

Steps Involved in Research Method :-

6 methods involved in research process:-

- i- Selection the problem.
- ii- Hypothesis.
- iii- Research design (Components)
- iv- Techniques for the collection of data.
 - observation.
 - Interviews.
 - Questionnaires.
- v- Documents: Sampling, Sampling Design
- vi- Application of Computer.
Research proposal.

1- Selection the problem:-

Determining a precise research problem is the first step to making your research process effective. The more accurately you

decide on the subject, the more effectively you can manage the process. The subject of your project can guide you when determining your research objectives and choosing the research tools and data collection methods you will use. Selection of the problem also known as problem formulation or problem identification, is the initial stage of the research process. It involves identifying and define a specific research problem or question to investigate.

2- Hypothesis :-

Hypothesis is the research process is a specific, testable prediction about the expected outcome of a study. It serves as a foundation for the research, guiding the direction of the investigation. A hypothesis typically propose a relationship between two or more variables.

There are 2 main types of hypothesis:-

- Null Hypothesis. (H_0)
- Alternative Hypothesis. (H_1 or H_a)

i- **Null Hypothesis:** - This is a statement that there is no effect or no difference, and it serves as a default position that indicates no relationship between the variables being studied.

ii- **Alternative Hypothesis:** - This suggests that there is an effect or a difference. It represents what the researcher aims to prove or support.

3- Research Design Document :-

Research design in research methods refers to the overall strategy or plan that outlines how a research study will be conducted. It serves as a blueprint for the collection, measurement, and analysis of data, ensuring that the research is systematic and coherent.

Research design components in research methods are the fundamental elements that outline how a research study will be systematically conducted. Here are key components:-

- Research Problem.
- Research objectives.
- Variables.
- Sampling.
- Data analysis.

4- Techniques for Data Collection:-

Here are some techniques for data collections are:-

• Observation:-

This method involves watching subjects in their natural environment with out interference. Observations can be participant (the researcher engages with the subjects) or non-participant.

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Interviews:- This technique involves direct interaction between the researcher and the participant. Interviews can be structured (with predetermined questions) or unstructured (more conversational). This method allows for in-depth responses and insights.

iii- **Surveys & Questionnaires:-** These are structured tools that contain a series of questions aimed at gathering information from a large group of people. They can be administered in person, via mail, online, or over the phone. Surveys can be quantitative or qualitative.

v- **Documents :-** In the research process, a document is defined as any written or recorded material that provides information or evidence relevant to the research topic,

• Sampling:-

Sampling is the method of selecting a subset of individuals or elements from a larger population to participate in a study. It includes size and sampling methods.

• **Sampling Design:-** Sampling design is the plan or strategy used to select the sample from the population. It outlines how the sample will be chosen, the size of the sample, and the sample is representative of the population.

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Application of Computer:-

Computers assist in creating presentations (using software like power point or Prezi) to share or use findings with others. Overall, the application of computer in the research process streamlines operations, enhances accuracy, and improves the overall quality of research outcomes.