What Is Research Methodology?

It is a research method that create a **systematic plan for conducting research**. The Sociologists draw on a variety of both qualitative & quantitative research methods, including experiments, survey research etc.

What Is Research?

The systematic investigation into and study of materials and sources in order to establish facts. Research may be very broadly defined as systematic gathering of data and information and its analysis for advancement of knowledge in any subject and reach new conclusions. It basically discovers solutions to problems.

The important objective of the research is to discover the hidden truth.

1. The foremost objective is to achieve thorough knowledge and also understanding with an observed circumstance.
2. The second one is to define the frequency of distinct things.
3. The next is to test a statement which is assumed to be genuine and that statement is about the casual relationship between variables.
4. The last one is to accurately describe the characteristics of a specific individual or a group or a situation.

Enlist the Common Objectives Of Research?

The objectives of research methodology are as follows.

1. To gain **FAMILIARITY** with a phenomenon or to achieve new insights into it (studies with this object in view are termed as exploratory or formulate research studies).
2. To portray accurately the **CHARACTERISTICS** of a particular individual, situation or a group(studies with this object in view are known as descriptive research studies).
3. To determine the **FREQUENCY** with which something occurs or with which it is associated with something else (studies with this object in view are known as diagnostic research studies).
4. To test a **HYPOTHESIS** of a causal relationship between variables (such studies are known as hypothesis-testing research studies)

What Makes People Undertake Research?

1. Desire to get a research degree along with its consequential benefits.
2. Desire to face the challenge in solving the unsolved problems, i.e., concern over practical problems initiates research.
3. Desire to get intellectual joy of doing some creative work.
4. Desire to be of service to society.
5. Desire to get respectability

Enlist Different Types of Research?

There are five important types of research and those are as follows:

1. Descriptive vs. Analytical
2. Applied vs. Fundamental
3. Quantitative vs. Qualitative
4. Conceptual vs. Empirical

Descriptive vs. Analytical The surveys and fact- finding investigations of distinct types come under descriptive research. In analytical research, a researcher has to avail data which already exists and has to make an accurate evaluation

Applied vs. Fundamental: • The objectives of the applied research are to search an answer for the difficulty which is facing by a firm or a society. Theory's formulation and interference of general principles with particulars are related to fundamental research. The feature of collecting knowledge for the sake of knowledge is best suited to fundamental research

Quantitative vs. Qualitative: • Quantitative measurement of few characteristics which are explained in quantities is nothing but the quantitative research. Well, qualitative research is related to the parameter of quality.

Conceptual vs. Empirical: • The conceptual research is concerned with ideas and theories. Empirical research is perfect when we have the proof which explains that few variables generate a change on other variables in some way or the other.

Few other types of research: • Other research type includes few changes when compared with the types of research explained above and those changes occur by depending on the current conditions. • Longitudinal research • Laboratory research • Simulation research • Diagnostic research • Historical research

Basic Steps in the Research Process?

The following steps outline a simple and effective strategy for writing a research paper. Depending on your familiarity with the topic and the challenges you encounter along the way, you may need to rearrange these steps.

Step 1: Identify and develop your topic

Selecting a topic can be the most challenging part of a research assignment. Since this is the very first step in writing a paper, it is vital that it be done correctly. Here are some tips for selecting a topic:

Select a topic within the parameters set by the assignment. Many times your instructor will give you clear guidelines as to what you can and cannot write about. Failure to work within these guidelines may result in your proposed paper being deemed unacceptable by your instructor.

Select a topic of personal interest to you and learn more about it. The research for and writing of a paper will be more enjoyable if you are writing about something that you find interesting.

Select a topic for which you can find a manageable amount of information. Do a preliminary search of information sources to determine whether existing sources will meet your needs. If you find too much information, you may need to narrow your topic; if you find too little, you may need to broaden your topic.

Step 2: Do a preliminary search for information

Before beginning your research in earnest, do a preliminary search to determine whether there is enough information out there for your needs and to set the context of your research. Look up your keywords in the appropriate titles in the library's Reference collection (such as encyclopedias and dictionaries) and in other sources such as our catalog of books, periodical databases, and Internet search engines. Additional background information may be found in your lecture notes, textbooks,

and reserve readings. You may find it necessary to adjust the focus of your topic in light of the resources available to you.

