DATA COLLECTION

Data is required to make a decision in any business situation. The researcher is faced with one of the most difficult problems of obtaining suitable, accurate and adequate data. Utmost care must be exercised while collecting data because the quality of the research results depends upon the reliability of the data. Suppose, you are the Director of your company. Your Board of Directors has asked you to find out why the profit of the company has decreased since the last two years. Your Board wants you to present facts and figures. What are you going to do?

The first and foremost task is to collect the relevant information to make an analysis for the above mentioned problem. It is, therefore, the information collected from various sources, which can be expressed in quantitative form, for a specific purpose, which is called data. The rational decision maker seeks to evaluate information in order to select the course of action that maximizes objectives. For decision making, the input data must be appropriate. This depends on the appropriateness of the method chosen for data collection. The application of a statistical technique is possible when the questions are answerable in quantitative nature, for instance; the cost of production, and profit of the company measured in rupees, age of the workers in the company measured in years. Therefore, the first step in statistical activities is to gather data.

Importance of Data

1. The data serves as a bases or raw material for analysis.

2. To draw specific inferences analysis of factual data is required. Inferences based on mere images do not provide correct answers for the research problem

3. The quality of the findings of the study is determined by the relevance, adequacy, and the reliability of the collected data.

4. It forms the basis for the testing of hypotheses, which is formulated for the purpose of study.

5. It provides the facts and figures required for the construction of measurement scales and tables, which are analysed, with the help of quantitative techniques.

CLASSIFICATION OF DATA

The data may be classified as primary and secondary data.

- **PRIMARY DATA**
- **SECONDARY DATA**

PRIMARY AND SECONDARY DATA

The Primary data are original data which are collected for the first time for a specific purpose. Such data are published by authorities who themselves are responsible for their collection. The Secondary data on the other hand, are those which have already been collected by some other agency and which have already been processed. Secondary data may be available in the form of published or unpublished sources. For instance, population census data collected by the Government in a country is primary data for that Government. But the same data becomes secondary for those researchers who use it later. In case you have decided to collect primary data for your investigation, you have to identify the sources from where you can collect that data. For example, if you wish to study the problems of the workers of X Company Ltd., then the workers who are working in that company are the source. On the other hand, if you have decided to use secondary

data, you have to identify the secondary source who have already collected the related data for their study purpose.

SOURCES OF DATA

1. **PRIMARY SOURCE**
2. **SECONDARY SOURCE**

- **PRIMARY SOURCES**

  These are original sources from which theresearchers directly collects data that have not been previously collected.

- **SECONDARY SOURCES**

  These sources contain data, which has already published or compiled for another purpose of study. It includes not only published record and reports, but also unpublished records.

Other classification

According to Pauline V. Young the sources of information can be classified into two namely documentary source and field source. But we can classify sources of data into three types. They are

i) Documentary sources (both official and unofficial nature)
ii) Personal source
iii) Library source

A document is everything in writing which contains materials of sociological importance Paper or documentary source provides a vast wisdom of usable information. Historica records, books, journals and periodicals, thesis, statistical records, reports manuscripts, letters, published and unpublished forms etc are the documentar sources or secondary sources.

CLASSIFICATION OF DOCUMENTARY SOURCE

We can classify the documentary sources into two.

1. Individual documents and

2. Public documents

1. Individual documents

These are the documents, which are recorded by individuals. A person records thoughts and views about various problems either in diary or in notebooks. Later becomes documents for subject of study. It may be an indispensable document tot researcher

Kinds of Individual documents

These documents can be classified as

(i) Life history

(ii) Diary

(iii) letter and

(iv) memory

i).Life history: It contains all kinds of biographical information. It is an autobiography. In that sense it consists of report and views about social and personal events.

ii) Diary: A number of people keep diaries to record certain events, day to day affairs, their feelings, reactions etc. Some of the diaries may be published later. The diary provides the life of the person. It is the most revealing source of first hand information. So it can be taken as an evidence for our study.

iii) Letters: It provides intimation about the stands taken by the concerned individual relate to the problems. So it gives an idea about the attitude of that

individual and trends of his mind. It can be taken as prima facie evidence of the attitude of the writer. The letter is a powerful and useful material related to social problems. But utmost care must be taken to select appropriate letters for the study.

iv) Memories: Certain people will write their memories concerned with certain events, travel, and other significant phenomena. These memories provide material for study of the social phenomena.

2.PUBLIC DOCUMENTS

The Public documents can be divided into (a) public records and (b) unpublished records.

1. Published Records: It consists of newspapers, journals and magazines, public records and statistics, historical documents, survey reports and case histories.

2. Newspapers: Information published in newspapers such as editorial, discussion or news on contemporary issues, various reports, essays, letters to reader etc are valuable source of information. All these are usable for various types of social research.

