

Data Collection Methods



WHAT IS DATA?????

Data are the set of values of qualitative or quantitative variables about one or more persons or objects.

- Data are simply units of information.
- Data are measured, collected, reported, analyzed, and used to create data visualizations such as graphs, tables or Images.



**You can have data without
information, but you cannot
have information without data.**

Daniel Keys Moran

QUANTITATIVE DATA (NUMERICAL)

- **Quantitative** – based on numbers – 56% of 18 year olds drink alcohol at least four times a week - doesn't tell you why, when, how.
- Data refers to measurable observations.

- Examples-

- Height of 1st graders
- Weight of sumo wrestlers
- Duration of red lights
- Age of Olympians
- Distance of planets
- Money in 401k plans
- Temperature of coffee (200 F)



QUALITATIVE DATA (CATEGORIAL)

- Qualitative data is the data that can be arranged into categories based on physical traits, gender, colors or anything that does not have a number associated with it.
- Qualitative-involves more details tells you why, when and how!

- Examples-

- Happiness rating
- Gender
- Pass/Fail
- Eye Color
- Interview transcript
- Categories of plants
- Descriptive temperature of coffee ("very hot")

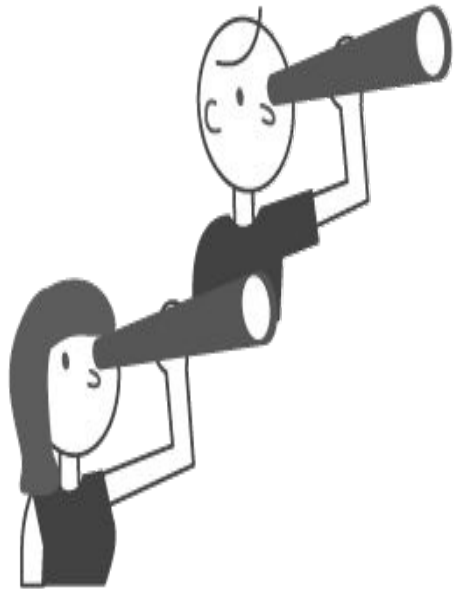


WHAT IS DATA COLLECTION?

- It is the process by which the researcher collects the information needed to answer the research problem.
- The task of data collection begins after a research problem has been defined.



IN COLLECTING THE DATA, THE RESEARCHER MUST DECIDE:



- Which data is to collect?
- How to collect the Data?
- Who will collect the Data?
- When to collect the Data?



THE PURPOSE OF DATA COLLECTION

- The purpose of data collection is-
 - ✓ to obtain information
 - ✓ to keep on record
 - ✓ to make decisions about important issues,
 - ✓ to pass information on to others



METHODS OF DATA COLLECTION

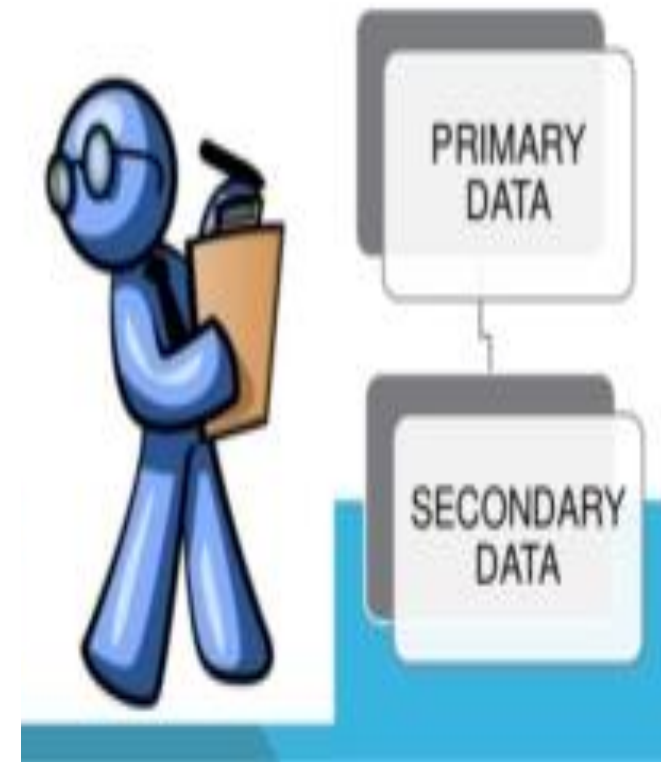
Essentially Two Types:

□ PRIMARY DATA

Primary data are those which are collected for the first time and are original in character.

