

Research Methodology

Chapter 4 : Data Collection

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1. METHODS OF DATA COLLECTION

- Data collection is simply how information is gathered
- The task of data collection begins after a research problem has been defined and research design/plan chalked out.
- While deciding about the method of data collection to be used for the study, the researcher should keep in mind two types of data viz., primary and secondary. The primary data are those which are collected afresh and for the first time, and thus happens to be original in character.

1. METHODS OF DATA COLLECTION

- The data which is collected from the field under the control and supervision of an investigator.
- *The secondary data*, on the other hand, are those *which have already been collected by someone else* and *which have already been passed through the statistical process*. It involves *less cost*, *time* and *effort*. For example : data from book

1. METHODS OF DATA COLLECTION

Advantages of using Primary data

- The investigator collects data specific to the problem under study.
- There is no doubt about the quality of the data collected (for the investigator).

Disadvantages of using Primary data

1. The investigator has to contend with all the hassles of data

collection

- Deciding why, what, how, when to collect

1. METHODS OF DATA COLLECTION

- Getting the data collected (personally or through others)
- Getting funding and dealing with funding agencies
- Ethical considerations (consent, permissions, etc.)

2. Ensuring the data collected is of a high standard

3. *Cost of obtaining the data is often the major expense in studies*

1. METHODS OF DATA COLLECTION

Advantages of using Secondary data

- No hassles of data collection
- *It is less expensive*
- *The investigator is not personally responsible for the quality of data (“I didn’t do it”)*

Disadvantages of using Secondary data

- The investigator cannot decide what is to be collected
- One can only hope that the data is of good quality
- Obtaining additional data is not possible

4.1. COLLECTION OF PRIMARY DATA

- There are several methods of collecting primary data : Important ones are:

(i) Observation method

(ii) Interview method

(iii) Through questionnaires, and

(iv) Other methods which include :Warranty cards ,Distributor audits, Consumer panels, Using mechanical devices and Depth interviews, etc.

- We will discuss briefly each method separately

4.2. OBSERVATION METHOD

- The observation method is the most commonly used method specially in studies relating to behavioral sciences.
- In a way we all observe things around us, but this sort of observation is not scientific observation.
- Observation becomes a scientific tool and the method of data collection for the researcher, when it serves a formulated research purpose is systematically planned and recorded and is subjected to checks and controls on validity and reliability.

4.1. COLLECTION OF PRIMARY DATA

- Under the observation method, the information is *sought by way of investigator's own direct observation* without asking from the respondent. For instance, in a study relating to consumer behavior, the investigator instead of asking the brand of wrist watch used by the respondent, may himself look at the watch.

