

Module 1-Unit 1 Part 4 Types of research		
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1.4 Types of research

The type of research depends on the information needed, methods adopted and nature of population.

1.4.1 Exploratory VS Formal Research

Exploratory

The objective is just to have a superficial idea of the problem with going deep into the subject. No attempt is made to solve the problem. This research helps in formulating a hypothesis. Scientists visiting Antarctica or the moon to collect data is an exploratory research.

Formal

Formal research is a full-fledged serious research with substantial structure of well-defined parameters. This involves testing of hypothesis to find a solution or to describe a situation. Generally a formal research is preceded by an exploratory research.

1.4.2 Descriptive VS Analytical Research

Descriptive research

The purpose of descriptive research is to describe the existing or past state of affairs. In social science or business research, descriptive research is termed as Ex post facto analysis. The main characteristic of this research is that the researcher has not control over the variables and just describes what has happened or what is happening . For example, when an MBA student takes up a descriptive research on departmental stores in Coimbatore, he or she describes how many departmental stores are functioning in Coimbatore, where they are located, what types of goods are sold, how many persons are employed, what are the price structures, how many visit the stores, etc. The data may be obtained through surveys and presented in easily understandable



format to have an idea about the state of affairs of departmental stores. Descriptive research attempts to answer the questions 'what', 'when', 'which', and 'where'.

Analytical research

Also called as diagnostic research, analytical research tries to find why a particular phenomenon has occurred or it is occurring presently. The questions 'why' and 'how' are answered in analytical research. Analytical research is always preceded by descriptive research. In the above example of study of departmental stores, the student after describing the nature of the stores, shall try to reason out why people are visiting a particular store in large numbers or how it is possible for a particular store to price its goods at a cheaper rate.

1.4.3 Ex post facto research

It is a method in which groups with qualities that already exist are compared on some dependent variable. Also known as "after the fact" research, an ex post facto design is considered quasi-experimental because the subjects are not randomly assigned - they are grouped based on a particular characteristic or trait.

Although differing groups are analyzed and compared in regards to independent and dependent variables it is not a true experiment because it lacks random assignment. The assignment of subjects to different groups is based on whichever variable is of interest to the researchers.

For example, a researcher is interested in how weight influences self-esteem levels in adults. So the participants would be separated into differing groups (underweight, normal weight, overweight) and their self esteem levels measured. This is an ex post

facto design because a pre-existing characteristic (weight) was used to form the groups.

Ex post facto research

This is the type of research which is based on analytical and scientific examinations of the relationship between independent and dependent variables. In this research the researcher does not have any control over independent variables because they have already been manifested. In this type of research, independent variables exist already and the researcher tries to establish their relationship with the dependent variable. For example: Advertising expenditure is an independent variable while the sales value may be treated as a dependent on advertising expenditure.

In the type of research inferences about relations among variables are made without direct intervention.

This type of research has its own weaknesses (i) one is its inability to control the changing patterns of independent variables. As such in many situations it became very difficult to separate influences of independent variables and dependent variables (ii) the research findings vary in the risk of improper interpretations (iii) this type of researches may not have any particular hypothesis. But laying down a properly postulated hypothesis enables scientific predictions which is very important part of modern research. However, despite these weaknesses there is considerable scope for conducting research of this type in social sciences.

1.4.4 Qualitative VS Quantitative Research

Qualitative research

As the name suggests, qualitative research is concerned with the quality of phenomena which are not easily measured in quantitative terms. It is mostly used in behavioural science to understand why people behave differently. Studies on



motivation, stress, perception, values, emotional intelligence, etc.... are qualitative in nature. Word Association, Sentence Completion, Story Building and Rorschach Ink Blot tests are some of the commonly used techniques in qualitative research.

Quantitative research

In quantitative research the observations are quantified and the results are expressed in terms of different units.

1.4.5 Conceptual VS Empirical Research

Conceptual research

It is a qualitative research related to some abstract ideas defying clear explanations. Mostly followed by philosophers and tinkers, it is concerned with developing new concepts/ideas or reinterpreting the existing ones.

Empirical research

It is data-based quantitative research amenable for verification. All scientific experiments are empirical in nature.

1.4.6 Longitudinal VS Cross-sectional Research

While longitudinal research is extended over a period of time. longitudinal research takes longer period to yield any result. For eg) in market research a set of consumers are selected and a series of advertisement campaigns are conducted in respect of the product they consume. The effect of these advertisements on the purchasing behavior of the consumers is then recorded. Conclusive results are obtained after observing their behavior over a considerable stretch of time.

