, surveys and fact-findings enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs, as it exists at present. The main characteristic of this method is the researcher has no control over the variables; s/he can only reprot what has happened or what is happening. Descriptive research studies deal with collecting data and testing hypotheses or answering questions concerning the current status of the subject of study. It deals with the question 'what is' of a situation. It concerns with determining the current practices, status or features of situations. Another aspect of descriptive research is that data collection is either done through asking questions from individuals in the situation (through questionnaires or interviews) or by observation. Market study on peoples choice is mostly descriptive research.

Correlational Research: Descriptive and historical researches provide a picture of events that are currently happening or have occurred in the past. Researchers often want to go beyond mere description and begin discussing the relationship that certain events might have to one another. The most likely type of research to answer the relationship among variables or events is called correlational research. It aims at determining the degree of relationship between two or more quantifiable variables. Secondly, the relationship thus determined could be used for making predictions. A high value of relationship, however, does not signify a cause and effect relationship which must be verified through experimental study. This research is often conducted to test the reliability and predictive validity of instruments used for division making concerning selection of individuals for the likely success in a course of study or a specific job. Some authors consider this research as a type of descriptive research, since it describes the current conditions in a situation.

However, the difference lays in the nature of conditions studies. A correlational study describes in quantitative terms the degree to which the variables are related.

**Ex-post Facto Research**: There is some research where both the effect and the alleged cause have already occurred and are studied by the researcher in retrospect. Such research is referred to as Ex-post Facto (after the fact). Kerlinger (1973) defines Ex-post Facto research as: "Systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable". Thus, in ex-post facto research or causal-comparative research the researcher has no control on the variables or s/he cannot manipulate the variables (independent variables) which cause a certain effect (dependent variables) being measured. Since this type of study lacks manipulation of variables, the cause-effect relationship measured are only tentative. Some authors categorize Expost facto studies into the category of descriptive research. Though it too describes conditions that exist in a situation, it attempts to determine reasons or causes for the current status of the phenomena under study. The procedures involved in this study are quite different than those in descriptive research.

Experimental Research: We already know that correlational research can help establish the presence of a relationship among variables but not give us any reason to believe that variables are causally related to one another. How does one find out if the characteristics or behaviors or events are related in such a way that the relationship is a causal one? Two types of research can answer this: (1) quasi-experimental research and (2) experimental research. Experimental research is where participants are assigned to groups based on some selected criterion often called treatment variable. Quasi-experimental research is where participants are pre-assigned to groups based on some characteristic or quality such as differences in sex, race, age, neighborhood, etc. These group assignments have already taken place before the experiment begins, and the researcher has no control as to what the people will belong to each group. The primary characteristic of experimental research is manipulation of at least one variables and control over the other relevant variables so as to measure its effect on one or more dependent variables. The variable (s) which is manipulated is also called an independent variable, a treatment, an experimental variables or the cause. Some of the examples of independent variables could be: temperature, pressure, chemical concentration, type of material and conductivity. Experimental research will always have two or more groups for comparison on the dependent variables. It is the only type of research which can establish truly the cause and effect relations.

#### Some Other Types of Research

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

Quantitative Research: It is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity.

Qualitative Research: It is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind. For instance, when we are interested in investigating the reasons for human behaviour (i.e., why people think or do certain things), we quite often talk of "Motivation Research", an important type of qualitative research. This type of research aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Attitude or opinion research i.e., research designed to find out how people feel or what they think about a particular subject or institution is also qualitative research. Qualitative research is specially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour.

Conceptual Research: It is that related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones.

Longitudinal Research: From the point of view of time, we can think of research either as one-time research or longitudinal research. In the former case the research is confined to a single time-period, whereas in the latter case the research is carried on over several time-periods. Historical research, case study, genetic comes under longitudinal approach of research.

Cross Sectional Research: This type of studies are designed to look at a variable at a particular point in time. Longitudinal studies involve taking multiple measures over an extended period of time, while cross-sectional research is focused on looking at variables at a specific point in time. Experimental research, survey are the examples of cross sectional research.

Clinical or Diagnostic Research: Clinical or diagnostic research follow case-study methods or indepth approaches to reach the basic causal relations. Such studies usually go deep into the causes of things or events that interest us, using very small samples and very deep probing data gathering devices.

Baseline/Bench-mark Survey/Research: A baseline survey is a research in which data on pre-project socio-economic and business aspects are generated in order to facilitate the assessment of future impact of project intervention. A baseline survey is conducted in the absence of available published data on various socio-economic and business aspects.

