

# Ch- 5: Methods of Data Collection

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# Introduction

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- Data collection possibilities are wide and varied with any one method of collection not inherently better than any other
- Each has pros and cons that must be weighed up in view of a rich and complex context

## **Secondary Sources of data**

- Secondary sources of data are those, which have been collected by other individuals or agencies.
- As much as possible secondary data should always be considered first, if available.

# SOURCES OF INFORMATION

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graph TD; A([SOURCES OF INFORMATION]) --> B[Primary Source]; A --> C[Secondary Source];
```

## Primary Source

- Data is collected by researcher himself
  - Data is gathered through questionnaire, interviews, observations etc.

## Secondary Source

- Data collected, compiled or written by other Researchers or agency

# Secondary Sources of data

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- The researcher, before using secondary data, must see the following characteristics.
  - **Reliability of data:**
  - **Suitability of data:**
  - **Adequacy of data:**

## Sources of Secondary Data

- Books
- Periodicals
- Government documents
- Organizational reports
- Company publications
- Personal documents (historical studies)
- Others

# Economics Resources: Data

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- LOCAL SOURCES
  - MoFED
  - CSA
  - NBE
  - DHS
  - etc
  
- INTERNATIONAL
  - WB: WDI
  - IMF: IFS
  - UN
  - ADB
  - etc

# Advantages of Secondary data

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- Secondary sources can usually be found more quickly and cheaply.
- Most research on past events or distant places has to rely on secondary data sources.
- It has great exploratory value
- It may be very accurate.
  - When especially a government agency has collected the data, incredible amounts of time and money went into it. It's probably highly accurate.

# Limitations

- The information often does not meet one's specific needs.
  - Definitions might differ, units of measurements may be different and different time periods may be involved.
- It is difficult to assess the accuracy of the information b/c one knows little about the research design or the conditions under which the research took place.
- Data could also be out of date.
  - A study made five years ago may not be relevant today

# Primary data

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- Primary data – data you collect
  - collected afresh and for the first time and thus happen to be original in character
- Primary data can be collected through
  - Experimentation or
  - Surveys

## **Limitations**

- Do you have the time and money?
- Uniqueness: May not be able to compare to other populations



# Qualitative and Quantitative approaches

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- There are two approaches to primary data collection:
  - the qualitative approach and
  - the quantitative approach
- Quantitative data collection methods produce numbers.
  - Harder to develop but Easier to analyze
- Qualitative data collection methods produce words.
- Quantitative methods are more structured and allow for aggregation and generalization.
- Qualitative methods are more open and provide for depth and richness.

# Which Data?

*If you:*

*Then Use:*

- 
- want to conduct statistical analysis
  - want to be precise
  - know what you want to measure
  - want to cover a large group

Quantitative

- 
- want narrative or in-depth information
  - do not need to quantify the results
  - are not sure what you are able to measure

Qualitative

# Quantitative and Qualitative

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**"Not everything that counts can be counted."**



5 (Quantity) Happy (Quality) Kids

# Primary Data Collection Methods

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Quantitative methods	Qualitative methods
Surveys Questionnaires	Focus groups
Tests/Experiments	Unstructured interviews
	Unstructured observations
	case studies

# Methods of data collection

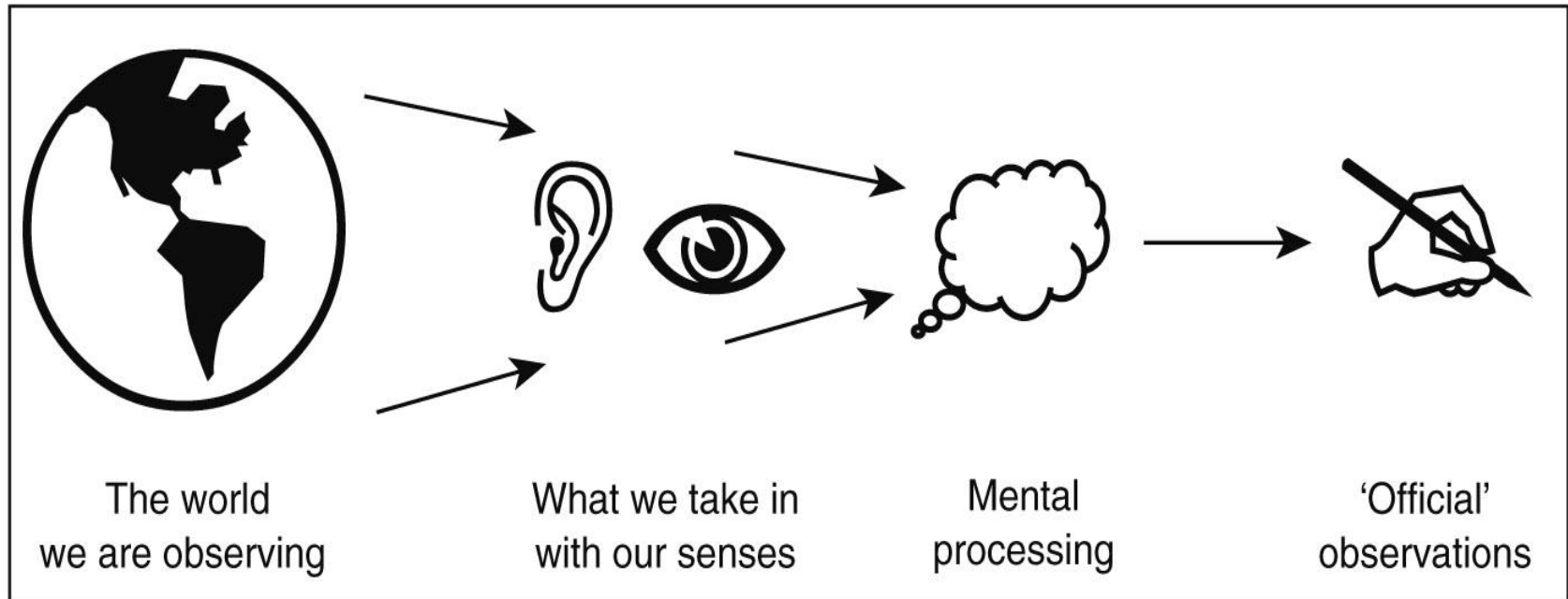
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## OBSERVATION METHOD

- ***Observation:*** A systematic method of data collection that relies on a researcher's ability to gather data through their senses
- most commonly used method of data collection especially, in behavioral studies