□ SECONDARY DATA

Secondary data are those which have already been collected-by someone else.



PRIMARY DATA V/S SECONDARY DATA

Primary data

- Real time
- Sure about the sources
- Can answer research question.
- Cost and time
- Can avoid bias
- More flexible

Secondary data

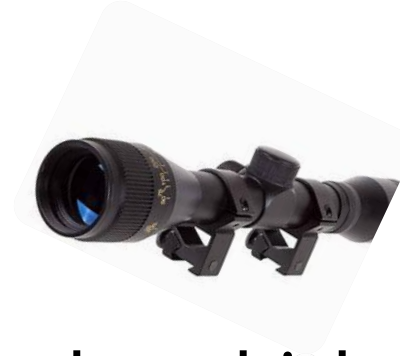
- Past data
- Not sure about sources
- Refining the research problem
- Cheap and no time
- Bias can't be ruled out
- Less flexible

METHODS OF COLLECTING PRIMARY DATA

Primary
Data may
be
collected
through:

- Observation
- Surveys
- Interviews
- Questionnaires
- Schedules

1. Observation Method



Observation method is a method under which data from the field is collected with the help of observation by the observer or by personally going to the field.



STEPS FOR AN EFFECTIVE OBSERVATION

Determine what needs to be observed



Select participants

Random/Selected



Conduct the observation

(venue, duration, recording materials, take photographs)

Compile data collected



Analyze and interpret data collected



TYPES OF OBSERVATION METHODS

1- Structured Observation

When the observation is characterized by a **careful** definition of the units to be observed (**predefined**), the style of recording the observed information, standardized conditions of observation and the selection of related data of observation.

2- Unstructured Observation

When it takes place without the above characteristics.

(**Not predefined**)

3- Participant Observation

When the observer is member of the group which he is observing then it is Participant Observation.

4- Non-Participant Observation

When the observer is not the member of the group which he is observing then it is Non-Participant Observation.

observer is observing people without giving any information to them then it is Non-Participant Observation.

5- Uncontrolled Observation

When the observation takes place in **natural condition** i.e., uncontrolled observation. It is done to get spontaneous picture of life and persons.

6- Controlled Observation

When **observation takes place according to pre-arranged plans**, with experimental procedure then it is controlled observation generally done in laboratory under controlled condition.

ADVANTAGES OF OBSERVATION METHOD

Produces Large quantities of data.

All data obtained from observations are usable.

The observation technique can be stopped or begun at any time.

Relative Inexpensive

DISADVANTAGES OF OBSERVATION METHOD

Interviewing selected subjects may provide more information, economically, than waiting for the spontaneous occurrence of the situation.

Extensive Training is needed.

Limited information

ONE OF THE WIDELY USED
RESEARCH DESIGN TO COLLECT
DATA IS

SURVEYS

HOW TO COLLECT PRIMARY INFORMATION THROUGH SURVEY

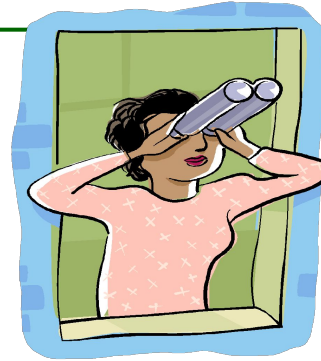
- A researcher can collect information

either

by observation

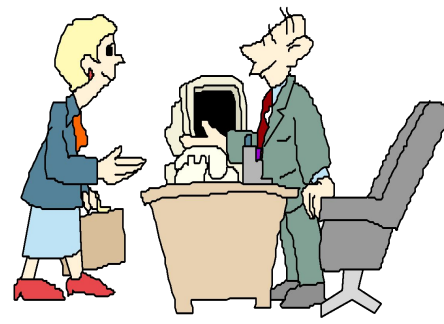
or

by asking.



