

# METHODS OF DATA COLLECTION

## **What are data?:**

What are data? The term data refers to any kind of information researchers obtain on the subjects, respondents or participants of the study. In research, data are collected and used to answer the research questions or objectives of the study.

# INTRODUCTION

- Various methods of collecting data are employed by social scientists. Here we will discuss the varied dimensions relevant to : data generation and attempt to arrive at an abstract typology involving stimuli, responses and setting for data collection. The task of data collection begins after a research problem has been defined and research design /plan chalked out.





# TYPES OF DATA

- 1) **PRIMARY DATA** : Are those which are collected a **fresh** and for the **first time** and thus happen to be **original in character** and known as Primary data.
- 2) **SECONDARY DATA** : Are those which have been **collected by someone else** and which have **already been passed** through the statistical process are known as Secondary data.



# COLLECTION OF PRIMARY DATA

- There are several methods of collecting primary data, particularly in surveys and descriptive researches. In descriptive research, we obtain primary data either through observation or through direct communication with respondents in one form or another or through personal interviews.





# COLLECTION OF SECONDARY DATA

- These are already available i.e. they refer to the data which have **already been collected and analyzed by someone else.**
- Secondary data may either be published or unpublished data. Researcher must be very careful in using secondary data, because the data available may be sometimes unsuitable.



# Methods of data Collection :Primary Data

- 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.
- In the words of P.V. Young, “**Observation** may be defined as systematic viewing, coupled with consideration of seen phenomenon.”





# ADVANTAGES:

- Subjective bias eliminated (**No bias info**)
- Information researcher gets is Current information
- Independent to respondent's variable (**as in interview and may be bias**)

- **DISADVANTAGES :**

- It is expensive method (**time requires more**)
- Limited information
- Unforeseen factors may interfere with observational task
- Respondents opinion can not be recorded on certain subject

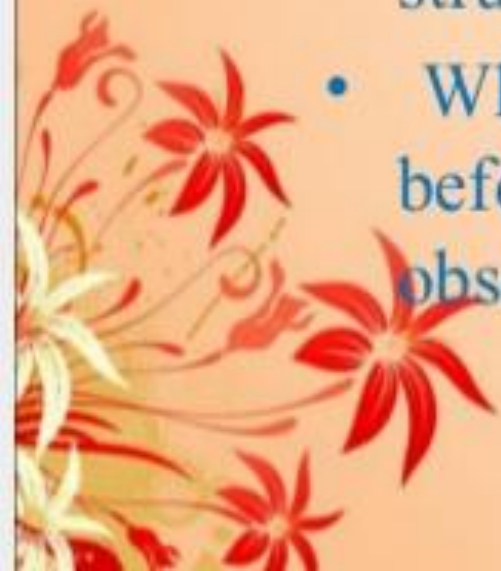




# TYPES OF OBSERVATION

## **Structured and Unstructured Observation**

- When observation is done by characterizing style of recording the observed information, standardized conditions of observation , definition of the units to be observed , selection of pertinent data of observation then it is structured observation
- When observation is done without any thought before observation then it is unstructured observation



## **Participant & Non Participant Observation**

- When the Observer is member of the group which he is observing then it is Participant Observation
- In participant observation Researcher can record natural behavior of group , Researcher can verify the truth of statements given by informants in the context of questionnaire , Difficult to collect information can obtain through this method but in this researcher may loose objectivity of research due emotional feelings. Prob. of control in observation isn't solved.





## **Non Participant Observation**

- When observer is observing people without giving any information to them then it is non participant observation

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

# INTERVIEW METHOD

- This method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses.
- Interview Method This is Oral Verbal communication . Where interviewer asks questions( which are aimed to get information required for study ) to respondent

There are different type of interviews as follows :

## **PERSONAL INTERVIEWS :**

The interviewer asks questions generally in a face to face contact to the other person or persons.



# Types of Personal Interview

## Personal Interview

- Predetermined questions
- Standardized techniques of recording
- Interviewer follows rigid procedure laid down i.e. asking questions in form & order prescribed
- Time required for such interview is less than non structured interview
- Not necessary of skill or specific knowledge
- Analysis of data becomes easier  
Because information is collected in prescribed manner

## Structured Interview

- Flexibility in asking questions
- No Predetermined questions
- No Standardized techniques of recording
- Interviewer has freedom to ask , omit , add questions in any manner
- Ask questions without following sequence
- Deep knowledge & skill required
- Analysis of data is difficult

# Merits of Personal Interview

- Information at greater depth
- Flexibility of restructuring the Questionnaire
- Interviewer by his skill can come over resistance
- Non Response generally low
- Samples can controlled more effectively
- Personal information can be obtained



- Interviewer can collect supplementary information about respondent's personal characteristics and environment which has value in interpreting results

## De Merits Of Interview

- ❖ Expensive method
- ❖ Respondent may give bias information
- ❖ Some Executive people are not approachable so data collected may be inadequate
- ❖ Takes more time when samples are more
- ❖ Systematic errors may be occurred
- ❖ Supervisors has to do complex work of selecting ,training and supervising the field staff.

