tool is appropriate for certain sources of data, yielding information of the kind and in the form that would be most effectively used. Some of the research tools used most frequently in the research process are schedule, questionnaire, rating scale and so on. The research tools are mainly used in research process for the collection of data.

6.3 WHAT IS DATA?

Data are facts, figures and other relevant materials, from past and present, serving as a basis for study and analysis. Examples are-

1. The quantity of each material required for a unit of output.
2. The sex, age, social class, religion, income level of respondent in a consumer behaviour study, etc.

6.3.1 TYPES OF DATA

Types of Data:

Data may be broadly classified into two categories:

1. Primary data, and
2. Secondary data.

Besides the above two categories, data needed for a social science research may be broadly classified into (a) Data pertaining to human beings (b) Data relating to Organization, and (c) Data pertaining to territorial area.

Personal Data or Data relating to human beings consist of:

(1) Demographic and socio-economic characteristics of individuals: Age, sex, race, social class, religion, marital status, education, occupation, income, family size, location of household, life style…etc.

(2) Behavioural Variables: Attitudes, opinions, awareness, knowledge, practice, intentions, etc.

Organizational data consist of data relating to an origination's origin, ownership, objectives, resources, functions, performance, and growth.

Territorial data consist of data related to geographical characteristics, resources endowment , population occupational pattern , infrastructure , economic structure, degree of development,

of the nature, scope, and objectives of his study as the range of things selected for his/her study.

(3) Observation is purposive and not casual. It is made for the specific purpose of noting things relevant to the study.

(4) It captures the natural and social context in which person's behaviour occurs.

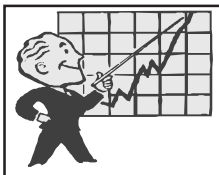
(5) It grasps the significant events and occurrence that affect social relations of the participants.

(6) Observation should be exact and to be based on standardized tools of research such as observation schedule, socio metric scale etc and precision instruments, if any.

Types of observations:

Observations may be classified in different ways. With reference to the investigator's role, it may be classified into (a) non-participants observations, and (b) participants observations. In terms of the mode of observations, it may be classified into (a) direct observations, and (b) indirect observations. With reference to regour of the system adopted, it may be classified into (a) controlled observations, and (b) uncontrolled observation.

- **Participant observations:** In this observation, the observer is a part of the phenomenon or group, which is observed, and he acts both as an observer and a participant.
- **Non-participants observations:** In these methods, the observer stands apart and does not participate in the phenomenon observed. Naturally, there is no emotional involvement on the part of the observer.
- **Direct observations:** This means observation of an event personally by the observer when it takes place. This method is flexible and allows the observer to see the record subtle aspects of events and behaviour as they occurred.
- **Indirect observations:** This does not involve the physical presence of the observer, and the recording is done by mechanical, photographic or electronic devices, etc, recording customers and employee movement by a special motion picture



CHECK YOUR PROGRESS

Q.1: What is data? How many types of data are there?

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Q.2: What is observation method?

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Q.3: Define the non participant observation method.

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Q.4: Name one disadvantage of observation method.

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6.4.2 INTERVIEW METHOD

Interview involves face-to face conversation between the investigator and respondent. This method of collecting data involves presentation of oral or verbal stimuli and reply in terms of oral or verbal responses. This method can be used through personal interviews, and, if possible, through telephone interviews.

- **Personal interview:** Personal interview methods requires a person known as the interviewer asking questions generally in face-to-face contact with the other person or persons (at times, the interviewee may also ask certain question and the interviewer responds to these, but usually the interviewer initiates the interview and collects the information). This sort of interview can be direct personal investigation or indirect oral investigation. The interview is usually carried out in a structured way. The structured way involves the use of a set of predetermined questions and of highly standardized techniques of recording. On the other hand, unstructured interviews are characterized by a flexibility of approach to questioning. Unstructured interviews

- Interviewer can explain requirements more easily.
- At times, access can be gained to respondents who otherwise cannot be contacted for one reason or the other.
- No field staff is required.