Step 3: Locate materials

With the direction of your research now clear to you, you can begin locating material on your topic. There are a number of places you can look for information:

If you are looking for books, do a subject search in the Alephcatalog. A Keyword search can be performed if the subject search doesn't yield enough information. Print or write down the citation information (author, title,etc.) and the location (call number and collection) of the item(s). Note the circulation status. When you locate the book on the shelf, look at the books located nearby; similar items are always shelved in the same area. The Aleph catalog also indexes the library's audio-visual holdings.

Step 4: Evaluate your sources

See the CARS Checklist for Information Quality for tips on evaluating the authority and quality of the information you have located. Your instructor expects that you will provide credible, truthful, and reliable information and you have every right to expect that the sources you use are providing the same. This step is especially important when using Internet resources, many of which are regarded as less than reliable.

Step 5: Make notes

Consult the resources you have chosen and note the information that will be useful in your paper. Be sure to document all the sources you consult, even if you there is a chance you may not use that particular source. The author, title, publisher, URL, and other information will be needed later when creating a bibliography.

Step 6: Write your paper

Begin by organizing the information you have collected. The next step is the rough draft, wherein you get your ideas on paper in an unfinished fashion. This step will help you organize your ideas and determine the form your final paper will take. After this, you will revise the draft as many times as you think necessary to create a final product to turn in to your instructor.

Step 7: Cite your sources properly

Give credit where credit is due; cite your sources.

Citing or documenting the sources used in your research serves two purposes: it gives proper credit to the authors of the materials used, and it allows those who are reading your work to duplicate your research and locate the sources that you have listed as references. The MLA and the APA Styles are two popular citation formats.

Failure to cite your sources properly is plagiarism. Plagiarism is avoidable!

Step 8: Proofread

The final step in the process is to proofread the paper you have created. Read through the text and check for any errors in spelling, grammar, and punctuation. Make sure the sources you used are cited properly. Make sure the message that you want to get across to the reader has been thoroughly stated.

What is research problem statement?

A research problem statement is defined as an issue that needs to be addressed. It is described as the gap in knowledge about a particular problem or issue. A functional research problem helps close the gap in knowledge in a field that can lead to more research. An accurate statement to the problem helps you identify the motive of the research project.

Steps to formulate a research problem?

Here are the five basic steps to formulate a research problem:

1. **Identify the broad research area:** Begin your research by identifying a broad research area based on your interest, specialty, profession, expertise, and knowledge. This area must possess some kind of significance regarding your knowledge interest and specialty. For example, a researcher studying sports education can select areas like football, soccer, hockey, and baseball. These are the broader areas that can be further subdivided into various research topics to figure out marketing strategies.
2. **Divide the broad area into sub-areas:** After you choose a broad area to study, drill down to a specific topic that is manageable and researchable. To do this, break down the broad area into sub-areas and choose a specific topic. For example, if your broad area is soccer, it can be further divided into the following subcategories:

    a. Profile of soccer players
    b. Profile of soccer clubs
    c. Level of soccer clubs
    d. Impact of the club on the city
    e. Revenue generating areas
    f. Sponsors of the soccer clubs

3. **Choose a sub-area:** It is not possible to study all the sub-areas due to time and money constraints. Thus, choose one sub-area of interest and one that is manageable and feasible for you. The area you select must have some research significance and must be significant to your research knowledge.
4. **Formulate research questions:** After you choose a specific sub-area, think about the areas you must explore and research about. Start noting down important questions that you deem important for the research study. Many questions may arise but narrow down and choose the most important and impactful questions. The length of the research depends on the number of questions you formulate. Choose the questions, depending on the expected length of your research.
5. **Set research objectives:** You must draw a plan about the objectives of the research that you need to explore. The objectives of the research study help to identify the research questions. There is a difference between the research question and the research objective. The difference is the way they are written. Research questions generally consist of an interrogative tone. On the other hand, the research objectives are aim-oriented. They include terms like to examine, to investigate, to explore, and to find out.

UNIT – 2

Research design definition

Research design is the framework of research methods and techniques chosen by a researcher. The design allows researchers to hone in on research methods that are suitable for the subject matter and set up their studies up for success.