# TELEPHONIC INTERVIEWS

- Contacting samples on telephone
- Uncommon method may be used in developed regions

## MERITS

- Flexible compare to mailing method
- Faster than other methods
- Cheaper than personal interview method
- Callbacks are simple and economical also
- High response than mailing method.
- when it is not possible to contact the respondent directly, then interview is conducted through – Telephone.



- Replies can be recorded without embarrassment to respondents
- Interviewer can explain requirements more easily
- No field staff is required
- Wider distribution of sample is possible

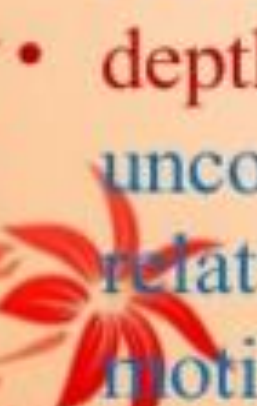
## DEMERITS

- Little time is given to respondents
- Survey is restricted to respondents who have telephones
- Not suitable for intensive survey where comprehensive answers are required
- Bias information may be more
- Very difficult to make questionnaire because it should short and to the point

- **structured interviews** : in this case, a set of pre-decided questions are there.
- **unstructured interviews** : in this case, we don't follow a system of pre-determined questions.
- **focused interviews** : attention is focused on the given experience of the respondent and its possible effects.
- **clinical interviews** : concerned with broad underlying feelings or motivations or with the course of individual's life experience, rather than with the effects of the specific experience, as in the case of focused interview.





- **group interviews** : a group of 6 to 8 individuals is interviewed.
  - **qualitative and quantitative interviews** : divided on the basis of subject matter i.e. whether qualitative or quantitative.
  - **individual interviews** : interviewer meets a single person and interviews him.
  - **selection interviews** : done for the selection of people for certain jobs.
  - **depth interviews** : it deliberately aims to elicit unconscious as well as other types of material relating especially to personality dynamics and motivations.
- 



# QUESTIONNAIRE METHOD

- This method of data collection is quite popular, particularly in case of big enquiries. The questionnaire is mailed to respondents who are expected to read and understand the questions and write down the reply in the space meant for the purpose in the questionnaire itself. The respondents have to answer the questions on their own.
- Questionnaire Method Questionnaire is sent to persons with request to answer the questions and return the questionnaire Questions are printed in definite order , mailed to samples who are expected to read that questions understand the questions and write the answers in provided space .



## Merits of Questionnaire

- **Merits** of Questionnaire Low cost even the geographical area is large to cover Answers are in respondents word so free from bias Adequate time to think for answers Non approachable respondents may be conveniently contacted Large samples can be used so results are more reliable

## Demerits of Questionnaire

- **Demerits** of Questionnaire Low rate of return of duly filled questionnaire Can be used when respondent is educated and co operative It is inflexible Omission of some questions Difficult to know the expected respondent have filled the form or it is filled by some one else Slowest method of data collection



# Main Aspects of Questionnaire

- Main Aspects of Questionnaire  
General Form Structured Questionnaire Alternatives or yes no type questions are asked Easy to interpret the data but unuseful for the survey which is aimed to probe for attitudes, and reasons for certain actions Unstructured Questionnaire open ended questions
- Question which gives stress on memory or of a personal character and wealth should be avoided as opening questions Easier question should be at the start of the questionnaire General to specific questions should be the sequence of questions Question Formulation and Wording Question should easily understood Question should be simple and concrete.
- Respondents gives answers in his own words On the basis of the pre test researcher can decide about which type of questionnaire should be used Question Sequence Question sequence should be clear and smoothly moving (relation of one question to another should readily apparent First question important for creating interest in respondents mind
- Closed questions are easy to handle but this is like fixing the answers in people's mouth. So depending upon problem for which survey is going on both close ended and open ended question may be asked in Questionnaire. Words having ambiguous meaning should be avoided, catch words , words with emotional connotations , danger words should be avoided