- **Characteristics:** Interviewing as a method of data collection has certain characteristics. They are:
  - The participants - the interviewer and the respondent - are strangers. Here the investigator has to get himself introduced to the respondent in an appropriate manner.
  - The relationship between the participants is a transitory one. It has a fixed beginning and termination points. The interview proper is a fleeting momentary experience for them.
  - Interview is not a mere casual controversational exchange, but a conversation with specific purpose, viz., obtaining information relating to a study.
  - Interview is a mode of obtaining verbal answers to questions put verbally.
  - The interaction between interviewer and the respondent need not necessarily be on face-to-face basis, because the interview can be conducted over the telephone also.
  - Although the interview is usually a conversation between two persons, it needs not to be limited to a single respondent. It can also conducted with the family members, or a group of children or a group of customers, depending on the requirement of the study.
  - The investigator records information furnished by the respondent in the interview.
  - Interview is an interracial process.
- **Types of interview:** The interview can be classified into:
  - Structured or directive interview
  - Unstructured or non directive interview
  - Focused interview
  - Clinical interview, and,
  - Depth interview.

- Interview possesses the problem of recording information obtained from respondents. No full proof system is available. Note taking is invariably distracting both interviewer and respondent and mislead the conversation
- Interview calls highly skilled interviewers. The availability of such person is limited and training of interviewer is often costlier.

6.4.3 QUESTIONNAIRE AND SCHEDULE

This method of data collection is quite popular, particularly in case of big enquiries. It is being adopted by private individuals, research workers, private and public organizations, and even by governments. In this method a questionnaire is sent (usually by post) to the persons concerned with a request to answer the questions and return the questionnaire. A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms. 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.

Merits of this method:

(1) There is low cost even when the universe is large.
(2) It is free from basis of interviewer; answers are respondent's own words.
(3) Respondent have adequate time to give well thought out answer.
(4) Respondent who are not approachable, can also be reached conveniently.
(5) Large samples can be made use of and the results can be made more dependable and reliable.

Demerits of this method:

(1) Low rate of return of the duly filled in questionnaire; bias due to non-response is often indeterminate.
(2) It can be used only when respondents are educated and cooperating.
(3) The control over questionnaire may be lost once it is sent.

misunderstanding can do irreparable harm to a survey. Question should be constructed with a view to their forming logical part of a well thought out tabulation plan. In general, all questions should meet the following standards— (a) should be easily understood; (b) should be simple i.e., should convey only one thought at a time; (c) should be concrete and should conform as much as possible to the respondent's way of thinking. Concerning the form of questions, we can talk about principal forms, viz., multiple choice questions and open-ended questions.

4. **Essentials of a good questionnaire:** To be successful, the questionnaire should be comparatively short and simple i.e., the size of the questionnaire should be kept to minimum. Question should be proceeds in logical sequence moving from easy to more difficult. Personal and intimate questions should be to kept the ends. The questions should be in dichotomous, multiple choice, or open ended. Technical term should be avoided, etc. and the questionnaire should be formed on regard of time, financial resources, and with regards to the respondents reliability to answer.

A questionnaire looks like the following form:

HOUSEHOLD SCHEDULE

1. Name of the District:
2. a) Name of the Village:

b) Name of the Panchayat:

c) Name of the Development Block:

3. Name of the nearby Town and distance from the village
4. Name of the respondent:
5. Phone no.:
6. Age:
7. Occupation:
8. Educational Qualification:
9. Name of the Head of the family:
10. Caste :
11. Information about other members of household

- **Schedule:** This method of data collection is very much like the collection of data through questionnaire, with little difference, which lies in the fact that schedules are being filled in by the enumerator who is specially appointed for the purpose. These enumerators along with schedules, go to the respondent, put to them questions from the pro-forma in the order the questions are listed and record the replies in the space meant for the same in the Performa. In some situations, the schedule may be handed over to respondents and enumerators may help them in recording their answer to various questions in the said schedule. Enumerators explain the main aspects of the study, which help to know about the implications of the particular questions.

  In these methods, the enumerator should be trained to do their job well and scope of the investigation should be explained to them thoroughly so that they may well understand the implications of different questions put in the schedule.

  This method of data collection is very useful in extensive enquiries and can lead to fairly reliable results. It is however, very expensive and is usually appointed in investigations conducted by governmental agencies or by some big organizations. e.g. population census all over the world.

