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Unit 1 :

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Introduction to Research

Some research method

Data, Methods of Data collection.

- Scientific way of finding data.
- All the procedures related to scientific.

Methods of knowing or understanding:

Human beings are always trying to understand the changes going around their surrounding the cause & effect of these changes etc. These are done through several investigations. There are usually four methods of knowing a fact. They are:

i) Tenacity:

People believe something to be true because lots of people believe it to be true.

ii) Authority:

In this method, the people know about the truth because a well respected or authoritative source says that it's true.

iii) Prior Method / Intuition:

In this method people will search the truth because their natural inclination will make them to do

so. It is based on rational thinking & not a reliable method.

iv) Scientific Method:

It is the most reliable method of knowing. In this method, truth is generated through several investigation.

Research :

Research commonly refers to search of knowledge to find out facts. Research can broadly be defined as a systematic careful inquiry or investigation carried out to find out truth, to create something new or to discover new knowledge or information or facts & figure or relationships or interpretation for finding solution to a problem or generalization to formulate a theory & to expand & verify the existing knowledge & theories.

→ Purpose of Research / Importance :

- Generating new knowledge.
- Improving understanding.
- Application testing (trying out new ideas in real world to see their usefulness).
- Comparing best practices.
- Helping with decision making.

→ Process of Research:-

- Formulation of a research problem.
- Extensive literature survey.
- Development of working hypothesis.
- Preparation of Research Design.
- Collection of Data.
- Execution of project.
- Analysis of Data.
- Hypothesis of Data.
- Generalization & Interpretation.
- Preparation of Research.

→ Levels of Research:

All researchers doesnot take place at the same level, some are of high level & some may be of comparatively low level. The level of research differs from subject to subject & is often defined as four levels.

i) Description level:

This is the research of basic level where the research is concerned with the description of events that exists or takes place around them.

ii) Classification level:

In this level, the researcher does a little bit deeper

study of subjects leading to the classification of things he is studying on the basis of known natural characteristics.

iii) Explanation level:

This level is higher than the second level, where the researcher is able to provide answers to different queries relating to the topic.

iv) Prediction level:

This is the highest level of research where the researcher using the established theories & model, predict a phenomenon or variable on the basis of another. This level offers some new prediction on the basis of study.

→ Rigor in research:

The term rigor is used to refer to the extent to which the method employed strictly follows the fundamental requirements of scientific method. There are basically three levels of rigor in research.

i) First level:

At this level, the method employed offers a qualitative or narrative approach to the analysis of

variables. The method would include authoritative opinion, single ~~case~~ case study & narrative history.

ii) Second level:

At this level, the measurement of variables is more quantitative, forms begin to play an important part in the research method. Survey research longitudinal or time series analysis, uncontrolled experiment belong to this level. In this level, emphasis is made to measure and manipulate certain variables & to establish relationship among the variables.

iii) Third level:

Here, the research is carried out using the scientific methods. It is concerned with the manipulations of variables & establishment of casual relationship between them. At this level, research is carried out in labs or in controlled field setting.

Different Paradigms of Research:

Paradigm is the underlying assumption and intellectual structure upon which research and development in the field of inquiry is based. In other words, a paradigm is an example or pattern or model

that we use to illustrate procedures, processes and theoretical points. There are two types of paradigm; positive paradigm & interpretive paradigm.

It has become very common in methodological literature that a quantitative methodology is described as belonging to the positivist paradigm and a qualitative methodology as belonging to the interpretive paradigm.

An interpretive paradigm portrays the world as socially constructed, complex & ever changing. On the other hand, a positive paradigm assumes the world as fixed, measurable reality & exposible to people. A researcher's choice of research paradigm can be determined by the kinds of questions that help them to investigate problems or issues they find interesting.

Basic Types of Research :-

① Fundamental & Applied Research:

Applied research aims at finding solⁿ for an immediate problem whereas fundamental research is mainly concerned with generati. generalizations & with the formulation of theory. Research studies concerning human behaviour carried out with an aim to make generalization about human behaviour is an example of fundamental research. Research aimed at certain conclusion or solutions for any social or business problems is an example of applied research.

② Descriptive & Analytical Research:

Descriptive research includes surveys & fact finding enquiries of different kinds. The major purpose of descriptive research is the description of the phenomenon as it exists at present. It is commonly used in social science & business.

In Analytical research, the researcher can use the available informations to establish the casual relationships between various factors under study, identify the cause & effect relationships, test the significance of these relationships satisfisically & make generalizations from findings.

3) Quantitative & Qualitative Research:

Quantitative research is based on the measurement of quantitative phenomenon. In this type of research, informations can be quantified so that they can be compared at different situations either in place or in time. Qualitative research is concerned with qualitative characteristics or phenomenon. Qualitative research is specially important in the behaviour at sciences where the aim is to discover the underlying motives of human behaviour.