- Observation includes the full range of monitoring behavioral and non-behavioral activities
- See what is happening
  - traffic patterns
  - layout of city and rural areas
  - quality of housing
  - condition of roads
  - who goes to a health clinic

# Observation...

- To notice using a full range of appropriate senses
- Filtering Observations



**FIGURE 11.1** FILTERING OBSERVATIONS

# Observation is Helpful when:

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- the subjects are not capable of giving verbal reports of their feelings
- need direct information
- trying to understand ongoing behavior
- there is physical evidence, products, or outputs that can be observed
- need to provide alternative when other data collection is infeasible or inappropriate

# Types of observation

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- Based on degree of structure
  - **Structured:** Highly systematic and often rely on **predetermined criteria** related to the people, events, practices, issues, behaviours, actions, situations, and phenomena being observed.
  - **Semi-structured:** Observers generally use some manner of observation schedule or checklist to organize observations, but also attempt to observe and record the unplanned and/or the unexpected.
  - **Unstructured:** Observers attempt to observe and record data without predetermined criteria.



# Types of observation

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## Depending on the nature of the observer

- **Secretive** - where the subjects of the study are unaware that they are being observed
- **Non-participant**: where the subjects of the study are aware that they are being observed but the observer takes no part in the behavior being observed.
- **Participant**: In this role, the researcher is, or becomes, a part of the team, community, or cultural group they are observing i.e. when the subject and the observer interact.

# *Advantages of observation method*

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- subjective bias is eliminated, if observation is done accurately
- the information obtained relates to what is currently happening; it is not complicated by either the past behavior or future intentions or attitudes
- it is independent of respondents' willingness to respond and as such is relatively less demanding of active cooperation on the part of respondents

# *Limitations*

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- expensive: requires either human observers or some type of costly surveillance equipment
- the information obtained is limited ;
- Limited as a way to learn about the past, or difficult to gather information on such topics as intentions, attitudes, opinions and preferences.

# Surveys

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- Surveying involves gathering information from individuals using a questionnaire
- Surveys can
  - reach a large number of respondents
  - generate standardized, quantifiable, empirical data - as well as some qualitative data
  - and offer confidentiality / anonymity
- Designing survey instruments capable of generating credible data, however, can be difficult

## Basic Survey Types

- Surveys can be administered in a number of ways:
  - Face to face interview; Telephone interview; Self-administered questionnaire (schedules)

# Survey Construction

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- Survey construction involves
  - formulating questions and response categories
  - writing up background information and instruction
  - working through organization and length
  - determining layout and design

# Response Categories

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- Survey questions can either be open or closed:
  - ***Open questions:*** These questions ask respondents to construct answers using their own words. Open questions can generate rich and candid data, but it can be data that is difficult to code and analyse
  - ***Closed questions:*** These questions force respondents to choose from a range of predetermined responses, and are generally easy to code and statistically analyse

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## 1. Open-ended Questions

- Free-response  
(Text Open End)
- Fill-in relevant information

## 2. Close-ended Questions

- Dichotomous question
- Multiple-choice
- Rank
- Scale
- Categorical
- Numerical

### **Essentials of a good questionnaire**

- Questionnaire should:
  - ✓ be short and simple
  - ✓ proceed in logical sequence moving from easy to more difficult
  - ✓ Avoid jargons
  - ✓ Avoid leading questions