# Essentials of Good Questionnaire

- Essentials of Good Questionnaire Should **Short & simple** Questions should arranged in logical sequence (From Easy to difficult one) Technical terms should **avoided** **Some control questions** which indicate reliability of the respondent ( To Know consumption first expenditure and then weight or qty of that material)
- Questions affecting the sentiments of the respondents should **avoided** **Adequate space** for answers should be provided in questionnaire Provision for uncertainty (do not know, No preference) Directions regarding the filling of questionnaire should be given Physical Appearance - - Quality of paper, color

# HOW TO CONSTRUCT A QUESTIONNAIRE

Researcher should note the following with regard to these three main aspects of a questionnaire:

- General form
- Question Sequence
- Determine the type the Questions :
  - A) Direct Question
  - B) Indirect Question
  - C) Open Form Questionnaire
  - D) Closed Form Questionnaire
  - E) Dichotomous Questions
  - F) Multiple Choice Questions (MCQ)





# SCHEDULE METHOD

- It is one of the important methods for the study of social problems.
- Schedules **Like Questionnaires** but it filled by enumerator . Enumerators are specially appointed for filling questionnaire Enumerators explain the aim and objective to respondent and fill the answers in provided space .
- In the words of Thomas Carson Macormic, **“The schedule is nothing more than a list of questions which it seems necessary to test the hypothesis .”**



# Questionnaire V/S Schedule

## Questionnaire

- Q generally sent through mail and no further assistance from sender
- Q is cheaper method
- Non Response is high

## Schedule

- Schedule is filled by the enumerator or research worker
- Costly requires field workers
- Non response is low

- Wider distribution of sample is possible
- Incomplete and wrong information is more
- Depends on quality of questionnaire
- Physical appearance of questionnaire should be attractive
- Observation method can not use

- Difficulty for wider area
- Relatively more correct and complete
- Depends on Honesty and competence of enumerator
- Not necessary in Schedule method
- It is possible to use observation at the time of filling schedule by enumerator

## Questionnaire

- In questionnaire it is not confirmed that expected respondent have filled the answers
- Very slow method
- No Personal contact
- Q can be used only when respondent is educated and cooperative

## Schedule

- In Schedule identity of person is known
- Information is collected well in time
- Direct personal contact
- Info can be collected from illiterates also



# Other Methods Of Data Collection

- **Warranty Cards** Post card size cards sent to customers and feedback collected through asking questions on that card
- **Distributor or Store Audits** Audits are done by distributor or manufacturer's salesperson. Observation or copying information about inventory in retail shops. Useful method for knowing market share ,market size , effect of in store promotion.
- **Pantry Audits** From the observation of pantry of customer to know purchase habit of the people (which product , of what brand etc.) Questions may be asked at the time of audit
- **Consumer Panels** When pantry audit is done at regular basis, Daily record of consumption of certain customers. Or repeatedly interviewed at the specific periods to know their consumption.
- **Transitory consumer panels** – for limited time Continuing Consumer panel For indefinite period



- **Use of Mechanical Device** Eye Cameras to record eyes focus on certain sketch

- Psycho galvanometer to measure body excitement to visual stimulus

- Motion Picture camera to record movement of body at the time of purchase

- Audiometer concerned to TV . Useful to know Channel, program preference of people

- **Depth Interview** To discover the underlying motives or desires of samples . To explore needs , feelings of respondents. Skill is required , indirect question or projective techniques are used to know behavior of the respondent.

- **Content Analysis** analyzing contents of documentary material as news paper , books , magazines about certain characteristics to identify and count

## CASE STUDY METHOD

- It is essentially an intensive investigation of the particular unit under consideration. Its important characteristics are as follows :

- a) the researcher can take one single social unit or more of such units for his study purpose.

- b) the selected unit is studied intensively i.e. it is studied in minute details.

## SURVEY METHOD

- One of the common methods of diagnosing and solving of social problems is that of undertaking surveys.

- Festinger and Kat of the opinion that, “Many research problems require systematic collection of data from population through the use of personal interviews or other data gathering devices”.



## PANEL METHOD

In this method, data is collected from the same sample respondents at the some interval either by mail or by personal interview. This is used for studies on :

- 1) Expenditure Pattern
- 2) Consumer Behaviour
- 3) Effectiveness of Advertising
- 4) Voting Behaviour and so on

## Secondary Data

### Sources of data

- 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.
- **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**
- **Precision Required**