4) Conceptual & Empirical Research:

Conceptual research is related to abstract ideas & theories & its main objective is to develop new concepts or reinterpret existing ones. It is mostly used by philosophers & thinkers to develop new concepts.

Empirical research is based on experience or observations. It is data based research, coming up with conclusions which are capable of being verified by observations or experiments. This research may be descriptive or analytic.

5) Diagnostic & Hypothesis Testing Research:

Diagnostic research follows a case study method. Such studies go deep into the causes of things or events, using very small samples.

In hypothesis testing research, specific hypothesis is formulated & the investigation work is confined on testing the validity of the hypothesis so formulated.

6) Conclusion Oriented & Decision Oriented Research:

In conclusion oriented research, a researcher is free to pick up a problem, collect the data or information & draw the conclusions. On the other hand, decision oriented research is always for the need of decision makers & the researcher is not free to select the topic on his own.

This type of research provides plans & decision to the executive department.

7) Theoretical & Action Research:

Theoretical research is the one that happens only in theory & not in practice i.e.

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you pretend that it's happening to examine or justify the consequences.

Action research involves continuous gathering and analysis of research data of on going phenomenon & concerns with the identification of the effective ways of dealing with the real problems.

8) Longitudinal & Cross-Sectional Research

From the point of view of time, if the research is confined to a single time period, it is called cross-sectional research.

Where as in longitudinal research, the research is carried over a several time period.

→ Research Questions:

The expression of research problem in the interrogative sentences are the questions. A schedule/questionnaire contains various kinds of questions which must express the research problem. They are related to facts, figures, knowledge & opinions to be collected from the respondents.

Types of questions:

① Structured Questions:

A structured question is that in which the possible replies can be pre-determined. The respondents choose one of the alternatives that best suits him. E.g: What is your marital status? Married | Unmarried | Single | Divorced. There are two types of structural questions:

a) Dichotomous Question:

When the reply to the question is expected to be given in one of the two alternatives, the question is called dichotomous question. e.g. Yes/No.

b) Multiple choice Question:

If the reply to the question is expected to be one of many prefixed replies, then the question is called multiple choice question or cafeteria question.

② Open End Question:

In these questions, the respondents are not given alternative answers. They have to make replies on their own after due thinking. Answers to these questions may be short, long and varied which causes difficulty in tabulation.

Example: What do you think is the cause of traffic jam in Kathmandu?

③ Leading Questions:

There are the questions presented in such a way that the respondents are compelled to give answers in a certain directions.

Example: Don't you think that girl's should be educated for the betterment of a society?

4) Ranking item questions:

In these questions various alternatives are given but unlike multiple choice question where one alternative had to be selected. Here, the various alternatives are to be arranged in order of respondents preferences. Eg: which of the following you like the most.

- a. Doctor []
- b. Engineer [2]
- c. Teacher []
- d. Lawyer []
- e. Businessman [1]

5) Ambiguous Question:

Sometimes the language of the question is such that it can be interpreted in more than one way such question is called ambiguous question.

Eg: What type of schooling did you have?

6) Presuming Question:

In this question some presumption about the reply of the respondent is already made.

Eg: Whom did you vote in the last election?

7) Hypothetical Question:

Questions predicting the false behaviour of respondents is called hypothetical question.

Eg: Would you buy a bike if its price is 15%?

8) Personalized Question:

Questions dealing with the personal action of the respondent is personalized question.

9) Behaviour question:

Questions dealing with the regular behaviour of the respondents is called behaviour questions.

Example: Newspaper reading, travelling, shopping, watching T.V.

10) Memory Question:

The question which needs the reading of the facts & information is called memory question.

11) Embarrassing question:

Questions whose answers are related to private life of respondents & it is embarrassing to answer is embarrassing question.

Research Problem:

Topics for the study are generally called research problem. A research problem is one for which a researcher wants to find the best solution of it. Great care should be given while selecting a topic or a problem. Selection of unsuitable problem would eventually result into the failure of the investigations.

→ Some guidelines for selecting a problem:

- The problem should be such in which a researcher is deeply interested.
- The problem should be such in which previous studies or investigations have been done.
- The problem should not be necessarily a new one.
- The problem or topic should be within a manageable limit.
- The problem should have direct utility.
- The problem should be feasible in terms of time, money & other resources available.

Criteria of good problem:

- It should express relationship between two or more variables.
- It should be stated clearly.
- The statement of the problem should be such as to imply possibilities of empirical testing.
- It should be new, interesting & feasible.
- It should be economical & able to be conducted within a certain time period.

→ Objectives:

The expected solution of a problem are the objective of a study. General objectives of a research study may be:

- To understand the human behaviours & its interaction with the nature.
- To acquire new knowledge.
- To try out tools of analysis.

Types of Objectives:

① Broad Objectives:

It is stated in one or more paragraphs outlining the broad perspective of the study. It is the general statement about the solution of the research problem.