Impact Assessment: The research, which is undertaken to measure the quantitative benefits derived out of project intervention and qualitative changes that occurred due to project intervention, is known as an impact assessment research. This type of research also provides information for identifying the negative impact of the project.

Feasibility Studies: This type of research is undertaken prior to starting of any business enterprise or any business related project. This type of research is done to assess the technical, economic, market and financial viability of the project. The issue whether the project is socially desirable and environmentally acceptable is also taken into consideration.

Research can also be classified as conclusion-oriented and decision-oriented. While doing conclusion-oriented research, a researcher is free to pick up a problem, redesign the enquiry as s/he proceeds and is prepared to conceptualize as s/he wishes. Decision-oriented research is always for the need of a decision maker and the researcher in this case is not free to embark upon research according to his/her own inclination. Operations research is an example of decision oriented research since it is a scientific method of providing executive departments with a quantitative basis for decisions regarding operations under their control.

#### 1.6 SIGNIFICANCE OF RESEARCH

- Research is important for researchers in studying social relationship and in seeking answers to various social problems.
- Research provides the basis for nearly all government policies in our economic system.
- Research has its special significance in solving various operational and planning of business and industry.
- Research is needed to develop strategies and models in rural development.
- The role of research in several fields of applied economics, whether related to business or to the economy as a whole, has greatly increased in modern items.
- Research inculcates scientific and inductive thinking and it promotes the development of logical habits of thinking and organization.
- To students who are to write a master's or PhD thesis, research may mean a way to attain a high position in the social structure.
- To professionals, research may mean a source of livelihood.
- To literary men and women, research may mean the development of new style and creative work.
- To analysts and intellectuals, research may mean the generalizations of new theories.

Thus, research is the foundation of knowledge for the sake of knowledge and an important source for providing guidelines for solving different business, government and social problems.

#### 1.7 SCOPE OF RESEARCH

Research is the systematic investigation and study of materials and sources to establish facts and reach new conclusions, so it shapes people's understanding of the world around them. Through research findings, researchers are able to explain individuals' behaviors, including how people think and act in certain ways. This helps to determine disorders and their impact on the person and society, thus developing appropriate treatments to improve the individual's quality of life. In business, market research helps companies to make projections and formulate appropriate strategies to ensure survival. Businesses conduct surveys to understand the needs of the community and consumption habits. Research has led to the introduction of new medical treatments and cures that have helped counter several diseases, thus increasing human life expectancy.

#### SOCIAL RESEARCH

Social research is connected with the social life. The two cannot be separated. Social research is in fact a part of the scientific study/approach. Social research investigates and verifies social phenomena and social realities, the facts about social life and formulates laws this regard. After the laws have been formulated, investigation is carried out and inter-relationships between various facts and laws are established. Through these steps we are able to collect data and knowledge about society. It provides scientific knowledge about social problems and helps the researcher to find out solutions to them. In brief, the goal of social research primarily is to explore and gain an understanding of human behavior. It tries to investigate the relationship that exists between various facts and phenomena of social life. A research aims to establish a scientific knowledge. Hence the purpose of social science research is to establish scientific, empirical knowledge about the human society. Thus, the scope of social research centers on the use of scientific method for the establishment of scientific knowledge of the society with the use of a scientific method. Scientific method is characterized by verifiability, ethical neutrality, accuracy, precision, objectivity, and it is systematic, its production based on probability. The scope and method of social research is both wide and complex because it involves the comprehension of social reality whose

nature is very complex unlike the physical reality. Social research also covers the field of social planning as social research guides the social planning process. Adequate social planning depends for its success on the systematic knowledge of the social resources and liabilities.

Hence, the social science has a wide scope. The social sciences comprise academic disciplines concerned with the study of the social life of human groups, animals and individuals including anthropology, archeology, communication studies, cultural studies, demography, economics, human geography, history, linguistics, media studies, political science, psychology, social work and sociology. Mathematics and study of history, poetry or politics had no difference in the past. With the development of mathematical proof the people perceived the difference between scientific disciplines and others. Aristotle studied poetry and planetary motion at the same time with the same methods, and Plato mixed geometrical proofs with his demonstration on the state of intrinsic knowledge.

Following are the main branches of social sciences that deal with the modern problems of the modern world of 21st century.

