Descriptive Statistics

Data collection

- **Under this section;**
  - **Introduction**
  - **Methods of data collection**
  - **Advantage and Disadvantage of each method**

Introduction

- Data collection means **gathering information** to address critical questions that you have identified earlier.
- To plan data collection, you must think about the **questions to be answered** and the

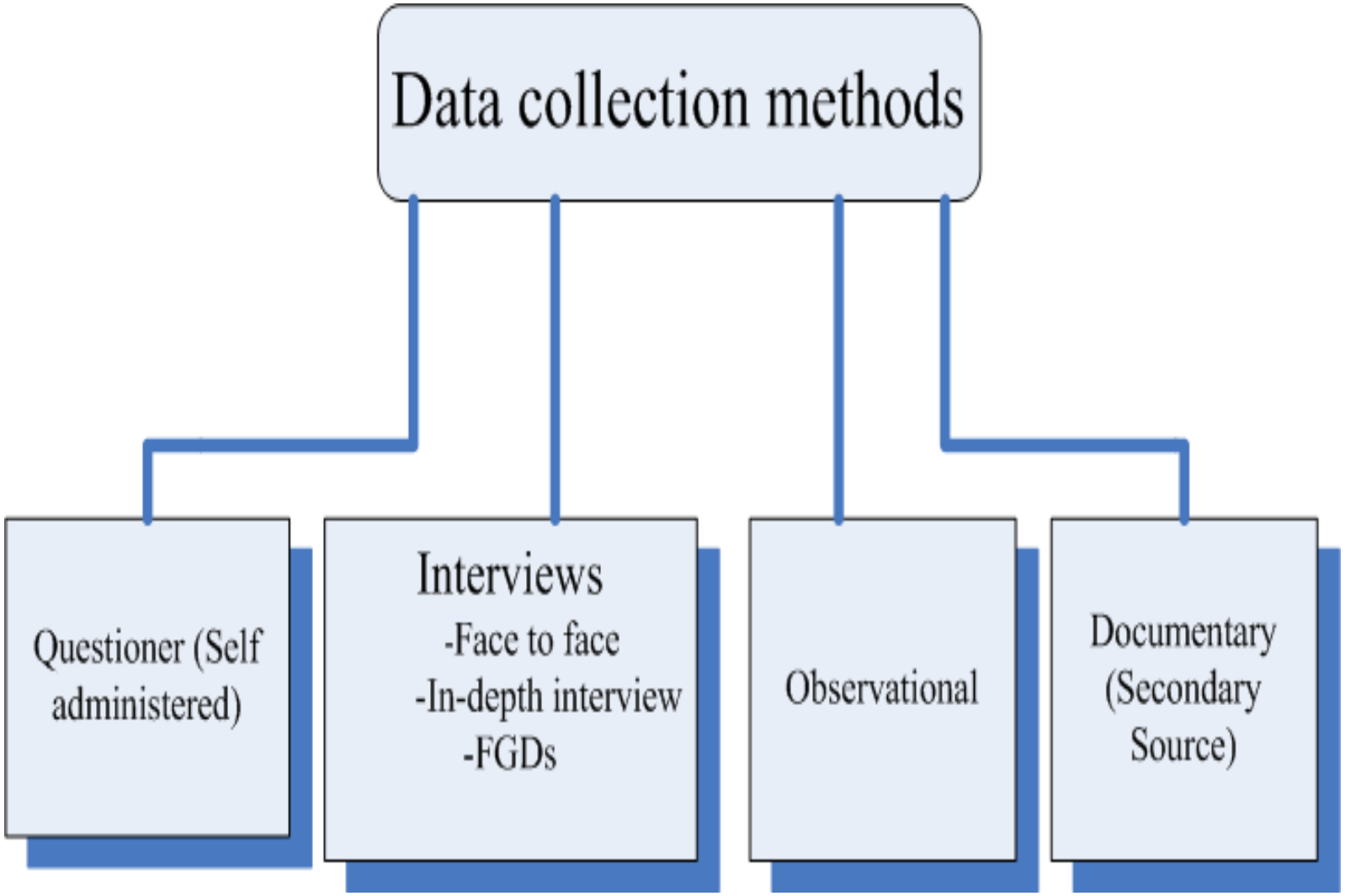
Pre-Data Collection Steps

1. Clearly define the **objectives** of the data collection
2. Reach understanding and agreement on methodology for the data collection plan
3. Ensure data collection repeatability and accuracy

What methods should be used to collect data?

The selection of a method for collecting information must balance several concerns including

- Resources available
- Acceptability
- Analysis and reporting
- And the skill of the investigator


Data collection methods
Questioner (Self administered)
Interviews
-Face to face
-In-depth interview
-FGDs
Observational
Documentary (Secondary Source)

1. Questionnaire

- **Steps**;
  - Develop the questionnaire
  - Duplicate it
  - Distribute for the respondents

    - Advantages:-

      » Can cover a large number of people or organizations

      »Relatively cheap

      » No prior arrangements are needed

      » No interviewer bias

…cont’d

Disadvantages:

- Design problems
- Questions have to be relatively simple
- Time delay for waiting response
- Assume no literacy problem
- Historically low response rate
- Not possible to give assistance if required

2. Interview Method

- **Def**. Interviewing is a technique that is primarily used to gain an understanding of the under lining reasons and motivations for peoples' attitudes preferences or behavior.