4.2. OBSERVATION METHOD

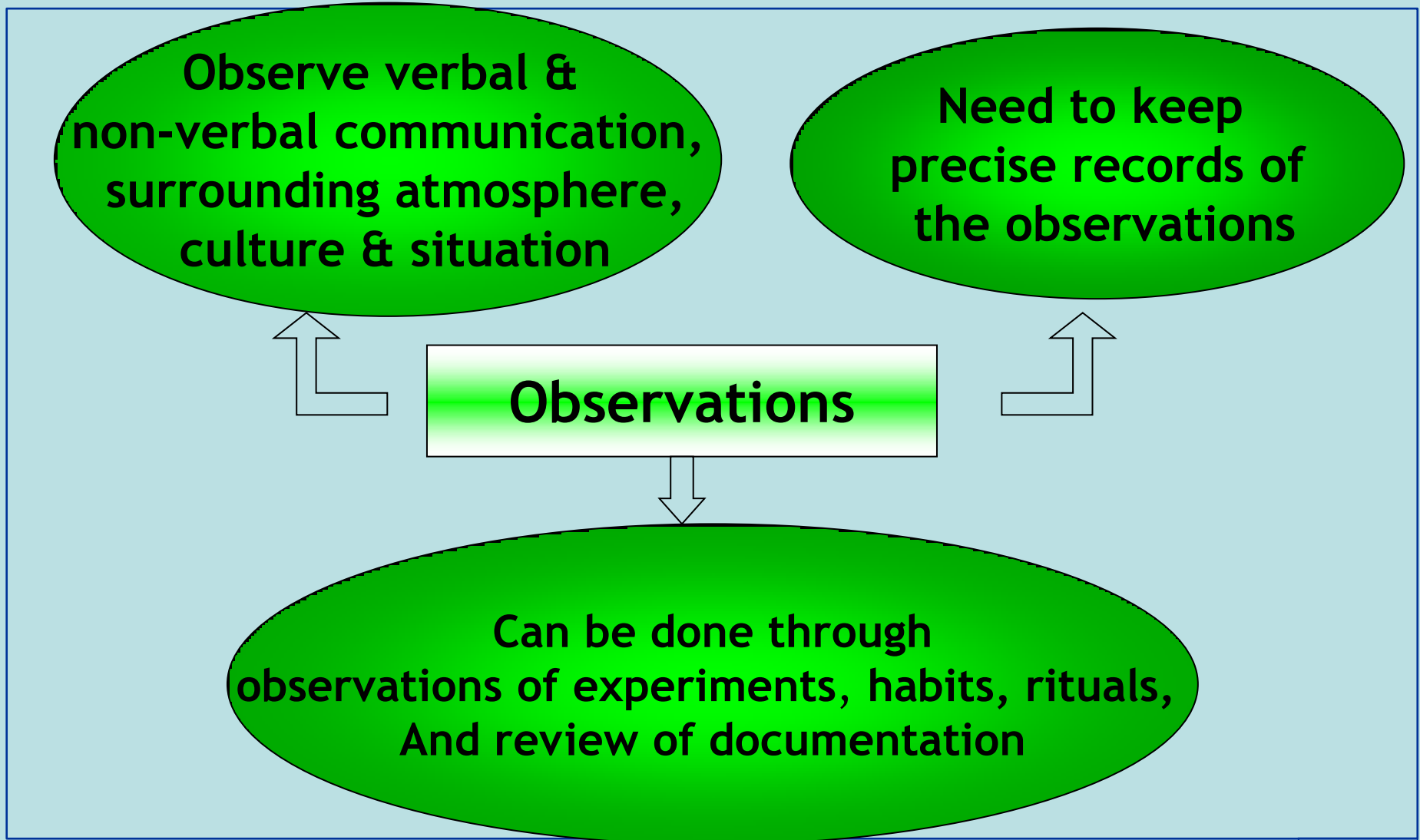
Observation as a method of data collection has certain characteristics.

1. It is both a **physical and a mental activity**. The observation eye 'catches' many things which are sighted, but **attention is focussed on data that are relevant to the given study.**

4.2. OBSERVATION METHOD

1. Observation is **selective**. A researcher does not observe anything and everything, but select the range of things to be observed on the basis of the nature, scope and objectives of his study.
2. Observation is purposive and not casual. **It is made for the specific purpose of nothing things relevant to the study.**

4.2. OBSERVATION METHOD



4.2. OBSERVATION METHOD

Steps To An Effective Observation

Determine what needs to be observed
(Plan, prepare checklist, how to record data)

Select your participants
Random/Selected

Conduct the observation
(venue, duration, recording materials)

Compile data collected

Analyze and interpret data collected

4.3. INTERVIEW METHOD

- *The interview method of collecting data* involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses.
 - This method can be used *through personal interviews* and, if possible, *through telephone interviews*.
- (a) *Personal interviews*: Personal interview method requires a person known as the interviewer asking questions generally in a face-to-face contact to the other person or persons.
- (b) *Telephone interviews*

4.3. INTERVIEW METHOD

Effective way
of gathering
information

Involves verbal
and non-verbal
communications

INTERVIEW

Can be conducted
face to face, by telephone,
online or through mail

4.3. INTERVIEW METHOD

Steps To An Effective Interview

Prepare your survey questions
(Choose types of questions and write instructions)

Select your respondents/sampling
Random/Selected

Conduct the interview

Analyze and interpret data collected

4.3. INTERVIEW METHOD

Prerequisites for successful interview

Preparation

- It is necessary for the researcher to prepare before the actual interview.
- Once the interview is conducted the researcher needs to make sure that the respondents have :
 - A clear idea of why *they* have been approached
 - Basic information about the purpose of the interview and the research project of which it is a part

4.3. INTERVIEW METHOD

- Some idea of the probable length of the interview and that you would like to record it
- A clear idea of precisely where and when the interview will take place .

