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# RESEARCH METHODS

**STEPS IN RESEARCH PROCESS**



# STEPS IN RESEARCH PROCESS

- 1. Introduction
  - Research Problem
- 2. Literature Review
- 3. Objectives
- 4. Research Design
  - Sample Design
- 5. Data Collection
- 6. Data Analysis
- 7. Generalization and Interpretation
- 8. Reporting

# STEP I. RESEARCH PROBLEM

- First and most crucial step
- Main function
  - Decide what you want to find out about
- Determines almost every step that follows

# SOURCES OF RESEARCH PROBLEMS

- Research revolves around four Ps:
- People
  - a group of individuals
- Problems
  - examine the existence of certain issues or problems
- Programs
  - to evaluate the effectiveness of an intervention
- Phenomena
  - to establish the existence of a regularity.
- In practice most research studies are based upon at least a combination of two *Ps*.

# ASPECTS

- Every research study has two aspects:
  - Study population
  - Subject area

# ASPECTS: STUDY POPULATION

- The researcher collects information about them
  - People
    - Individuals
    - Organizations
    - Groups
    - Communities

# ASPECTS: SUBJECT AREA

- Problems:
  - issues, situations, associations, needs, profiles
- Program :
  - content, structure, out Comes, attributes, satisfactions, consumers, service providers, etc.
- Phenomenon:
  - cause-and-effect relationships, the study of a phenomenon itself
- You can examine the professional field of your choice in the context of the four Ps in order to identify anything that looks interesting.

# CONSIDERATIONS IN SELECTING A RESEARCH PROBLEM

- These help to ensure that your study will remain manageable and that you will remain motivated.
  - Interest
  - Magnitude
  - Measurement of concepts
  - Level of expertise
  - Relevance
  - Availability of data
  - Ethical issues

# CONSIDERATIONS: **INTEREST**

- A research endeavor is usually
  - Time consuming
  - Involves hard work
  - Possibly unforeseen problems
- One should select topic of great interest to sustain the required motivation.

# CONSIDERATIONS: MAGNITUDE

- It is extremely important to select a topic
  - One can manage within time
  - Resources at your disposal
- Narrow the topic down to something
  - Manageable
  - Specific
  - Clear

# CONSIDERATIONS: MEASUREMENT OF CONCEPTS

- Make yourself clear about
  - The indicators
  - Measurement of concepts

# CONSIDERATIONS: LEVEL OF EXPERTISE

- Adequate level of expertise
  - For the proposed task
    - As one need to do the work

# CONSIDERATIONS: **RELEVANCE**

- Adds to the existing body of knowledge
- Bridges current gaps
- Is useful in policy formulation.

# CONSIDERATIONS: **AVAILABILITY OF DATA**

- Before finalizing the topic
  - Make sure that data are available.

# CONSIDERATIONS: ETHICAL ISSUES

- During the problem formulating stage, thoroughly examine that
  - How ethical issues can affect the study population
  - How ethical problems can be overcome

# RECAP: CONSIDERATIONS IN SELECTING A RESEARCH PROBLEM

- These help to ensure that your study will remain manageable and that you will remain motivated.
  - Interest
  - Magnitude
  - Measurement of concepts
  - Level of expertise
  - Relevance
  - Availability of data
  - Ethical issues

# STEPS IN FORMULATION OF A RESEARCH PROBLEM

- It is assumed that the researcher has
  - a reasonable level of knowledge in the broad subject area within which the study is to be undertaken.
  - a) Identify a subject area of interest
  - b) Dissect the broad area into sub areas.
  - c) Select what interests you the most.
  - d) Raise research questions.
  - e) Formulate objectives.
  - f) Assess your objectives.

# EXAMPLES OF RESEARCH QUESTIONS

- **Too narrow:** What is the childhood obesity rate in Phoenix, AZ?
- This is too narrow because it can be answered with a simple statistic. Questions that can be answered with a "yes" or a "no" should also typically be avoided.
- **Less narrow:** How does the education level of the parents impact childhood obesity rates in Phoenix, AZ?
- This question demonstrates the correct amount of specificity and the results would provide the opportunity for an argument to be formed.

# EXAMPLES OF RESEARCH QUESTIONS

- **Unfocused and too broad:** What are the effects of childhood obesity in the United States?
- This question is so broad that research methodology would be very difficult and the question is too broad to be discussed in a typical research paper.
- **More focused:** How does childhood obesity correlate with academic performance in elementary school children?
- This question has a very clear focus for which data can be collected, analyzed, and discussed.

# EXAMPLES OF RESEARCH QUESTIONS

- **Too simple:** How are school systems addressing childhood obesity?
- This information can be obtained without the need to collect unique data. The question could be answered with a simple online search and does not provide an opportunity for analysis.
- **More Complex:** What are the effects of intervention programs in the elementary schools on the rate of childhood obesity among 3<sup>rd</sup> - 6<sup>th</sup> grade students?
- This question is more complex and requires both investigation and evaluation which will lead the research to form an argument that may be discussed.

# TASK - I

- Write one page description of what area within Your Domain (i.e- Zoology, Computer Science, Chemistry) holds the most promise for you to find a research question to work on
- Do write a research question from the selected area.