  Some other methods of data collection are given bellow:

- **Mailing:** Mailing is used for collecting data by getting questionnaires completed by the respondent. This method involves sending questionnaires to the respondents with a request to complete them and return them by post.
- **Experimentation:** Experimentation involve in a study of independent variables under controlled conditions. Experiment may be conducted in a laboratory or in field in natural settings.
- **Simulation:** Simulation involves creation of an artificial situation similar to the actual life situation. It is a theoretical model of elements, relations and processes which symbolized some reference system, e.g., the flow of money in the economic system may be simulated in operating model consist of a set of pipes through which liquid moves.
- **Projective Method**: It aims at drawing inference on the characteristics of a respondent by presenting to them stimuli. The technique involves

- **Use of mechanical devices**: The use of mechanical devices has been widely made to collect information by way of indirect means. Eye camera, motion picture camera and audiometer are the principle devices so far developed and commonly used by modern big business houses, mostly in the developed world for the purpose of collecting the required information.

6.4.4 SECONDARY DATA

Secondary means data are already available, i. e., they refer to the data which are already been collected and analyzed by someone else. When researcher utilized the data, then they have to look into various sources. There are many problems that are usually associated with the collection of original data. The secondary data may be available in: (a) various publications of central, state, and local government; (b) various publications of foreign government and various organizations; (c) technical and trade journals; (d) books, magazines, newspapers; etc,.

By using secondary data, researcher 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 the data? (c) were they collected by using proper method? (d) at what time they were collected? (e) was there any bias of the complier? (f) what level of accuracy was desired?(g) what it achieved?
2. **Suitability of the data:** The data must be suitable for the researcher. Because the data are suitable for one enquiry may not necessarily found suitable in another enquiry. Hence, if the available data are found to be unsuitable, they should not be used by the researcher.
3. **Adequacy of the data:** If the level of accuracy of data is found inadequate for the purpose of 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

empirical support. The researcher need not wait the time when additional primary data can be collected.

Disadvantages:

The use of secondary data has its own limitations:

1. The most important limitation is that available data may not meet our specific research needs. The definitions adopted by those who collected those data may be different; unit of measure may not match; and time period may also be different.
2. The available data may not be as accurate as desired. To assess their accuracy, we need to know how the data were collected.
3. The secondary data are not up-to-date and become obsolete when they appear in print, because of time lag in producing them. For example; population census data are published two or three years later after compilation and no new figure will be available for another ten years.
4. Finally information about the whereabouts, the sources may not be available to all social scientists. Even if the location of source is known, the accessibility depends on proximity.

Selection of appropriate method for data collection:

(1) **Nature, scope and object of enquiry:** The method selected by the researcher should be such that it suits type of enquiry that is to be conducted.

(2) **Availability of funds:** Availability of funds for the research project determines to a large extent the method to be used for the collection of data.If the fund is limited, then we have to use cheaper method and vice-versa.

(3) **Time factor:** Availability of time has also to be taken into account in deciding a particular method of data collection. Some methods take relatively more time whereas other takes shorter duration. The time of disposal of the researcher, thus, affect the selection of the methods.

(4) **Precision required:** Precision required is yet another important factor to be consider at the time of selecting the method of data collection.



6.6 FURTHER READING

- A Handbook of Media and Communication Research: Qualitative and Quantitative Methodology, Klaus Bruhn Jensen. Routledge, 2002
- Mass Media Research: An Introduction, Roger D. Wimmer and Joseph R. Dominick. Cengage Learning, 2006



6.7 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Data are facts, figures and other relevant materials, from past and present, serving as a basis for study and analysis. Data may be broadly classified into two categories: Primary data and Secondary data. Besides the above two categories, data needed for a social science research may be broadly classified into (a) Data pertaining to human beings (b) Data relating to Organization, and (c) Data pertaining to territorial area.

Ans to Q No 2: Observation involves collection of data technique relating to the selected research by viewing and /or listening.

Ans to Q No 3: The observer stands apart and does not participate in the phenomenon observed. Naturally, there is no emotional involvement on the part of the observer.

Ans to Q No 4: Observations cannot be used as and when the researcher finds it convenient to use it. S/He has to wait for the event to occur.

Ans to Q No 5 : Personal interview methods requires a person known as the interviewer asking questions generally face-to face contact to the other person or persons.

Ans to Q No 6 : A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms.

Ans to Q No 7 : It can be used only when respondents are educated and cooperating.

Ans to Q No 8 : This method of data collection is very much like the collection of data through questionnaire, with little difference, which lies in the