Expertise

- The researcher ought to have the following skills and abilities for the effective interview : An ability to be non-judgmental; An ability to listen ; A good memory; Ability to think on his/her feet ; Sense of humor

4.4. COLLECTION OF DATA THROUGH QUESTIONNAIRES

- *This method of data collection is quite popular*
- It is being adopted by *individuals*, *researchers*, *private* and *public organizations* and *even by governments*.
- *A questionnaire is sent* (by post or mail)
- A questionnaire *consists of a number of questions*
- The questionnaire is mailed to respondents who are expected to *read and understand the questions*.
- *The respondents have to answer the questions on their own.*

4.4. COLLECTION OF DATA THROUGH QUESTIONNAIRES

The most common data collection instrument

Useful to collect quantitative and qualitative information

**Survey
Questionnaire**

- Should contain 3 elements:
1. Introduction - to explain the objectives
 2. Instructions - must be clear, simple language & short
 3. User-friendly - avoid difficult or ambiguous questions

4.4. COLLECTION OF DATA THROUGH QUESTIONNAIRES

- The *method of collecting data by mailing the questionnaires* to respondents is *most extensively employed*.
- *The benefits of using this methods* are as follows:
 1. There is low cost even when the universe is large and is widely spread geographically.
 2. It is free from the bias of the interviewer
 3. Respondents have adequate time
 4. Respondents can be reached conveniently.
 5. Large samples can be collected

4.5. SOME OTHER METHODS OF DATA COLLECTION

- Let us consider some other methods of data collection, particularly used by big business houses in modern times.

1. Warranty cards

Warranty cards are usually postal sized cards which are used by dealers of consumer durables to collect information regarding their products

2. Store audits or records

3. Consumer panels

4. Use of mechanical devices

4.6. COLLECTION OF SECONDARY DATA

- Secondary data means data that are already available i.e., they refer to the data which have already been collected and analyzed by someone else.
- When the researcher utilizes secondary data, then he has to look into various sources from where he can obtain them.
- In this case he is certainly not confronted with the problems that are usually associated with the collection of original data.

4.6. COLLECTION OF SECONDARY DATA

- Secondary data may either be published data or unpublished data. Usually published data are available in:
 - (a) Various publications of the central, state and local governments;
 - (b) Various publications of foreign governments or of international bodies and their subsidiary organizations
 - (c) Technical and trade journals
 - (d) Books, magazines and newspapers

4.6. COLLECTION OF SECONDARY DATA

- (b) Reports and publications of various associations connected with business and industry, banks, stock exchanges, etc.
- (c) Reports prepared by research scholars, universities, economists, etc. in different fields;
- (d) Public records and statistics, historical documents, and other sources of published information.

4.6. COLLECTION OF SECONDARY DATA

- By way of caution, the researcher, before using secondary data, must see that they possess following characteristics:

1. Reliability of data: The reliability can be tested by finding out such things about the said data:

(a) Who collected the data?

(b) What were the sources of data?

(c) Were they collected by using proper methods

(d) At what time were they collected?

4.6. COLLECTION OF SECONDARY DATA

(a) Was there any bias of the compiler?

(b) What level of accuracy was desired? Was it achieved ?

2. Suitability of data: The data that are suitable for one enquiry may not necessarily be found suitable in another enquiry. Hence, if the available data are found to be unsuitable, they should not be used by the researcher.

4.6. COLLECTION OF SECONDARY DATA

3. Adequacy of data: If the level of accuracy achieved in data is found inadequate for the purpose of the present enquiry, they will be considered as inadequate and should not be used by the researcher.

- The data will also be considered inadequate, if they are related to an area which may be either narrower or wider than the area of the present enquiry.

4.6. COLLECTION OF SECONDARY DATA

Selection of Appropriate Method for Data Collection

Thus, there are various methods of data collection. As such the researcher must judiciously select the method/methods for his own study, keeping in view the following factors:

1. Nature, scope and object of enquiry
2. Availability of funds
3. Time factor
4. Precision required

End of Module 4