

Q) Definitions of Research?

- \* Research can be defined as the scientific & systematic search for information on a specific topic, essentially a quest for knowledge.
- \* Research is the art of scientific investigation.
- \* Research is a careful investigation or inquiry aimed at uncovering new facts in any branch of knowledge.
- \* Research is a systematized effort to gain new knowledge.
- \* Research is described as a movement from the known to unknown. It is actually a voyage of discovery.
- \* Research involves formulation of a hypothesis or proposition of solutions & data analysis.

Q) Types of Research?

- ① Descriptive & Analytical
- ② Applied & Fundamental
- ③ Quantitative & Qualitative
- ④ Conceptual & Empirical
- ⑤ Time Based & Environment based
- ⑥ Purpose Based & Historical

- 1) Descriptive Research.
- Descriptive research focuses on describing the current state of affairs through survey and inquiries without influencing the variables.
  - Ex: Survey to understand peoples opinions
- Analytical Research.
- Analyzing available facts and information to make critical evaluations.
  - The researcher uses existing data to uncover underlying causes & draw conclusions.
  - Ex: Studying past research papers.

- 2) \* Applied Research: It aims to find solutions for immediate practical problems facing society or organizations. It is focused on discovering information that can be directly applied to real-world challenges.
- Ex: Research on developing new medicines
- \* Fundamental Research:
- It is also known as basic or pure research.
  - It aims to expand scientific knowledge without immediate practical application.
  - Ex: Studying a structure of atom  
Studying DNA structure
- 3) \* Quantitative Research:
- It is based on the measurement of quantity or amount.
  - It is applicable to phenomena that can be expressed in terms of quantity, such as statistics and numerical data.
  - Ex: Conducting experiments with measurable outcomes.

### \* Qualitative Research :-

- It is concerned with qualitative phenomena, such as investigating the reasons behind human behaviour.
- Ex :- Interviewing and Case-Study.

### 4) \* Conceptual Research :-

- It is related to abstract ideas or theories.
- It is often used by philosophers and thinkers to develop new concepts or interpret existing ones.
- Ex :- Developing new Economic theory.

### \* Empirical Research :-

- It relies on experience or observation. It is data-driven and involves experiments or observations to test hypotheses & draw conclusion.
- Ex :- Testing a new mobile app with users.

### 5) \* Time-based Research :-

- Research can be either one-time or longitudinal on the time frame of study.
- Ex :- Studying climate change over decades.

### \* Environment based Research :-

- Research can be conducted in a field setting, laboratory or through simulation, depending on the environment.
- Ex :- Studying a pollution in a city.

### 6) \* Purpose-Based Research :-

- Research can be exploratory, formalized clinical or decision-oriented, depending on its purpose.
- Ex :- Researching new policies for education.

## \* Historical:

- Historical research utilizes historical sources to study ideas & events of the past.

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Ex: Analyzing ancient scripts to understand early civilizations.

## Q) Steps Involved in research process?

### 1) Formulating the Research Problem:

- Research can be categorized into those related to states of nature & relationships between variables.
- The first step is selecting & defining a specific problem.
- The formulation of research problem involves understanding it thoroughly & rephrasing it into analytical terms for clarity.
- Ex: Studying the impact of unemployment on youth mental health

### 2) Extensive Literature Survey:

- A brief summary should be written after formulating the research problem, especially for thesis submissions requiring approval.
- Exploring previous studies & survey involves reviewing academic journals, books and reports to ensure strong foundation for the study.
- Ex: Analyzing previous studies on employment & depression rates among youth.

### 3) Development of Working Hypothesis:

- Discussions with colleagues and experts about the problems, its origin & objectives in seeking solution
- Examination of data & records, if available, concerning the problem for possible trends
- Review of similar studies in the area or of the studies on similar problems
- Ex: Unemployment increases stress & anxiety among youth.

### 4) Preparing of Research Design:

- The preparation of research design involves
  - (i) the means of obtaining the information
  - (ii) the availability and skills of the researcher & his staff
  - (iii) the time available for research
  - (iv) cost factors relating to research & resource availability
- Ex: Using Surveys & Case Studies to assess the mental health of unemployed youth.

### 5) Determine the Sample Design:

- Select a group that represents the affected population.
- \* Probability Sampling: Simple Random, Systematic, Stratified clusters, Multi-Stage.
- \* Non-probability Sampling: Convenience, Judgmental, Quota, Deliberate, Sequential.
- Ex: Choosing 400 unemployed young adults from different regions.

### 6) Collecting the data:

- Primary data can be collected either through experiment or through Survey.
- Data can be collected by
- ① By observation
  - ② Through personal interview
  - ③ Through telephone interview
  - ④ By Mailing of questionnaires
  - ⑤ Through schedules
- Ex: Conducting interviews with unemployed graduates about their struggles

### 7) Execution of the Project:

- It is crucial for collecting adequate and reliable data, and it should be done systematically & within the timeline
- The survey should be monitored for unanticipated factors and steps must be taken to maintain statistical control, ensuring data accuracy.
- Ex: visiting communities with high unemployment rates to collect real time data

### 8) Analysis of data:

- It includes key operations such as Coding, tabulation, classification & statistical computation
- Use statistical tests to validate hypothesis
- Ex: Analyzing Collected Unemployment rates in a city

## 9) Hypothesis Testing :

- Researcher can test the hypotheses formulated earliest  
to see if facts supports or contradict them.
- Various statistical tests, such as chi-Square test,  
t-test, F-test
- Ex: Comparing stress levels among unemployed  
youth & those with stable jobs.

## 10) Generalization & Interpretation:

- If a hypothesis is tested & upheld several times  
it may be possible for the researcher to arrive  
at generalization i.e. to build theory.
- The process of interpretation may quite often  
trigger off new questions which in turn lead  
to further researches
- Ex: If the results shows a strong link, government  
policies should focus on job creation to improve  
mental health

## 11) Preparation of Report or Thesis:

- The layout of report should be as follows
- (i) the preliminary pages
  - (ii) the main text
  - (iii) the end matter
- Present the research in a structured format with  
conclusions & recommendations
- Ex: Writing a report on "The ~~blocks~~ psychological  
Effects of Unemployment Among youth".

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### \* Significance of Research:

- Encourages scientific & inductive thinking, Analytical
- Imp in applied economics, Solving business & government issues
- Foundation for government policies
- Budget & policies making
- Government program.
- Sectors like Agriculture, Education, Industry, defence
- Government has 3 phases -① Investigating economic structure  
                                  ② Diagnosing current events  
                                  ③ Forecasting future development
- Mathematical & Analytical
- Interaction with people.

In addition to above.

- ① To those students who are to write a master's or phd thesis, research may mean careerism or a way to attain high position.
- ② For professionals it may mean source of livelihood
- ③ To philosophers & thinkers (it) mean outlet of new ideas & insights  
       ↓  
       research.
- ④ To literary men & women, research may mean development of new styles & creative work
- ⑤ For analysts & intellectuals it mean generalization of new theories