The design of a research topic explains the type of research (experimental, survey, correlational, semi-experimental, review) and also its sub-type (experimental design, research problem, descriptive case-study).

There are three main types of research design: Data collection, measurement, and analysis.

The type of research problem an organization is facing will determine the research design and not vice-versa. The design phase of a study determines which tools to use and how they are used.

An impactful research design usually creates a minimum bias in data and increases trust in the accuracy of collected data. A design that produces the least margin of error in experimental research is generally considered the desired outcome. The essential elements of the research design are:

1. Accurate purpose statement
2. Techniques to be implemented for collecting and analyzing research
3. The method applied for analyzing collected details
4. Type of research methodology
5. Probable objections for research
6. Settings for the research study
7. Timeline
8. Measurement of analysis

Proper research design sets your study up for success. Successful research studies provide insights that are accurate and unbiased. You'll need to create a survey that meets all of the main characteristics of a design. There are four key characteristics of research design:

Neutrality: When you set up your study, you may have to make assumptions about the data you expect to collect. The results projected in the research design should be free from bias and neutral. Understand opinions about the final evaluated scores and conclusion from multiple individuals and consider those who agree with the derived results.

Reliability: With regularly conducted research, the researcher involved expects similar results every time. Your design should indicate how to form research questions to ensure the standard of results. You'll only be able to reach the expected results if your design is reliable.

Validity: There are multiple measuring tools available. However, the only correct measuring tools are those which help a researcher in gauging results according to the objective of the research. The questionnaire developed from this design will then be valid.

Generalization: The outcome of your design should apply to a population and not just a restricted sample. A generalized design implies that your survey can be conducted on any part of a population with similar accuracy.

The above factors affect the way respondents answer the research questions and so all the above characteristics should be balanced in a good design.

A researcher must have a clear understanding of the various types of research design to select which model to implement for a study. Like research itself, the design of your study can be broadly classified into quantitative and qualitative.

Qualitative research design: Qualitative research determines relationships between collected data and observations based on mathematical calculations. Theories related to a naturally existing phenomenon can be proved or disproved using statistical methods. Researchers rely on qualitative research design methods that conclude “why” a particular theory exists along with “what” respondents have to say about it.

Quantitative research design: Quantitative research is for cases where statistical conclusions to collect actionable insights are essential. Numbers provide a better perspective to make critical business decisions. Quantitative research design methods are necessary for the growth of any organization. Insights drawn from hard numerical data and analysis prove to be highly effective when making decisions related to the future of the business.

You can further break down the types of research design into five categories:

1. Descriptive research design: In a descriptive design, a researcher is solely interested in describing the situation or case under their research study. It is a theory-based design method which is created by gathering, analyzing, and presenting collected data. This allows a researcher to provide insights into the why and how of research. Descriptive design helps others better understand the need for the research. If the problem statement is not clear, you can conduct exploratory research.

2. Experimental research design: Experimental research design establishes a relationship between the cause and effect of a situation. It is a causal design where one observes the impact caused by the independent variable on the dependent variable. For example, one monitors the influence of an independent variable such as a price on a dependent variable such as customer satisfaction or brand loyalty. It is a highly practical research design method as it contributes to solving a problem at hand. The independent variables are manipulated to monitor the change it has on the dependent variable. It is often used in social sciences to observe human behavior by analyzing two groups. Researchers can have participants change their actions and study how the people around them react to gain a better understanding of social psychology.

3. Correlational research design: Correlational research is a non-experimental research design technique that helps researchers establish a relationship between two closely connected variables. This type of research requires two different groups. There is no assumption while evaluating a relationship between two different variables, and statistical analysis techniques calculate the relationship between them.

A correlation coefficient determines the correlation between two variables, whose value ranges between -1 and +1. If the correlation coefficient is towards +1, it indicates a positive relationship between the variables and -1 means a negative relationship between the two variables.

4. Diagnostic research design: In diagnostic design, the researcher is looking to evaluate the underlying cause of a specific topic or phenomenon. This method helps one learn more about the factors that create troublesome situations.

This design has three parts of the research:

· Inception of the issue

· Diagnosis of the issue

· Solution for the issue

5. Explanatory research design: Explanatory design uses a researcher's ideas and thoughts on a subject to further explore their theories. The research explains unexplored aspects of a subject and details about what, how, and why of research questions.