- Economics is a social science that seeks to analyze and describe the production, distribution, and consumption of wealth.
- History is the continuous, systematic narrative and research of past events as relating to the human species; as well as the study of all events in time, in relation to humanity. History can be seen as the sum total of many things taken together and the spectrum of events occurring in action following in order leading from the past to the present and into the future. The historical method comprises the techniques and guidelines by which historians use primary sources and other evidence to research and then to write history.
- Linguistics investigates the cognitive and social aspects of human language. The field is divided into areas that focus on aspects of the linguistic signal, such as syntax (the study of the rules that govern the structure of sentences), semantics (the study of meaning), phonetics (the study of speech sounds) and phonology (the study of the abstract sound system of a particular language); however, work in areas like evolutionary linguistics (the study of the origins and evolution of language) and psycholinguistics (the study of psychological factors in human language) cut across these divisions.
- ❖ Political science is an academic and research disciplines that deals with the theory and practice of politics and the description and analysis of political systems and political behavior. Fields and subfields of political science include political economy, political theory and philosophy, civics and comparative politics, theory of direct democracy, apolitical governance, participatory direct democracy, national systems, cross- national political analysis, political development, international relations, foreign policy, international law, politics, public administration, administrative behavior, public law, judicial behavior, and public policy. Political science also studies power in international relations and the theory of Greatpowers and Superpowers.
- Sociology is the study of society and human social action. It generally concerns itself with the social rules and processes that bind and separate people not only as individuals, but as members of associations, groups communities and institutions and includes the examination of the organization and development of human social life. The sociological field of interest ranges from the analysis of short contacts between anonymous individuals on the street to the study of global social process.

There are so many other fields that enhance the scope of social sciences in the century of machines. Human life is enveloped by social sciences in one shape or other. The man of 21st century

is surrounded by unlimited problems; social sciences are the solutions of these problems. Natural science talks about the facts of the universe; it is social sciences that deal with these facts.

#### BUSINESS RESEARCH

Business research is described as the systematic and objective procedure for producing information for help in making business decisions. Business research should be objective, which means that the information found needs to be detached and impersonal instead of biased. Research facilitates the managerial decision process for all aspects of a business. By lowering the uncertainty of decisions, it cuts down on the risk of making incorrect decisions. Research should be an aid to managerial judgment but not a replacement for it. Scope of business research includes the following areas-

- Production Management: Research performs an important function in product development, diversification, introducing a new product, product improvement, process technologies, choosing a site, new investment etc.
- Personnel Management: Research works well for job redesign, organization restructuring, development of motivational strategies and organizational development.
- Marketing Management: Research performs an important part in choice and size of target market, the consumer behavior with regards to attitudes, life style, and influences of the target market. It is the primary tool in determining price policy, selection of channel of distribution and development of sales strategies, product mix, promotional strategies, etc.
- Financial Management: Research can be useful for portfolio management, distribution of dividend, capital raising, hedging and looking after fluctuations in foreign currency and product cycles.
- Materials Management: It is utilized in choosing the supplier, making the decisions relevant to make or buy as well as in selecting negotiation strategies.
- General Management: It contributes greatly in developing the standards, objectives, long-term goals, and growth strategies.

To perform well in a complex environment, you will have to be equipped with an understanding of scientific methods and a way of integrating them into decision making. You will have to understand what good research means and how to conduct it. Since the complexity of the business environment has amplified, there is a commensurate rise in the number and power of the instruments to carry out research.

#### LEGAL RESEARCH

Legal research becomes necessary -

- for ascertainment of law on a given topic or subject,
- to highlight ambiguities and inbuilt weaknesses of law,
- to critically examine legal provisions, principles or doctrines with a view to see consistency, coherence and stability of law and its underlying policy,
- to undertake social audit of law with a view to highlighting its pre-legislative 'forces' and post-legislative 'impacts', and
- to make suggestions for improvements in, and development of law.

Legal research takes into its ambit -

Doctrinal Research: It is a research into legal rules, principles, concepts or doctrines. It involves a rigorous systematic exposition, analysis and critical evaluation of legal rules, principles or doctrines and their inter-relationship. It arranges the existing law in order and provides thematic parameters

for such an order. It also concerns with critical review of legislations and of decisional processes and their underlying policy.

Research in Theory: It involves an inquiry into conceptual bases of legal rules, principles or doctrines. It provides stimulus and intellectual infrastructure for empirical research as well as for advancements in law through legislative, judicial and administrative process.

Empirical Investigations: It assesses impact of law and reveals the gap between legal idealism and social reality. Perceiving the idea of law as a social phenomenon, a researcher explores social, political, economic and cultural dimensions or implications of law.

Reform-oriented Research: It, based on empirical study and critical examination of law, recommends changes in law and legal institutions.

Legal research, to sum up, needs to be carried out for the following reasons. To...