3. Journals and magazines: These are one of the important sources of information. It includes wide variety of information, which can be utilized for social research. The researcher should select usable information from the information supplied by these journals.

4. Public records and statistics: These are the most reliable sources of data. It includes census reports,annual statistical reports published by various authorities,business and legal papers provides useful data for study. The reports published by Government are considered as the most reliable research data. While collecting such data the researcher should assure that the definition of categories used in the available statistics are coincided with the definitions used for the study.

5. Historical Documents: These documents provide data or events of the past.Manuscripts, palm leaves, copper plate, stone inscriptions etc are coming under this category.

6. Other sources: Apart from the above documents film, television, radio and public speeches are also contributing as the sources of information. It supplies information related to contemporary issues.

b). Unpublished Records: These records deal with the matters related with public interest. These records are not available for public in published form. E.g. proceeding of the meeting, noting of files etc.

Precautions to be taken by the researcher while using secondary data

Researcher must be very careful while using secondary data. Sometimes the secondary data may be unsuitable or inadequate in the context of the problem, which the researcher wants to study. So he must make minute scrutiny of the available data According to Dr AL Bowley it is never safe to take published statistics at their face value without knowing their meaning and limitations and it is always necessary to enticine arguments that can be based on them. Before using the secondary data the researcher must ensure that the following features are possessed by the data which is collected from the secondary sources

1. Reliability: He wants to verify whether this data is reliable or dependable for his study. He should and the person or firm or organization or agencies who collected data. He should also verify from where data is collected, on what methods, at what time, whether there is by bias in compilation, the level of accuracy desired etc. .

2.Suitability : The data which are suitable for one enquiry, may not be suitable for other enquiry researcher should see whether the collected data are suitable for his study, suitable for study it should not be used by the researcher for his study. He

carefully scrutinizes the definitions of various terms and units for collection e time of collecting of data. Similarly, he should study the object, scope, and real enquiry. If the researcher finds any difference in these, it is unsuitable for the present study and he should not use it.

3. Adequacy: If the level of accuracy achieved in data is inadequate, it should not used for study. So the researcher should use data if it suitable, adequate and reliable for his study.

Choice of the Methods of Data Collection

One of the questions faced by a researcher while collecting primary data is which of the above methods are to be selected. Out of the above methods one or more methods have to be chosen. The election of method depends upon the following factors.

1.The nature of the subjection matter under study: If the study is related with opinion or preference of individuals, it is better to choose interview or mailing. It also depends upon the educational level of dependents. If it is an experimentation. then it is better to choose impact study. It the study is related with behavioural pattern, and then chooses observation.

2. The unit of enquiry: If the unit of enquiry is an individual, or a household, then choose interview. Data from institutions may be collected by mail survey. Studies concerned with communities require observation.

3.The size of the sample: If the sample is small, and the area covered is solid.interviewing is preferable. In the large samples, which is scattered over a wide area, mailing is preferable.

4.Scale of survey: A large scale survey requires mailing or interviewing through trained investigators.

5.Respondent's educational level: In the case of simple data among educatedrespondents, a mail survey is suitable. In the case of illiterate persons, interviewing *is the only suitable method.*

6.The type and intensity of the information to be collected*: For collecting factual* and non-emotional data, interviewing or mailing is suitable. For an in-depth survey. In-depth interview is essential. To collect data related with life style, culture, custom *ete, observation method may be adopted.*

7.Availability of skilled personnel

8.Required accuracy: For collecting accurate data interview the suitable method.

OBSERVATION

Observation is a classic method of scientific enquiry. Observation is one of the important of acquiring knowledge in social and physical sciences. It is one of the it sources of information to any scientific investigation or research. These are methods for gathering data that involve watching test subjects without interacting with them, there is no verbal communication with the respondents. Observation refere to the recording of data as they come to the notice of the investigator or researcher. In other words it is the careful and systematie watching of facts as they occur in the course of nature.Observation may be defined as “a systematic viewing of a specific phenomenon in its proper setting for the specific purpose of gathering data for a particular study."

Features of observation

1. Observation is a physical and mental activity.

2. It is selective. A researcher selects the range of things to be observed. It is done on the basis of nature, scope and objectives of the study.

3. It is purposive and not informal.

4. It grasps the significant events and occurrences that effect social relation of the participants.

5. It should be exact. It should be based on standardised tools of research such as observation schedule, socio metric scale etc.

Types of Observation

There are different types of observation such as simple and systematic observation, subjective and objective observation, intra subjective and inter subjective observation, casual and scientific observation, factual and inferential observation, direct and indirect observation, behavioural and non-behavioural observation.

1. Simple and systematic observation

Observation is done to collect data at exploratory stages of research is termed as simple observation. In systematic observation standard procedures, training to observers, schedules for recording and other devices to control observers are employed.