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- **A. face to face interview**

  - **Is** low degree flexibility **interview:**

Advantages :-

» Good response rate

» Completed and immediate

» Interviewer in control and can give help if there is a problem

- **Disadvantages:-**
  - Need to set up interviews
  - Geographic limitations
  - Can be expensive

Cont…

B. **In-depth interview**

- Is High degree flexibility **interview:**
- characterized by extensive questioning and open-ended questions,

Cont…

- Goals:
  - To get narrative, stories
  - To obtain broader context of your research problem
- It Lasts 30-90 minutes
- It requires a minimum sample size 20-30 respondents

Cont…

- When to use In-depth interview
  - When the subject matter is highly sensitive.
  - For example, conducting a study among women who have had an abortion, regarding their feelings about sexuality and family planning.

C. Focus group discussion

- Is an interview conducted by a trained moderator in a non structured and natural manner with a small group of respondent.
- Moderator- leads the discussion

Focus group discussion (FGD)



What is a focus group?

- A qualitative data collection technique involving indepth, guided discussions among a group of participants facilitated by a moderator
- Somewhere between a meeting and a conversation
- The purpose of FGD is to obtain in-depth information on concepts, perceptions, and ideas of the group

FGD…

- Good way to get a sense of:

 Social norms related to a given topic

 Explicit use of **group interaction to produce data and** insights that would be hard to get otherwise

Cont...

- Last 1-2 hours
- Helper takes notes

- **Advantages:-**
  - »Quick result and cost-effective
  - »Groups may generate important issues
  - » ideas as how to proceed with the study may be generated.

Cont’d

- **Disadvantages:-**
  - Topic of discussion may be missed
  - The discussion may be manipulated by the moderator.
  - Needs well trained professionals

3. Observation

- involves recording the behavioral patterns of people, objects in a systematic manner.

Methods may be :

» Structured/ Unstructured

»Non-participant/ Participant

Cont’d

- Advantages:-
  - Gives more accurate data on **behavior** and **activities**
  - Information can be collected on facts
- Disadvantages:-
  - Investigators or observers own bias
  - Need more resource & skills

Structured vs Unstructured

- **Structured observation**
  - The **researcher specifies** what is to be observed and how the measurements are recorded.
  - appropriate when the problem is clearly defined

cont’d

- **Unstructured observation:**
  - The researcher monitors all aspects of the phenomenon that seems relevant.
  - It’s appropriate when the problem has yet to be formulated precisely
  - The potential for bias is high

participant vs Non-participant

- **Participant observation**
  - The researcher is part of the group that is being investigated .
  - The researchers would live in tribal villages attempting to understand the customs and practices of that culture.

Non-participant

- The observer(he or she) does not normally question or communicate with the people being observed. or
- The observer watches the situation, openly or concealed, but does not participate

- **4. Documentary sources(secondary data)**
  - Clinical and other personal records
  - Birth/Death certificate
  - Published mortality statistics
  - Epidemic reports
  - Census publications

Cont…

- **Advantages:**
  - relatively easy
  - The best means of studying past events.
- **Disadvantages:**
- ✓ Problems of reliability and validity b/c:
  - Since the records are maintained ***not for research purposes***
  - ***Presence of Incomplete data***

Questionnaire Design

- **Questionnaire Design -** refers to the design (text, order, and conditions for skipping) of the questions used to obtain the data needed for the survey.

Objectives in designing questionnaires

- **To maximize** the proportion of subjects answering our questionnaire that is, the response rate.
- To obtain accurate and relevant information for our survey.

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Types of Questionnaires

- ***A. Open-ended***
- Respondents do not provided any standard answers to choose from.

  Eg. What do you like best about your study?

_____

_____

_____

B. ***Closed-ended (forced choice) Questions***

- is one in which you provide the response categories, and the respondent just chooses one:

Eg. How old are you?

(a) 12 - 15 years old
(b) 16 - 25 years old
(c) 26 - 35 years old

The steps required to design questionnaire

1. Defining the Objectives of the survey
2. Determining the Sampling Group
3. Writing the Questionnaire

➢While writing the Questionnaire

- Target the vocabulary and grammar to the population be surveyed
  - Be careful to avoid your familiar language

- Avoid uncertainty and confusion
- Avoid emotional language and leading questions
- Avoid double-barreled questions

  E.g. "Does your company have pension and health insurance benefits?"
- Avoid asking about future intentions

- **Arranging the questions (placement of questions)**

  - Go from general to particular.
  - Go from easy to difficult.
  - Start with closed format questions.
  - **A**sk background questions that have a clear use in the analysis,

Trial the questionnaire as much as possible

- Pre-testing
  - is important in identifying any problems related with
    - Format or wording
    - Ambiguities

Translation

- To assess that
  - Whether the question is **understood in the same way** with researcher or not.
  - To convert the questioner into locally acceptable language.

Interviewing Techniques

- Use short and simple sentences
- Ask for only one piece of information at a time
- Avoid negatives if possible

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- Ask precise questions
- Ensure those you ask have the necessary knowledge
- Minimize bias

Thank you !!

Thank You!