  - ✓ leave personal questions to the end

# Recording Responses

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- ***Note taking*** - this can range from highly structured to open and interpretive.
- ***Audio recording*** - audio recording allows you to preserve raw data for review at a later date.
- ***Video taping*** - video taping offers the added bonus of being able to record visual cues, but is more intrusive; is prone to more technical difficulties; and can generate data that is hard to analyse.



# Modes of Survey Administration

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- Questionnaire
- Personal interview
- Telephone interview

## Questionnaire

- ✓ Quite popular, particularly in case of big inquiries
- ✓ self-administered
- ✓ a questionnaire can also be sent by post or delivered in person

# The merits of questionnaire

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- it is free from the bias of the interviewer
- respondents have adequate time to give well thought out answers
- respondents who are not easily approachable can also be reached conveniently

## The demerits of questionnaire

- it can be used only when respondents are educated and cooperating
- the control over questionnaire may be lost once it is sent
- there is inbuilt inflexibility because of the difficulty of amending the approach once questionnaires have been dispatched
- There is also possibility of ambiguous replies or omission of replies altogether to certain questions

# Personal Interview

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- Interviewing involves asking respondents a series of open-ended questions
- Personal interview requires a person (interviewer) asking questions in a face-to-face contact to the interviewee.
- Interviews can generate both standardized quantifiable data, and more in-depth qualitative data
- However, the complexities of people and the complexities of communication can create many opportunities for miscommunication and misinterpretation

# Types of personal interview

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- **Structured:** Pre-established questions
- **Unstructured:** draw out information without the use of pre-established questions
- **Semi-Structured:** A mixture of both strategies

**Formal:** A formal interview is just that, formal. Perhaps the best analogy is the classic job interview that includes: the office setting; the formal handshake; appropriate attire; order and structure; and best professional behavior.

**Informal:** An informal interview attempts to ignore the rules and roles associated with interviewing in an attempt to establish rapport, gain trust, and create a more natural environment conducive to open and honest communication.

# Conducting an Interview

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- Conducting an interview that can generate relevant and credible data requires:
  - thorough planning
  - considered preparation of an interview schedule and recording system
  - sufficient piloting
  - reflexive modification
  - the actual interview
  - and appropriate analysis

# Conducting the Interview

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Two important considerations in interviewing are:

- Presentation of self
- Preliminaries
  - Be on time!
  - Set up and check equipment
  - Establish rapport (**r/p**)
  - Introduce the study
  - Explain ethics
- Occasional field checks should be made

# Advantages of personal interviews

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- More info and in greater depth
- The interviewer by his own skill can overcome the resistance.
- There is greater flexibility esp.. unstructured
- personal information can be obtained easily
- non-response generally remains very low
- the language of the interview can be adopted to the ability of the respondent

# Limitations of personal interview

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- It is very expensive
- Bias of interviewer as well as that of the respondent
- Certain types of respondents may not be easily approachable
- It is relatively more time consuming



# *Telephone interviews*

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- contacting respondents on telephone
- but plays important part in industrial surveys, particularly in developed countries

## **Merits of telephone interview**

- It is faster than other methods
- It is cheaper than personal interview method
- Recall is easy
- Replies can be recorded without causing embarrassment to respondents
- No field staff is required