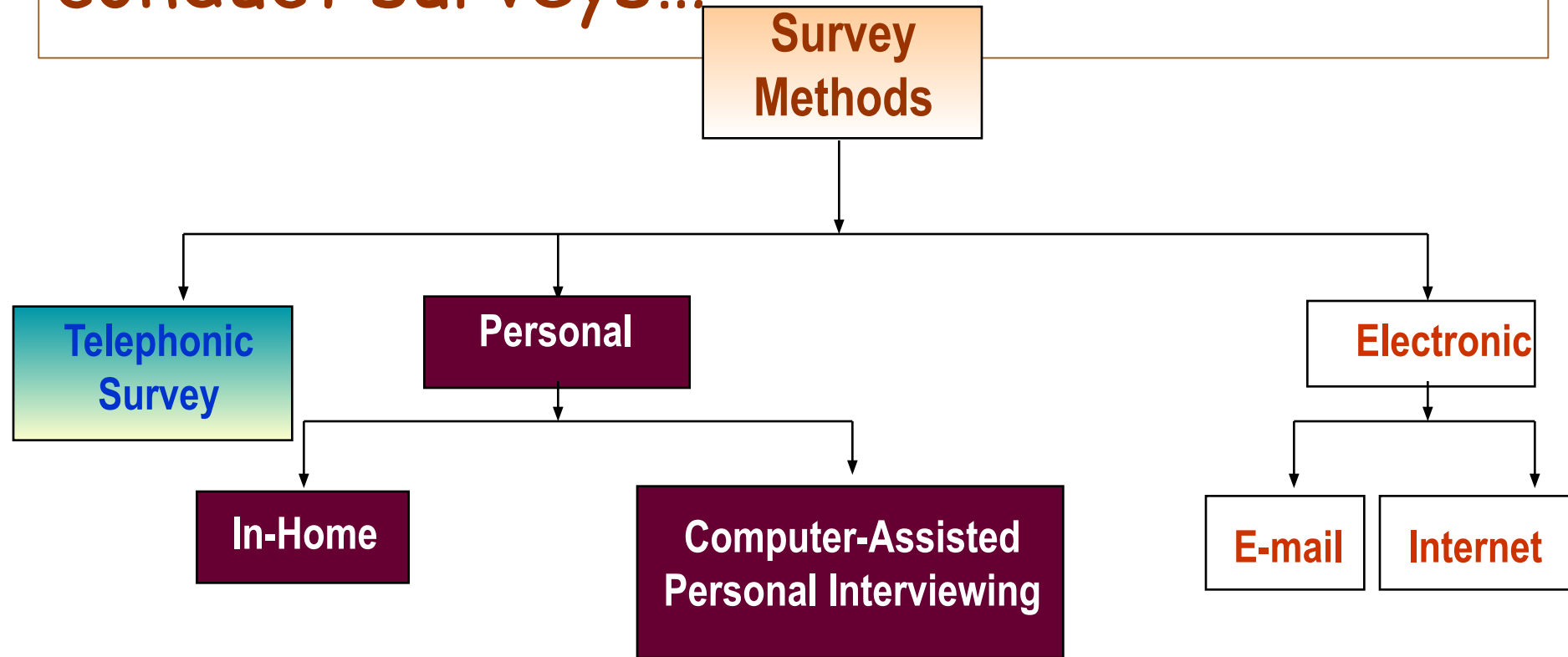
- WHEN HE/SHE ASKS FOR INFORMATION, WE SAY THAT HE/SHE IS CONDUCTING A SURVEY.

