



# Basic elements of research

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# Outline

- Definition of the research
- Objectives of the research
- Essential elements of research
- Research methods
- Steps of scientific research
- Criteria of good research



# Research

- The systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusion either in the form of solutions towards the concerned problem or in certain generalizations for some theoretical formulation.



# Objectives of the research

- Find out truth which is hidden, and which has not been discovered yet.
- Gain familiarity with a phenomenon or to achieve new insights into it.
- Portray accurately the characteristics of a particular individual, situation or a group.



## Objectives of the research ( Cont.)

- Determine the frequency with which something occurs or with which it is associated with something else.
- Test a hypothesis of a casual relationship between variables.



# Essential elements of research: Research design

- Research design refers to the overall strategy utilized to carry out research that defines a succinct and logical plan to tackle established research question through the collection, interpretation, analysis, and discussion of data.



# Essential elements of research: Theoretical framework

- **The Theoretical framework** is the structure that can hold or support a theory of a **research study**.
- The theoretical **framework** introduces and describes the theory which explains why the **research** problem under **study** exists.



# Essential elements of research: Literature review

- A **Literature Review** is a comprehensive summary of previous **research** on a topic.
- The **literature review** surveys scholarly articles, books, and other sources relevant to a particular area of **research**.
- The **review** should enumerate, describe, summarize, objectively evaluate and clarify this previous **research**.





# Essential elements of research: Strategies and Ethical Consideration Procedures.

- Data collection procedures (including the collaborative approaches used with participants)
- Data analysis procedures.
- **Strategies** for validating findings. Proposed narrative structure. Anticipated **ethical** issues.



# Research methods

- A systematic way to solve the research problem .
- Science of understanding how research is done.
- Refer to the methods the researchers use in performing research operations.
- Study various steps adopted by a researcher



## Research Methods( Cont.)

- Researchers should know the relevant method, and which are not.
- Consider the logic behind the methods we use in the context of our research study.
- Explain why we are using a particular method and why we are not using others, so that research results are capable of being evaluated by the researcher himself or by others

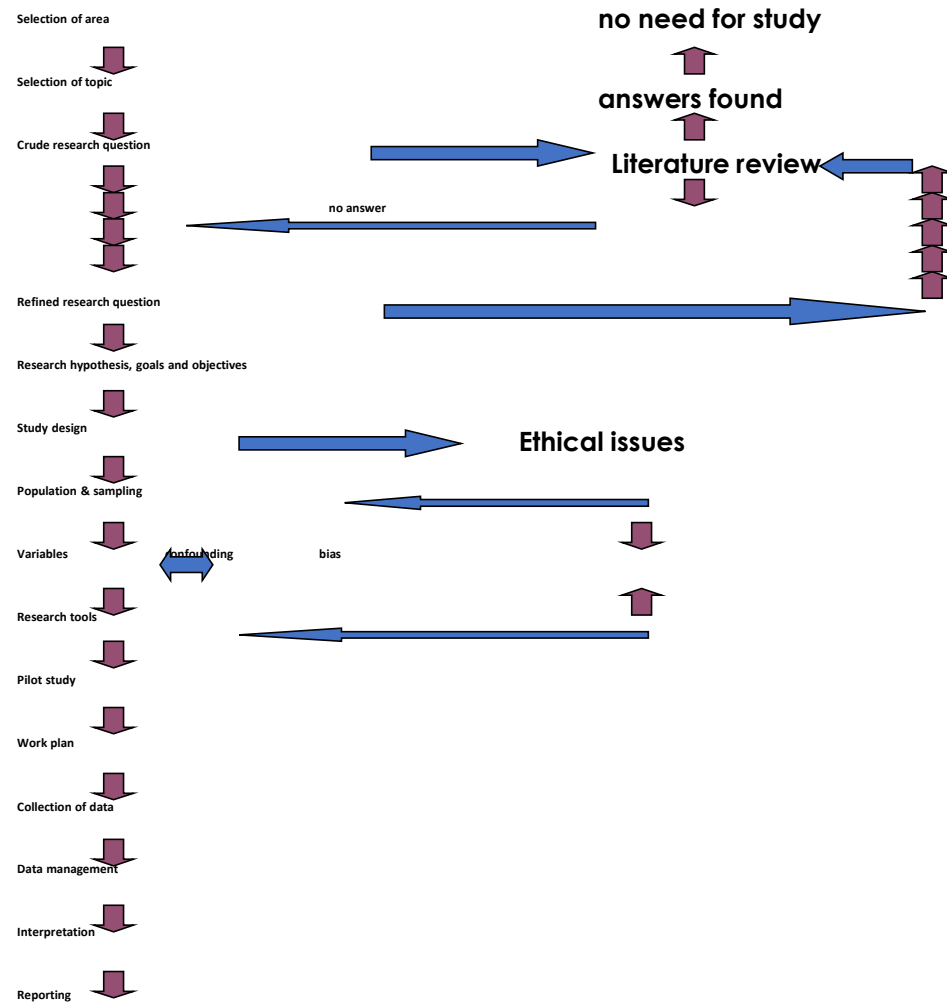


## Research methods( Cont.)

Put into 3 groups,

- 1.Methods which are concerned with data collection.
- 2.Statistical techniques for establishment of relationship b/w data & unknown.
- 3.Evaluating the accuracy of results obtained.

# Steps of Scientific Research





# Criteria of good research

- Purpose should be clearly defined.
- Common concepts to be used.
- Explain procedure clearly - for continuity.
- Results should be as objective as possible.
- Report with frankness.
- Limitations of the study should be written



## Criteria of good research ( Cont.)

- Appropriate statistical test of significance.
- Reliable outcome measures.
- Justify conclusions with data.
- Experienced researcher.
- Systematic.
- Logical.



# References

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