- Ascertain laws on a given topic or subject.
- Identify 'gaps' and 'ambiguities' in law.
- Critically examine consistency, coherence and stability of law and legal propositions.
- Undertake 'social auditing of law' [i.e. auditing pre-Legislative 'forces' and post-Legislative 'impacts' of law].
- Suggest reforms/developments in law by undertakings research intended.

То...

- a. investigate 'gap' between the 'legal ideals' and 'actual practice',
- b. understand 'effectiveness' or 'impact' of law in a given social set-up at a given time,
- c. find out as to whether law is serving the needs of the society and has a social value,
- d. make suggestions for improvements in the law on concrete formulations and proposals,
- e. predict future trends of law.

#### RESEARCH IN ARTS AND HUMANITIES

The scope of research in arts and humanities are important because -

- > Humanities help us understand others through their languages, histories and cultures.
- > They foster social justice and equality.
- > They reveal how people have tried to make moral, spiritual and intellectual sense of the world.
- Humanities teach empathy.
- > They teach us to deal critically and logically with subjective, complex, imperfect information.
- > They teach us to weigh evidence skeptically and consider more than one side of every question.
- Humanities students build skills in writing and critical reading.
- > Humanities encourage us to think creatively. They teach us to reason about being human and to ask questions about our world.
- Humanities develop informed and critical citizens. Without the humanities, democracy could not flourish.

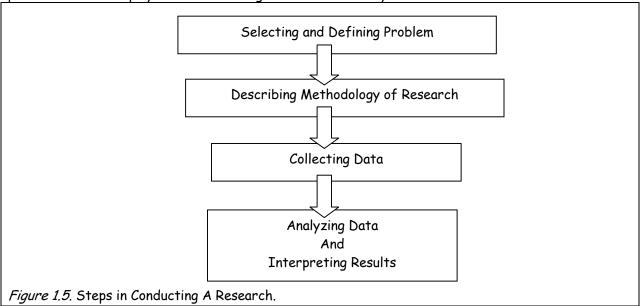
#### 1.8 STEPS IN CONDUCTING A RESEARCH

Irrespective of the category of a research study, the steps followed in conducting it are the same. These steps are -

Selecting and Defining Problem: This marks the beginning of a research study and is the most difficult and important step. This involves - (i) identifying and stating the problem in specific terms; (ii) identifying the variables in the problem situation and defining them adequately; (iii) generating tentative guesses (hypotheses) about the relation of the variables or in other words the solution of the problem, or writing explicitly the questions (research questions) for which answers are sought;

and (iv) evaluating the problem for its research ability. To achieve this, you review the literature related to the problem to know what other researchers have done and discovered and to identify the possible methodology for conducting the research.

Describing Methodology of Research: You need to state the purpose of the study and to define the problem clearly. This guides you in deciding the methodology of research which involves: (a) identifying the method of research; (b) specifying the subjects of study; (c) selecting an adequate representative sample of subjects; (d) selecting/constructing valid and reliable instruments for measuring the variables in the problem; (e) selecting a research design and describing the procedure to be employed for conducting the research study.



Collecting Data: This step involves conducting the study as per the designed procedure (manipulating the experimental variables in the case of an experimental method), administering instruments for measuring variables and/or gathering information through observation. It also involves tabulating the data thus collected for the purpose of analysis.

Analyzing and Interpreting Results: The results of the study are generated at this stage. The data are summarized, in other words analyzed to provide information for testing the hypotheses. Appropriate statistical methods of analysis are used to test the hypotheses. You can perform the analysis manually, by using a hand calculator or a computer as per the demands of the problem, and the available facilities. After completing the analysis results are tied together or summarized. The results are interpreted in the light of the hypotheses and/or the research problem. These are then discussed in relation to: the existing body of knowledge, consistencies and inconsistencies with the results of other research studies, and then the conclusions are drawn. This is followed by writing the research report.

#### 1.9 PHASES OF RESEARCH

The work on the research can be divided up into three phases, the planning phase, the project phase and the documentation phase.

Planning Phase: One of the keys to developing a successful research is the careful planning of it from the outset. The mechanism for project planning is a proposal. The function of a proposal is to

answer four questions: (a) what will be done? (b) why is it an important thing to do? (c) what are the objectives and scope of the work? and (d) how will it be done?

The following is a sample outline of a typical proposal-

- 1. Introduction including a statement of the problem to be studied why is it an important thing to do?
- 2. Objectives of the work (a clear, concise statement).
- 3. Scope and limits of the project.
- 4. Preliminary survey of related work and literature.
- 5. Proposed procedure (may be a series of steps, task flow diagram, etc., including a schedule for when the tasks will be done).
- 6. Sources of data to be used.
- 7. Anticipated results (i.e., what questions will the project answer, or what problems will be solved; what benefits will result when the work is completed?).
- 8. Schedule of work by task.
- 9. Preliminary outline of the research report.

