



# Research Methodology

(Lecture 6)

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# Previous Lecture

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- Research Process
  - Step 3: Developing The Objectives
  - Step 4: Developing Research Design



# Outline

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- Step 5: Data Collection:
  - Primary Data
  - Secondary Data



# Research Process

– Typical Steps of research process:

Define research problem

literature Review

Developing the objectives

Preparing the research design

Data collection

Data analysis

Generalization and Interpretation

Writing Report



# Data Collection

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- Having formulated the research problem, developed a study design, constructed a research instrument and selected a sample, you then collect the data from which you will draw inferences and conclusions for your study.
- Systematic gathering of data for a particular purpose from various sources, that has been systematically observed, recorded, organized.
- Data is one of the most important and vital aspect of any research study.

# Data Collection

– The purpose of data collection are:

1. To obtain information
2. To make decisions about important issues
3. To pass information on to others

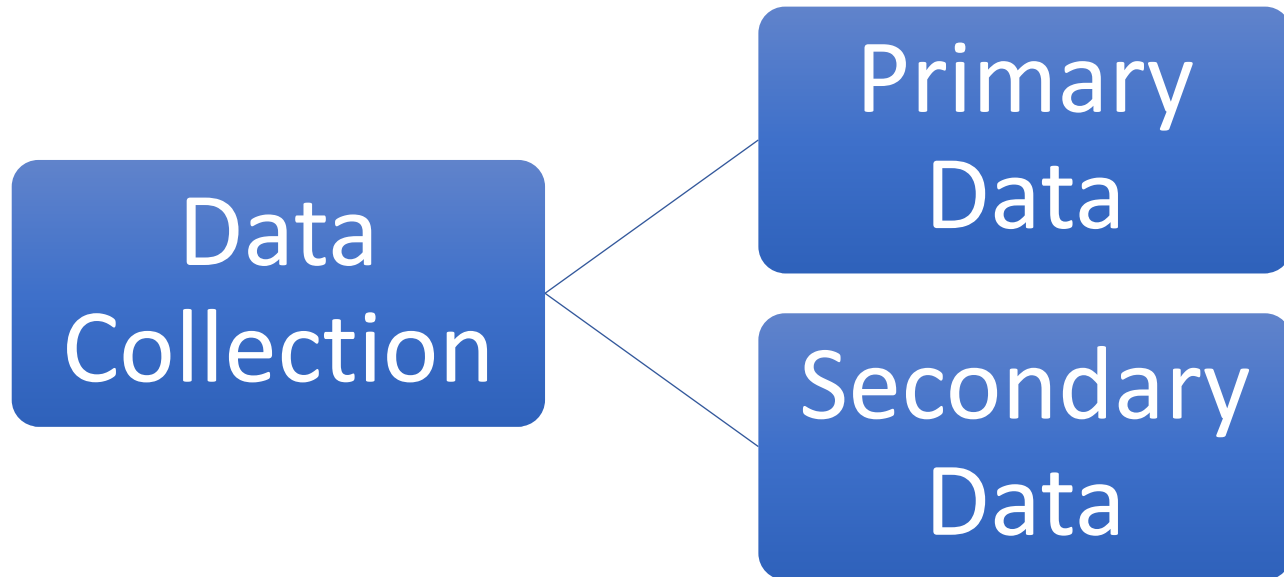




# Data Collection

## ❖ Methods of Data Collection:

- There are two types of data **primary data** (collected for the first time), and **secondary data** (those which have already been collected and analyzed by someone else).





# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

- The data which are collected from the field under the control and supervision of an investigator.
- Primary data means original data that has been collected specially for the purpose in mind.
- This type of data are generally afresh and collected for the first time.
- It is useful for current studies as well as for future studies
- For example: your own questionnaire.



# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

- For example: your own questionnaire.

#### Questionnaires

##### Key points of a good questionnaire

How old are you?

\_\_\_\_\_

How old are you?

☐

under 18 years

☐

18 - 30 years

☐

over 30 years

Don't you agree that watching too much TV is bad for you?

☐

yes

☐

no

Watching too much TV is bad for you.