② Specific Objectives:

It is stated in number of ways preferably in a sequential order. Specific objectives consist of number of specific points of achievements which the researcher aims to fulfill.

Goal of research:

When the objectives of a research are fulfilled, it is said that the goal of a research work has been achieved. Thus, fulfillment of the objectives of research can be called as the goal of that research.

Research hypothesis:

A hypothesis is a tentative generalization, the validity of which remains to be tested. In the

beginning of any research work, a hypothesis may be any guesses, imaginative ideas etc. These ideas become the basis for action or investigations. Based on the hypothesis, facts & data are observed & collected.

Utilities / Importance of Hypothesis:

- It sufficiently explains all the facts connected with the research.
- It determines the method of verification as well as the procedure for enquiry.
- It leads to the discovery of laws.
- It helps in drawing specific conclusion.

Sources of hypothesis:

There are different sources which help in building a hypothesis. These sources are of generally four types:

① General culture:

The culture has a great influence upon the thinking process of people & hypothesis may be formed to test one or more of the cultural ideas. Thus general culture of people may prove to be a source of hypothesis.

(ii) Scientific Theories:

A theory gives us the basic idea of what have been found to be correct. The knowledge of theory leads us to form further generalization. These generalizations form a part of a hypothesis.

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(iii) Analogies:-

A hypothesis is formed from analogy. Previously established knowledge can be used in hypothesis. A similarity between two phenomenon is observed at a circumstances. A hypothesis is then formed to test whether two phenomenon are similar in other circumstances as well.

(iv) Personal Experiences:

Personal experience is an important source of hypothesis. We can formulate a hypothesis according to the happening & changes, we see around us. Sometimes the facts are there but only a right individual see it in right perspective & formulate a hypothesis.

Qualities of workable hypothesis:

a) Specific:

It should not be too vague or general. A vague & general hypothesis may serve as an indicator of an area of study rather than serving as a hypothesis.

b) Conceptually clear:

The hypothesis should be properly expressed. The terms used in a hypothesis must be commonly accepted terms rather than our own creations. In case a new terms are to be introduced their definitions and meanings should be made clear.

c) Related to available technique:

Since, the hypothesis formulated should be tested & verified it should be so formed that it can be easily tested & verified by available techniques.

d) Related to body of theory:

The hypothesis should be selected in such a way that it has some relation with older theories in existence.

e) Capable of empirical test:

The hypothesis should be such that it can be put to empirical tests. Empirical test is necessary to achieve the objective of the study.

f) Simple:

The hypothesis should be simple, clear & to the point.

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Research Design :-

A research design is a plan proposed for a research work. It is a plan for collecting & analyzing data in an economical & relevant manner. It is a conceptual structure upon which research is conducted.

→ Purpose of Research Design :-

- i) It makes research as efficient as possible yielding maximum information with minimum expenditure of effort, time & money.
- ii) It provides methods of data collection & analysis.
- iii) It helps to meet the objective of research.

iv) It helps to decide about the availability of staff, time & money.

→ Characteristics of Research Design:

A good design is often characterized by adjectives like flexible, appropriate, efficient, economical & reliable. The design which gives the smallest experiment error is considered to be the best design.

→ The basic principle of Research Design:

- Define the nature & scope of the problem.
- Specifying the related variables.
- Excluding the variables that are not relevant for the study.
- Formulation of a logical hypothesis.

→ Conceptual Framework:

It is a group of concepts that are broadly defined & systematically organized to provide a focus & tool for the integration & interpretation of information. A conceptual framework is the conceptual basis for many theories. It provides a foundation & organization for many research work. It is an organization of concepts that provides a focus for inquiry.

→ Sectors of Research Design:

Research design can be categorized into different sectors or components as follows:-

a) The observational Design:

This is used when observation method is used in collecting information. It is the layout of conditions & schedules under which the observations are to be made.

b) Statistical Design:-

It includes sample design as well as the methods to be used in gathering informations & their analysis.

c) Operational Design:-

It is the layout of the procedures of implementing the required design.

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Difference between Research Design & Research Methods:

A research method is a general framework guiding a research project. Different methods can be used to tackle different problems. Research Design is a specific outline detailing how your chosen method will be applied to ~~answer~~ ^{answer} a particular.

research problem. Similarities between Research Design & Research Method:

Both research methods & research design are used for carrying out a research. They are concerned with the methods & techniques used during our study. They help in formulation of logical hypothesis data collection & analysis.

Unit 2 :

Some Research Methods

There are various methods employed in research depending on the nature & standard of research to be carried out. The most important methods used are as follows:

- ① Conventional Methods or Scientific Method
- 2) Historical Method
- 3) Experimental Method
- 4) Survey Method
- 5) The case study Method

1) Conventional Methods / Scientific Method:

Conventional method of research is said to be carried out why scientific method. Scientific



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