*Project Phase:* The actual work on the project is called the project phase. It is a good idea to keep a diary or project log during the phase. It is a point where look back at what has been done and a look forward at what remains to be done. It is also useful to write up rough statements of what has been done occasionally to help later in the documentation phase.

Documentation Phase: The documentation phase or the preparation of the research should occur continually during the project. The proposal and progress reports written during the project phase can form the basis for much of the final document. The following is a general outline for a research report. Of course, it is possible to deviate from this outline as the needs of the project dictate.

Beginning i.e. title page, abstract, key word list, table of contents, list of figures and tables,

Material: acknowledgements

Chapter 1: Introduction - statement of the problem, hypotheses, why it is important, objectives of the work, scope of the work

Chapter 2: Background and Literature Review - discuss related work and indicate how it relates to report

Chapter 3: Procedure - describe the procedure used in project, data used, and how it was obtained

Chapter 4: Results - indicate what happened and interpret what it means

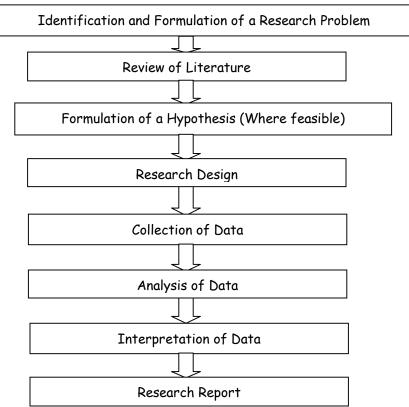
Chapter 5: Conclusions and Recommendations – summarize conclusions and what they mean (i.e., answer the guestion, "So what?"). What changes and further work do you recommend?

Invariably every research begins with a question or a problem of some sort. The aim of research is to know 'something more' about 'something' or to discover answers to meaningful questions through the application of scientific procedures. Legal research is not an exception to this general precept of research. However, undertaking and executing legal research, as a systematic inquiry, is a complex process. It involves a three-stage process. Each one of them warrants skill. The processes are research planning (Planning Phase), research implementation (Project Phase), and presenting of research findings (Documentation Phase).

Research planning requires the necessary sub-skills for: fact collection, legal analysis, legal knowledge, problem identification, legal analysis, fact analysis, further fact collection, identification of avenues of research, and generation of key (search) words. Research implementation, as the second-stage processes, involves the skills pertaining to: identification of problems for resolution, identification of relevant research source materials, location of the source materials, effective use

of the source materials, analysis of research findings, application of findings to the identified problem(s), and identification of further problem(s). While the third-stage process, i.e. presentation of research findings, requires the skills necessary for: identification of the (research) recipients' needs, selection of appropriate format or framework, use of clear and succinct language, and use of appropriate language-style (informatory, advisory, recommendatory, or demanding).

A cumulative reading of these three-stage processes of research and of their components leads to the following major processes that, like any other research, involve in legal research. They may be presented in a flowchart as under -



These stages are not mutually exclusive. They overlap continuously rather than following the prescribed sequence strictly. The order sketched above is meant to provide a procedural guideline for research. A brief description of each one of the steps is necessary here to put the legal process in the right perspective and to highlight, in brief, their significance and role in legal research.

Identification and Formulation of A Research Problem: Identification and formulation of a research problem constitutes the starting phase of research. It is the first and foremost step in any research undertaking. In fact, success of research depends upon the selection of an apt research problem and its proper formulation. An ill-identified and deficiently formulated research problem invariably makes the researcher subsequently to lose his/her 'interest' in the problem. It also lands researcher in a number of unanticipated difficulties at latter stages that may even compel to abdicate his/her research half a way. A research is goal-directed. If the goal itself is unknown or ill-defined, the research will lead the researcher nowhere. Thus, it becomes necessary to have a well-defined and precise research problem for meaningful research. It is an old and wise saying that 'a problem well put is half solved'. However, identification and formulation of a research problem is not an easy task. Before formulating a research problem, it is necessary for the researcher, in sequence, to identify an area of his/her general interest, an area or subject-matter of researcher