2. SURVEY METHOD



- A 'survey' is a technique of gathering information by questioning those individuals who are the object of the research belong to a representative sample, through standardized or questioning procedure, with the aim of studying the relationship among the variables and/or collecting information that probably describe the whole population.

There may be different ways to conduct surveys...



3.INTERVIEW METHOD



- ❑ The Interview Method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral- verbal responses.
- ❑ where the questions are asked personally directly to the respondent.
- ❑ Interviewer asks questions to respondent. (which are aimed to get information required for study)



STEPS FOR AN EFFECTIVE INTERVIEW

- **Prepare interview schedule**
- **Select subjects/ key Respondent**
- **Conduct the interview**
- **Analyze and interpret data collected
from the interview**



TYPES OF INTERVIEW METHODS

1- Structured Interviews :

In this case, a set of predecided questions are there.

2- Unstructured Interviews :

In this case, we don't follow a system of pre-determined questions.

3- Focused Group Interview

- Unstructured and Free flowing
- Focus Group has one Moderator
- Moderator maintains control and focuses discussion
- It involves 6 to 10 people
- Group interview start with broad topic and focus in on specific issues
- Relatively homogeneous
- Similar lifestyles and experiences
- Generate discussion and interaction
- Listens to what people have to say
- Everyone gets a chance to speak

A research method that brings together a small group of consumers to discuss the product or advertising, under the guidance of a trained interviewer.



4- Clinical Interviews :

- Information is generated and utilized at every step this process including the activities of investigation, observation, monitoring, diagnosis, planning, treatment and review.
- They also record their plans, orders, procedures performed, observations, test results, opinions and discussions.

5- Group Interviews :

It is done in a group of 6 to 8 individuals is interviewed.

6- Qualitative and quantitative Interviews :

It is divided on the basis of subject matter i.e., whether qualitative or quantitative.

7- Individual Interviews :

Interviewer meets a single person and interviews him.

8- Selection Interviews :

Done for selection of people for certain Jobs.

ADVANTAGES OF INTERVIEW METHOD

More information at greater depth can be obtained

Resistance may be overcome by a skilled interviewer

Personal information can be obtained

DISADVANTAGES OF INTERVIEW METHOD

It is an expensive Method

Interviewer bias

Respondent bias

Time consuming

4.Questionnaires

The term “questionnaire” refers to an instrument for the collection of data, usually in written form, consisting of open/closed questions and other enquiries requiring a response from subjects.

A Questionnaire is sent (by post or by mail) to the persons concerned with a request to answer the questions and return the Questionnaire.

A Questionnaire consists of a number of questions printed in a definite order on a form.



STEPS FOR AN EFFECTIVE QUESTIONNAIRE

Prepare questions

(Formulate & choose types of questions, order them, write instructions, make copies)



Select your respondents

Random/Selected



Administer the questionnaire

(date, venue, time)



Tabulate data collected



Analyze and interpret data collected



TYPES OF QUESTIONNAIRE METHODS

1- Open-ended questions

This gives the respondents the ability to respond in their own words.

2- Close-ended or fixed alternative questions

This allows the respondents to choose one of the given alternatives.

Types:- Dichotomous questions and Multiple Questions.

ESSENTIALS OF GOOD QUESTIONNAIRE

- ❑ Should be short and simple
- ❑ Follow a sequence of questions from easy to difficult one
- ❑ Technical terms should be avoided
- ❑ Should provide adequate space for answers in questionnaire
- ❑ Directions regarding filling of questionnaire should be given Physical Appearance - Quality of paper, Color
- ❑ Sequence must be clear



ADVANTAGES OF QUESTIONNAIRE METHOD

Low cost -even when the universe is large and is widespread

Free from interviewer bias

Respondents have adequate time to think through the answers.

Respondents who are not easily approachable, can also be reached conveniently.

Large samples can be used

DISADVANTAGES OF QUESTIONNAIRE METHOD

Time consuming

The respondents need to be educated and cooperative

This method is slow

Possibility of unclear replies.