2. Subjective and objective observation

If one observes one's own immediate experience it is termed as subjective observation. It is also known as self-observation. When a person observes things in investigations. which are not related with him, is called objective observation.

3. Casual and scientific observation

In casual observation there is no previous preparation. The investigator observes things matter of chance. That means he observes the right thing at right

time. observations are carried on the basis of certain measurement tools it is called scientific observation.

4.Intra subjective and inter subjective observation

If repeated observation of a constant phenomenon is done by the same invest which yields constant results. it is known as intra subiective observation. If repeated observations of a constant phenomenon by different observers yield constant data. such observation is known as inter subjective observation

5. Factual and inferential observation

If factual information is collected through observation, it is known as factual observation. E.g. Identification of peak period. Inferential observation is the observation, which is done to draw inferences.

6. Direct and indirect observation

In direct observation, the observer is physically present to observe the particular situation. He personally monitors the situation. Researchers actually watch behaviour as it occurs and reports what they see. May be obtrusive or undisguised (respondents are aware they are being observed) or unobtrusive or disguised (respondents are unaware they are being observed). When observation is done by using mechanical devices such as eye cameras, close circuit TV etc, it is termed as indirect observation. Here the researchers observe the results of behaviour rather than the actual behaviour.

7. Participant and non-participant observation

When the observer participates with the activities of the group under study, it is known as participant observation. The observer penetrates into the thought, emotions and actions of the observed group. When the observer does not actually participate in the activities of the group to be studied, but simply present in

the group, it is known as non-participant observation. Here he keeps himself as a disconnected ambassador and observes things. In this case the observation does not make any effort to create relationship with the group.

8. Structured and Unstructured observation

In structured observation, there is a careful definition of the units to be observed. information to be recorded, the selection of the relevant data for observation and standardisation of conditions of observation. Observers record only certain well-defined behaviour typically on a checklist or standardized form; that behaviour not listed the form would not be recorded. It is mostly used in studies designed to provide systematic observation or to test casual hypothesis. In unstructured observation the conditions are not standardized. It is mostly used as an exploratory technique. It is most flexible.

9. Controlled observation and non controlled observation

In controlled observation, the observation is done as per pre-arranged plan. In this case the mechanical aids for obtaining data are used. The conditions of observations are standardized. In uncontrolled observation there is no pre arranged plan. No formal mechanical tools are used for observation. The data are collected without standardizing procedure. It is also known as simple or natural observation.

COMPONENTS OR PROCESS OF OBSERVATION

Observation involves three components namely

1.sensation

2.Attention and

3. Perception

Sensation: it is the first step in observation. It is gained through sense organs. It Wews upon the physical attentiveness and keenness of the observer. The personality of the observer is more responsible for accurate observations.

Attention : It depends upon the ability of the observer to concentrate on concerned studies. The concentration is largely a matter of willpower, which depends upon adequate training experience etc.

Perception : it comprises the interpretation of sensory reports. Perception helps the mind to recognise the facts by grouping and identifying sensations.

Objectives of Observation

The observation is most useful for collecting facts. The process of observations helps the study the following ways.

1. It studies collective behaviour and complex social situations.

2. Following up of individual units composing the situations

3. Understanding the whole and parts in their interrelation

4. Getting the out or the way details of the situations.

Success of observation

A reliable and successful observation is only possible if the following conditions are

1. The observed problem should be clearly and precisely formulated.

2.The observer must develop a free mind. It will help to observe and formulate a clear and correct opinion.

3.The facts observed are always interrelated. So the observer should consider only vital facts.

Advantages

1. The researcher is collecting observed information rather than data relating to intentions or preferences.

2. The actual actions or habits of person are observed.

3. There is a reduction or elimination of recall error

4.It can obtain information from those who are unable to effectively communicate wistten or oral form

5.There may be no better way to gather information than through observation

6.The method is applicable when it is undesirable for people to know an experiment is taking place since their actions would change and the experiment would be spoiled.

7. Observation provides one of the most reliable methods of data collection especially under the circumstances where other methods may not be feasible.

Disadvantages

1. Result of observation depends on the skill of the observer,

2. Opinions and attitudes cannot be obtained by observation

3. Forms of behaviour such as the frequency of a person's purchase temple point smoking and crossing roads cannot be obtained by 'one-time observation, but by a continuous and lengthy period of observation.

4. It would be expensive to tie up personnel in such tasks.

5. The researcher's findings are limited to those observed

6. These techniques do not usually examine motives for or feelings toward particular behaviour

7. The data is usually accepted as accurate and objective although sample sizes may

be small, so statistical representation of those observed is suspect.

8. Time and energy to implement the research can lead to fatigue and jeopardize accuracy