special interest from the area of his/her general interest, and an aspect from the subject-matter of researcher special interest that s/he would like inquire into. Then s/he has to do a lot of reading on the aspect identified for further inquiry. For example, a scholar of law interested in undertaking research in public law that happens to be an area of researcher general interest. Researcher has then to identify an area of his/her special interest from public law, say Constitution. There may be an umpteen number of aspects of the Constitution that are of worth probing. Let us assume that researcher is interested in the Chapter Three of the Constitution dealing with Fundamental Rights and Freedoms. This is not enough for researcher to formulate a research problem. Researcher needs to select a Fundamental Right that interests him/her more and from this, s/he has to identify an aspect of the fundamental right that, according to researcher, deserves further probing. Researcher has to read a lot on, and about, the aspect before s/he ventures into formulating a statement of problem for his/her further inquiry. After reading about the aspect, researcher is required to put in a lot of thinking and intellectual input in phrasing the aspect in an intelligent and precise propositional form so that s/he can get something meaningful out of it. It needs to put in such a way that it signifies the focus of inquiry as well as its direction.

Review of Literature: Once the research problem is formulated, the researcher needs to undertake an extensive survey of literature connected with, related to, and/or having bearing on, his/her research problem. This is the process whereby the researcher locates and selects the references that are relevant for his/her inquiry. A scholar of law, at this stage, is expected to carefully trace and lay his/her hands on standard textbooks, reference books dealing with or having bearing on the research problem, legal periodicals (to locate research articles written, or authoritative comments made, on the subject or its allied subjects), case reports (to get familiarize with the thitherto judicial exposition of the problem), conference/ symposium/ seminar proceedings, if any, (to acquaint with different dimensions highlighted in, delved into, or emerged from, the conference/ symposium/ seminars, Government or Committee Reports (to appreciate and understand perspectives of the experts in the field and of policy-makers), and general web pages (to know latest emerging perspectives and illustrative examples). The researcher has also to take special care to locate earlier studies done on the problem and to have a quick reading thereof. However, in the recent past, the literature review process has changed dramatically with access to computers and especially World Wide Web (www). Though we may rely upon almost completely on the Web and search engines, let us remind ourselves of two caveats. First, searching the www is, by itself, insufficient for literature review. Although many leading journals and other published information from recognized sources are now available on the Web, it does not have all the available literature. Using the Web can be the basis of literature review but it needs to be balanced with material-very new-published in journals and periodicals that are not put on the Web and the publications that might not have been caught by search engines. Further, local country's materials from marginalized groups may likely to be under-represented or un-represented on the Web. Secondly, it is not always evident that the information put on the Web is presented accurately. Literature review makes the researcher conversant with the materials available on his/her research problem and their 'place', the thitherto explored (and unexplored) aspects/ dimensions of the problem, theoretical bases of the problem, and relevant theories in the field. Literature review, thus, helps the researcher to know and to have his/her preliminary impressions about -

- 1. The thitherto explored and unexplored aspects/dimensions of the problem and the explanations offered or issues raised without offering solutions there for.
- 2. The gaps, if any, in the thitherto-offered explanations of the problem/its dimensions and their inter-relationship and adequacy in explaining the problem/its dimensions.

- 3. Theoretical and conceptual issues raised, with or without suggesting solutions there for.
- 4. The operational framework and research techniques used in the previous research, and their propriety.

Literature review enables the researcher to know what kind of data has been used, what methods have been used to obtain the data, and what difficulties the earlier researchers in collecting and analyzing the data have faced. Main purposes of literature review, thus, are -

- To...
- Reveal what has been done and written on the topic in the past.
- 'Map' with their limitations, the thitherto used research techniques,
- Know the kind of material/data used and their sources.
- Appreciate adequacy (or otherwise) of the data used for drawing the conclusions.
- Know the central arguments advanced and the concepts revealed and discussed earlier.
- Acquaint with the patterns of presentation of these arguments and the concepts and the relationship established (or attempted to establish) between these arguments and the concepts.
- In the light of the earlier studies, findings, and the problems encountered, rephrase, with precision, his research problem/question, and to devise appropriate research techniques for smooth operation of his inquiry.