Cross -sectional research is a one-time research confined to a single period time. Results in cross-sectional research are obtained within a short period.

Field VS LAB/Simulation/Historical Research

Field Research

Field research involves conducting research in actual situations by collecting data through observation, questionnaire, interview, etc., from real population.

Lab research

It is based on experiments conducted in a lab research. Research in physics is a lab research they are also useful in social research but with limited applications. The only problem is to create environmental conditions. In management sciences, small group studies based on random behavior, role plays and role analyses come under laboratory research are possible.

In **simulation** research, artificial environment is created which is very similar to real environment. This type of research permits observance of dynamic behaviour of the item under controlled conditions. real situations. Crisis management in war fields or plane-crashes is researched employing simulation research.

1.4.7 Historical research involves studying, understanding and interpreting past events. The purpose of historical research is to reach insights or conclusions about past persons or occurrences. Historical research entails more than simply compiling and presenting factual information; it also requires interpretation of the information.

1.4.8 Conclusion-oriented VS Decision-oriented research

Conclusion-oriented research

In this type of research, the researcher is free to choose a problem and design the research as he/she wishes according to the objectives or situation. Here, the researcher is the sole authority and is independent in formulating the research. An independent social worker investigating the aftermath of Tsunami in the coastal

villages with his/her own funds/efforts is said to do a conclusion-oriented research. The researcher is not under any obligations to any authority.

Decision-oriented research

In this type of research, the researcher conducts a research as per the requirements/direction of a decision-maker or authority. The topic and to some extent the research design are decided in advance by the authority. Here the researcher's freedom is restricted in choosing the topic, geographical areas, sample size, etc. A Management Professor undertaking a research project sponsored by a company to study the consumer behavior with particular reference to the company's products/services is an example of a decision-oriented research.

1.4.9 Applied VS Fundamental Research

Applied research

It aims at finding a solution to the current or long-pending problem. Seeking a solution is the essence of applied research. Finding an easy cure for diabetes, formulating an effective drug to combat AIDS or cancer, developing a rice variety requiring less water, devising an advertisement capable of immediate attraction or retaining attention for longer period, inventing an incentive plan to motivate the employees, etc., are applied research. In applied research, the knowledge obtained in fundamental research is applied to seek a solution to the problem under investigation.

Fundamental research

Termed as basic or pure research, fundamental research is concerned with throwing light on the basic aspects, theory or a phenomenon. Generally it does not seek solution to any problem. It is mostly related to gathering of knowledge for knowledge's sake. Studies on natural phenomena (thunder, lightning, cell division or

atomic structure), pure mathematics or human behavior with respect to age, gender, etc. are fundamental in nature.

Investigating the atomic structure and the characteristics of electrons, protons and neutrons is fundamental research, Utilizing the knowledge on atoms to generate nuclear power or to devise an atom bomb is applied research, Similarly, studying the behavior of children at different ages is a fundamental research, utilizing these behavioural patterns to devise a programme for effective learning for children is applied research.

Which is more important, fundamental research or applied research?

Both are equally important. There cannot be any applied research without understanding the fundamental aspects. At the same time, fundamental research will be an unproductive exercise unless the results are applied to find a solution to any problem. In essence, applied research derives its strength from fundamental or basic research and basic research is valuable when the results/observations are applied to solve problems.

1.4.10 other types of Research

Conceptual Research

Conceptual Research is that related to some abstract ideas or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret ones.

Diagnostic research

Diagnostic research is similar to descriptive research but with a different focus. It is directed towards discovering what is happening, why it is happening and what can be done about. It aims at identifying the causes of a problem and the possible solutions for it. A diagnostic research is concerned with discovering and testing whether certain variables are associated.



Motivation Research

Motivation Research deals with such forces that affect behavior. It identifies the motivational factors that determine behavior of individuals. For example, the factors influencing customers to purchase a particular item in the market can be studied by motivation research. Depth interview and data collection by projective techniques are applied in such studies.

Hypothesis Testing Research

This is a research carried out with the objective of finding out the casual relationship between the dependant variable and independent variable. For example, a research conducted to study the effect of inoculation on Tuberculosis. Here Tuberculosis is dependent variable and inoculation is independent variable.

Conclusive Research

Descriptive research and causal research are the conclusive researches.

Clinical Research

This research follow case-study methods or in depth approaches to reach the basic causal relations.

Summary

In the social sciences research is undertaken from the point of view of the application, objectives and the enquiry process. Among the different types of research pure research is academic in nature and is undertaken in order to gain knowledge about phenomena that may or may not have applications in the near future, and to develop new techniques and procedures that form the body of research methodology.

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