5.Schedules

- Very similar to Questionnaire method
- The main difference is that a schedule is filled by the enumerator who is specially appointed for the purpose.
- Enumerator goes to the respondents, asks them the questions from the Questionnaire in the order listed, and records the responses in the space provided.
- Enumerator must be trained in administering the schedule.



QUESTIONNAIRE VS. SCHEDULE

Questionnaire

- ❑ Q generally send to through mail and no further assistance from sender.
- ❑ Q is cheaper method.
- ❑ Non response is high.
- ❑ In questionnaire, it is not confirmed that expected respondent have filled the answers.

Schedule

- ❑ Schedule is filled by the enumerator or research worker.
- ❑ Costly requires field workers.
- ❑ Non response is low.
- ❑ In schedule identity of person is known.

QUESTIONNAIRE VS. SCHEDULE

Questionnaire

- ❑ Very slow method.
- ❑ Incomplete and wrong
- ❑ Information is more.
- ❑ No personal contacts.
- ❑ Depends on the quality of questionnaire.
- ❑ Q can used only when respondent is educated and well cooperative.

Schedule

- ❑ Information is collected well on time.
- ❑ Depends on Honesty of the enumerator.
- ❑ Direct personal contacts.
- ❑ Relatively more correct and complete.
- ❑ Information can be collected from illiterates also.

SECONDARY DATA COLLECTION METHODS

- Data gathered and recorded by someone else.
- 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.

Secondary data can be an immediate and cost effective means to gaining valuable insight into research issues; provided that the information comes from reliable and timely sources.

---- **Sandy Bautista**

SOURCES OF SECONDARY DATA COLLECTION

INTERNAL SOURCES

Internal sources of secondary data are usually for marketing application-

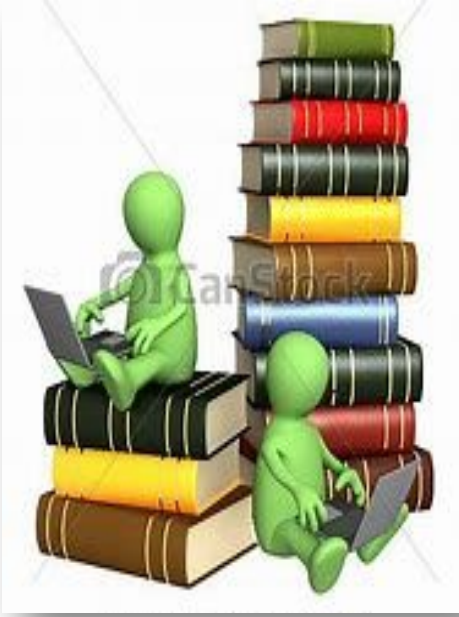
- Sales Records
- Marketing Activity
- Cost Information
- Distributor reports and feedback
- Customer feedback

EXTERNAL SOURCES OF SECONDARY DATA

- Journals
- Books
- Magazines
- Newspaper
- Libraries
- The Internet

SECONDARY DATA SOURCES

- Other Sources of secondary data collection:
 - Publications of Central, state , local government
 - Technical and trade journals
 - Books, Magazines, Newspaper
 - Reports & publications of industry ,bank, stock exchange
 - Reports by research scholars, Universities, economist
 - Public Records



FACTORS TO BE CONSIDERED BEFORE USING SECONDARY DATA

- Reliability of data - Who, when , which methods, at what time etc. must be investigated.
- Suitability of data - Object ,scope, and nature of original inquiry should be studied, as if the study was with different objective then that data is not suitable for current study
- Adequacy of data- Level of accuracy, • Area differences then data is not adequate for study

SELECTION OF PROPER METHOD FOR COLLECTION OF DATA

- Nature ,Scope and object of inquiry
- Availability of Funds
- Time Factor
- Accuracy Required

ADVANTAGES OF SECONDARY DATA METHOD

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

DISADVANTAGES OF SECONDARY DATA METHOD

- ❑ Quality of Research
- ❑ Not Specific to Researcher's Needs
- ❑ Incomplete Information
- ❑ Not Timely