Formulation of a Hypothesis: After extensive literature survey, researcher, in the light of the survey, has to re-phrase or reformulate his/her statement of problem, if necessary. A statement of problem, depending upon research goals and the nature of inquiry involved, may take form of either a mere statement or a proposition indicating possible relationship between two or more variables or concepts, the validity of which is unknown in the beginning. Such a proposition is known as hypothesis. Hypothesis, thus, is merely a tentative assumption made in order to draw and test its logical or empirical consequences. It is a tentative, testable statement. A statement to be a hypothesis must be capable of being tested. If its validity cannot be put to empirical confirmation, a proposition, howsoever attractive or interesting may be ceases to be a hypothesis. The manner in which a hypothesis is formulated is very important as it gives significant clues about the kind of data required, the type of methods to be used for collecting data, and the methods of analysis to be used. It guides the researcher by delimiting the area of research and keeps researcher on the right track throughout his/her investigation. It sharpens researcher thinking and focuses attention on the more important facets of the problem under inquiry. Therefore, a hypothesis, to be worked with, needs to be precise, specific, and conceptually clear. It must have empirical referents. It must also be related to available research techniques. However, it is important to note that hypothesis is not required in all types of legal research. A researcher, for example, indulged in exploratory or descriptive legal research is not required to formulate hypothesis. Statement of problem in the form of hypothesis, invariably, is required in socio-legal research or empirical legal research, wherein the researcher is interested in finding 'link' between a 'legal fact' and a 'social fact' or is interested in assessing 'impact of law'.

Research Design: After defining a research problem or formulating a hypothesis, as the case may be, the researcher has to work out a design for the study. Research design is the conceptual structure within which research is conducted. It is a logical systematic planning of research. The term research design refers to the entire process of planning and carrying out a research study. It is the process of visualization of the entire process of conducting empirical research before its commencement. Research design is a blue print of the proposed research. However, the blue print is tentative as the researcher may not be able to foresee all the contingencies before s/he starts

his/her investigation. Researcher is allowed to meet these contingencies when s/he encounters them in his/her research journey. Research design helps the researcher to identify in advance the kind of data s/he requires, the means to collect them, the methods to be used for analysis and interpretation of the data, and presentation of researcher findings with more accuracy. Research design, thus, helps researcher in minimizing the uncertainties, confusion and practical hazards associated with the research problem. It helps in enhancing efficiency and reliability of researcher findings.

Collection of Data: After formulating the research problem (or reformulating it in the light of literature review) and preparing a blue print of the research, the researcher has now to take a decision about the technique(s) to be employed to collect the requisite information. Researcher has to, from a wide range of methods of data collection, ranging from interviews to observations to document analysis, opt for the most appropriate method(s) for collecting data. However, it is not always easy to take the right decision. It is very crucial decision having far-reaching consequences on the outcome of research. The research method(s), which researcher chooses, will ultimately determine the quality and propriety of the data and in turn, of the consequential results. In a way, the selected methods of data collection determine the fate of his/her research. While selecting method(s) of data collection, the researcher has to take into account the objectives of his/her research and the nature and scope the inquiry. Data can be primary or secondary. Data collected by the researcher, by using primary sources, is primary. The data already collected by some other agency and available in some published form is secondary. In either case, the researcher has to select an appropriate method.

Analysis of Data: After the data have been collected, the researcher needs to turn to the task of analyzing them. Data, in any form, are raw and neutral. Their direction and trend is generally highlighted and reflected with the help of analysis and interpretation. Analysis of data comes prior to interpretation. However, there is no clear-cut dividing line between analysis and interpretation. Analysis is not complete without interpretation and interpretation cannot proceed without analysis. They are inter-dependent. Analysis of data involves a number of closely related operations, such as classification or categorization, coding, and tabulation. Classification or categorization of data is the process of arranging data in groups or classes according to their resemblance or affinity. The researcher has to classify his/her data into required categories. The categorization has to be based on the problem under study or the hypothesis formulated. The category must be exhaustive and suitable for classifying all responses. They must be distinct, separate, and mutually exclusive. Coding involves the assigning of symbols or numerical to each of the category of responses so that raw data can be counted or tabulated. Tabulation is a means of recording classification in a compact form in such a way to facilitate comparisons and show the involved relations between two or more variables. It is a sort of arrangement of data in requisite rows and columns.

Interpretation of Data: Interpretation is considered as one of the basic components of research. It refers to the task of drawing inference from the collected data. The inference may be deductive or inductive. The former involves inferences from generally abstracts propositions to particular ones; while the latter is inference from particular propositions to general propositions. Through interpretation, the researcher attempts to search for broader meaning of research findings. Researcher tries to establish link between the results of his/her inquiry with those of another and to establish some explanatory concepts. Researcher, through his/her interpretation, endeavors to find and understand the abstract principle that works beneath his/her findings. Interpretation opens up new avenues for intellectual adventures and stimulates the quest for more knowledge. The

process of interpretation may quite often trigger off new questions that in turn may lead to further researches. In fact, the usefulness and utility of a research lie in proper interpretation of the collected facts. One should, however, remember that even if data are properly collected and analyzed, wrong interpretation would lead to inaccurate and misleading conclusions. Interpretation, therefore, must be impartial and objective. A researcher should explain why his/her findings are so, in objective terms. Researcher should also try to bring out the principles involved behind his inferences. However, the task of interpretation is not an easy task. It requires a great skill. It is an art that one learns through practice and experience.