☐

strongly disagree

☐

disagree

☐

agree

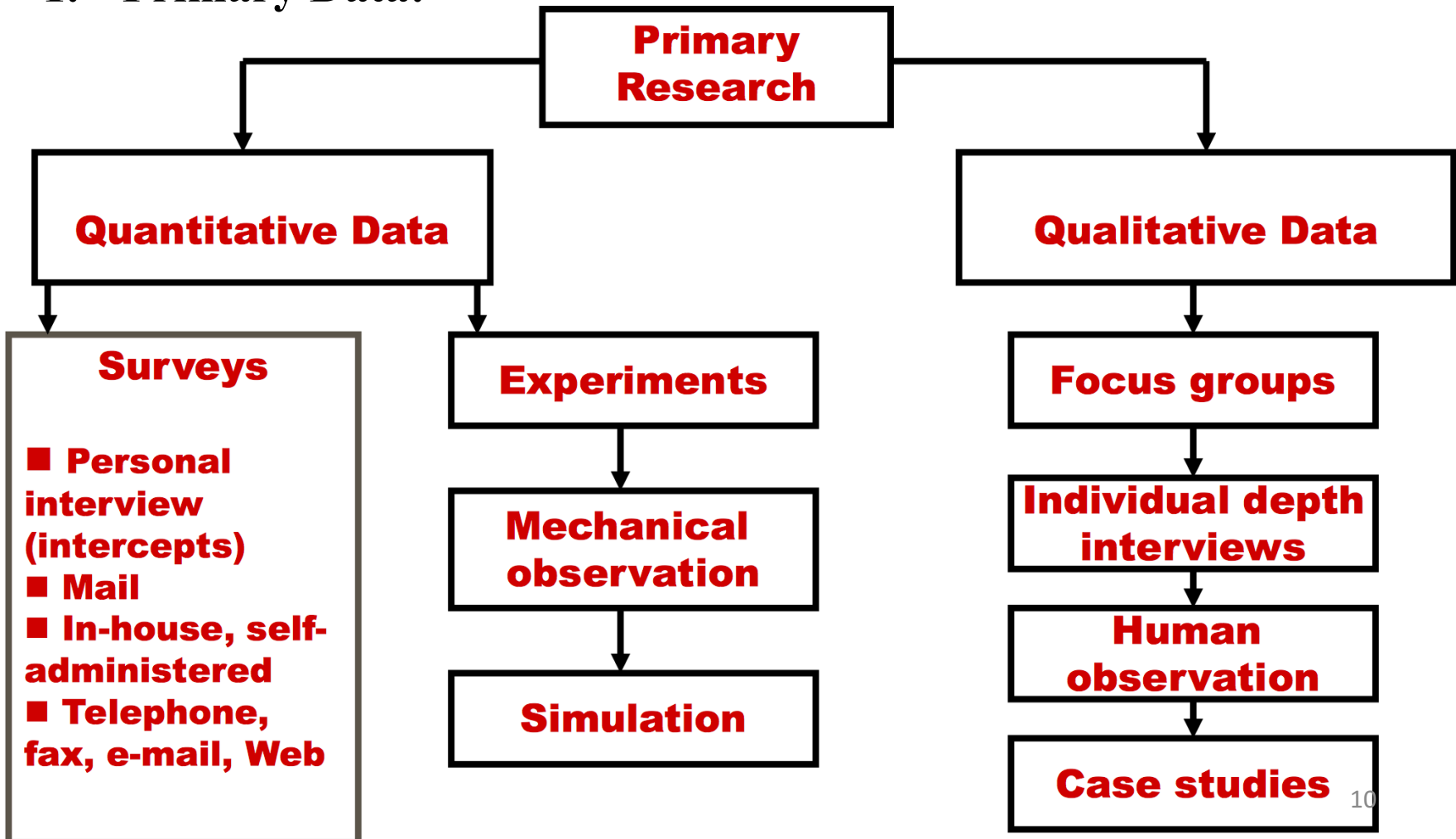
☐

strongly agree

# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:





# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

- **Quantitative Information:** based on numbers – 56% of 18 year olds drink alcohol at least four times a week -. doesn't tell you why, when, how.
- **Qualitative Information:** more detail – tells you why, when and how!



# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Quantitative Research:

- Numerical
- Statistically reliable
- Projectable to a broader population



# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Sampling Methods:

- I. **Random Samples:** equal chance of anyone being picked
  - May select those not in the target group indiscriminate
  - Sample sizes may need to be Large to be representative
  - Can be very expensive



Assign Numbers,  
Auto-Generate Random  
Selections

# Data Collection

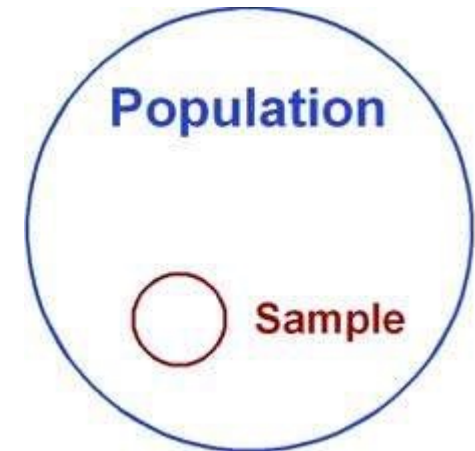
## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Sampling Methods:

## II. Stratified or Segment Random Sampling:

- Samples on the basis of a representative strata or segment
- Still random but more focused
- May give more relevant information
- May be more cost effective



# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

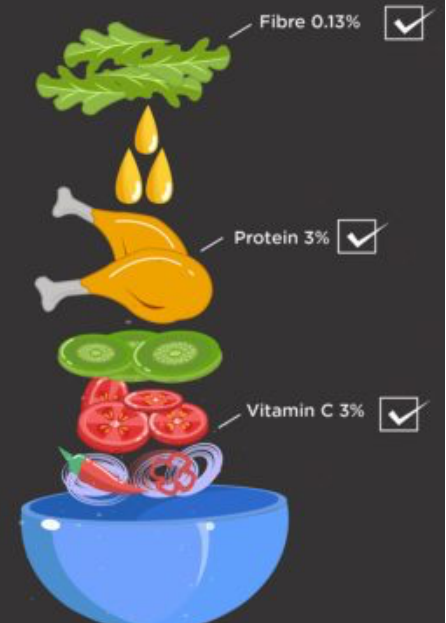
#### – Sampling Methods:



Random Sampling



Systematic Sampling



Stratified Sampling

# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Qualitative Research:

- In-depth, insight generating
- Non-numerical
- ‘Directional’

#### – Common Techniques:

- Personal interviews (depth, one-on-one)
- Focus groups (8-12) and mini-groups (36)



QUALITATIVE RESEARCH

# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Qualitative VS Quantitative:

#### Example 1:

##### *Oil Painting*



##### Qualitative data:

- blue/green color, gold frame
- smells old and musty
- texture shows brush strokes of oil paint
- peaceful scene of the country
- masterful brush strokes

#### Example 1:

##### *Oil Painting*



##### Quantitative data:

- picture is 10" by 14"
- with frame 14" by 18"
- weighs 8.5 pounds
- surface area of painting is 140 sq. in.
- cost \$300

# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Methods:

- **Observation method:** Through personal observation
- **Personal interview:** Through Questionnaire
- **Telephone interview:** Through Call outcomes, Call timings
- **Mail survey:** Through Mailed Questionnaire





# Data Collection

## ❖ Methods of Data Collection:

### 1. Primary Data:

#### – Advantages:

- Data interpretation is better
- Efficient Spending for Information
- Addresses Specific Research Issues
- Targeted Issues are addressed
- Proprietary Issues

#### – Disadvantages:

- High Cost
- Time Consuming
- Inaccurate Feed-backs
- More number of resources is required



# Data Collection

## ❖ Methods of Data Collection:

### 2. Secondary Data:

- Data gathered and recorded by someone else prior to and for a purpose other than the current project
- Secondary data is data that has been collected for another purpose.
- It involves less cost, time and effort
- Secondary data is data that is being reused. Usually in a different context.
- For example: data from a book.



# Data Collection

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## ❖ Methods of Data Collection:

### 2. Secondary Data:

- Sources of secondary data are:
  - Journals
  - Books
  - Magazines
  - Newspaper
  - Libraries
  - The Internet



# Data Collection

## ❖ Methods of Data Collection:

### 2. Secondary Data:

#### – Advantages:

- Ease of Access
- Clarification of Research Question
- Low Cost to Acquire

#### – Disadvantages:

- Not Specific to Researcher's Needs
- Incomplete Information



# Data Collection

## ❖ Differences between Primary & Secondary Data:

Primary Data	Secondary Data
Real time data	Past data
Sure about source of data	Not sure about of sources
Costly & Time consuming process	Cheap & no time
More flexible	Less flexible
Data collected for first time under supervisor	Data collected before and reused



# Data Collection

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- ❖ There are a number of ethical concerns related to the researcher:

## 1. Avoiding bias:

- Bias on the part of the researcher is unethical. Bias is a deliberate attempt to either to hide what you have found in your study, or highlight something disproportionately to its true existence.

## 2. Using inappropriate research methodology:

- It is unethical to use a method or procedure you know to be inappropriate e.g. selecting a highly-biased sample, using an invalid instrument or drawing wrong conclusions.



# Data Collection

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- ❖ There are a number of ethical concerns related to the researcher:

## **3. Incorrect reporting:**

- To report the findings in a way that changes or slants them to serve your own or someone else's interest, is unethical.

## **4. Inappropriate use of the information:**

- The use of information in a way that directly or indirectly adversely affects the respondents is unethical. If so, the study population needs to be protected. Sometimes it is possible to harm individuals in the process of achieving benefits for the organizations.



# Questions & Answers

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THANK  
YOU