# Demerits of telephone interview

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- Little time is given to respondents for considered answers
- Surveys are restricted to respondents who have telephone facilities
- It is not suitable for intensive surveys where comprehensive answers are required

**☐ Read about Key informant interview by yourself!!!**

# ***CASE STUDY METHOD***

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- It is a method of in depth study
- more emphasis is given on the full analysis of a limited number of events or conditions and their interrelations.
- A researcher has to make complete study of the social unit covering all facets
- The approach happens to be qualitative and not quantitative

# Schedules

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- Schedules are particular types of questionnaire.
- These methods are very much like collection of data through questionnaires, with little difference.
- Enumerator along with schedule (questionnaires), goes to the respondent,
- Ask them questions from the Performa in the order of the questions listed and record.

# Importance of enumerator

- Interview survey attains higher response rate than mail survey. I.e., a properly executed interview survey can achieve a return rate of at least 80-85%.
- The presence of enumerator generally decrease the number of “don't knows’ and “no answers”
- Enumerator can also reduce confusion of questionnaires item.
- Clarification must be strictly controlled The enumerator can observe as well as ask question
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# General Rule for Interviewing

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## **a) Appearance and Demeanor**

- As a general rule, the interviewer should dress in a fashion similar to that of the people he will be interviewing.
- Richly dressed enumerator will probably have difficulty in getting good cooperation from poor respondent.
- Poorly dressed enumerator will have similar difficulties with richer respondent.

## **b) Familiarity with questionnaires**

- If the enumerator is not familiar with the questionnaires, the study suffers

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### **c) Record responses exactly:**

- No attempt should be made to summarize, rephrase or correct bad grammar.

### **d) Probing responses:**

- Sometimes the respondent will respond to a question with inappropriate answer. Here the better probe is that asking “anything else”.

### **e) Enumerators should be trained in areas of:**

- General description (sponsors, objectives...)
- questionnaires and specifications
- questionnaires and other specifications
- Practice interviews in the field (Pilot survey)

# Focus Group Discussion

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- A focus group is a situation where a focus group moderator or researcher select a small and homogeneous group (of 6-12 people).
- Conduct the discussion on a research topic or issue.
- Focus group sessions generally last between one and three hours and
- The discussion is recorded using audio and/or videotapes.
- Focus groups are useful for exploring ideas and obtaining in-depth information about how people think about an issue
- FGD in combination with other methods, will help us to apply the fundamental principle of mixed research.



# Strengths of Focus Groups Discussion

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- Useful for exploring ideas and concepts.
- Provides window into participants' internal thinking.
- Can obtain in-depth information.
- Can examine how participants react to each other.
- Allows probing.
- Most content can be tapped.
- Allows quick turnaround

# Weaknesses of FGD

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- Sometimes expensive.
- May be difficult to find a focus group moderator with good facilitative and rapport building skills.
- May be dominated by one or two participants.
- Difficult to generalize results if small, unrepresentative samples of participants are used.
- May include large amount of extra or unnecessary information.
- Measurement of validity may be low.
- Usually should not be the only data collection methods used in a study.
- Data analysis can be time consuming because of the open-ended nature of the data.

# Which method shall I use?

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There is no **simple** answer

There is no **ONE** best method

It all depends on...

- **Nature, scope and object of inquiry**
- **Availability of funds**
- **Time**
- **Precision required**