Research Report: The last phase of the journey of research is the writing of research report. It is a major component of research. Research remains incomplete until report is written. Through research report, the researcher communicates with his/her audience. A research report generally needs to contain in it the requisite information about: (i) the problem undertaken for investigation and objectives thereof, (ii) methodology adopted in the inquiry, and (iii) analysis and inferences of investigation and their theoretical and practical implications, if any. A general outlay of legal research report has three major components. They are: Preliminary Pages, the Main Text, and the End matter. In the first part, a legal researcher has to put Acknowledgement, Preface, Table of Contents, Table of Cases, Table of Statutes, Abbreviations, and List of Tables. While in the second part of the research report, researcher has to have different segments of his/her research in the form of chapters, with appropriate captions, starting from 'Introduction' to 'Conclusions and Recommendations'. Each chapter has to have necessary headings and sub-heading with proper documentation in the form of footnotes. Chapters should be written in concise and simple language. While at the end of the report, researcher has to place Bibliography, different texts, like statutory provisions referred to in the main text, 'interview' or 'questionnaire', etc used by him/her for data collection, in the form of Annexure, and Index. Originality and clarity are the two vital components of research report. It is the ultimate test of one's analytical ability and communication skills. It is an exercise involving the organization of ideas. Reporting the research, thus, requires skills somewhat different from those needed in the earlier phases of research.

#### 1.10 RESEARCH METHOD/ TECHNIQUE VERSUS METHODOLOGY

All those methods which are used by the researcher during the course of studying his/her research problem are termed as research methods. Research techniques refer to the behaviour and instruments we use in performing research operations such as making observations, recording data, techniques of processing data and the like. Research methods refer to the behaviour and instruments used in selecting and constructing research technique. We can say that methods are more general. It is the methods that generate techniques. However, in practice, the two terms are taken as interchangeable and when we talk of research methods we do, by implication, include research techniques within their compass. For instance, difference between methods and techniques of data collection can better be understood from the details given in the following table -

Table 1.3

Comparison between Methods and Techniques

Туре	Methods	Techniques
Library	Analysis of historical records	Recording of notes, Content analysis, Tape and Film
Research		listening and analysis.
	Analysis of documents	Statistical compilations and manipulations,
	·	reference and abstract guides, contents analysis.
Field	Non-participant direct	Observational behavioural scales, use of score

Research	observation	cards, etc.
	Participant observation	Interactional recording, possible use of tape
		recorders, photo graphic techniques.
	Mass observation	Recording mass behaviour, interview using
		independent observers in public places.
	Mail questionnaire	Identification of social and economic background
		of respondents.
	Opinionnaire	Use of attitude scales, projective techniques, use of
		sociometric scales.
	Personal interview	Interviewer uses a detailed schedule with open and
		closed questions.
	Focused interview	Interviewer focuses attention upon a given
		experience and its effects.
	Group interview	Small groups of respondents are interviewed
		simultaneously.
	Telephone survey	Used as a survey technique for information and
		for discerning opinion; may also be used as a
		follow up of questionnaire.
	Case study and life history	Cross sectional collection of data for intensive
		analysis, longitudinal collection of data of intensive
		character.
Laboratory	Small group study of random	Use of audio-visual recording devices, use of
Research	behaviour, play and role analysis	observers, etc.

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his/her research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods/techniques but also the methodology. Researchers not only need to know how to develop certain indices or tests, how to calculate the Mean, the Mode, the Median or the standard deviation or chi-square, how to apply particular research techniques, but they also need to know which of these methods or techniques, are relevant and which are not, and what would they mean and indicate and why. Researchers also need to understand the assumptions underlying various techniques and they need to know the criteria by which they can decide that certain techniques and procedures will be applicable to certain problems and others will not. All this means that it is necessary for the researcher to design his/her methodology for his problem as the same may differ from problem to problem. Research methodology has many dimensions and research methods do constitute a part of the research methodology. The scope of research methodology is wider than that of research methods. Thus, when we talk of research methodology we not only talk of the research methods but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular method or technique and why we are not using others so that research results are capable of being evaluated either by the researcher himself/herself or by others. Why a research study has been undertaken, how the research problem has been defined, in what way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analysing data has been used and a host of similar other questions are usually answered when we talk of research methodology.

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