UNIT 3 COLLECTION OF DATA

STRUCTURE

3.0 OBJECTIVES

On the completion of this unit, you should be able to:

- discuss the necessity and usefulness of data collection,
- explain and distinguish between primary data and secondary data,
- explain the sources of secondary data and its merits and demerits,
- describe different methods of collecting primary data and their merits and demerits,
- examine the choice of a suitable method, and
- examine the reliability, suitability and adequacy of secondary data.

3.1 INTRODUCTION

In Unit 2, we have discussed about the selection of a research problem and formulation of research design. A research design is a blue print which directs the plan of action to complete the research work. As we have mentioned earlier, the collection of data is an important part in the process of research work. The quality and credibility of the results derived from the application of research methodology depends upon the relevant, accurate and adequate data. In this unit, we shall study about the various sources of data and methods of collecting primary and secondary data with their merits and limitations and also the choice of suitable method for data collection.

3.2 MEANING AND NEED FOR DATA

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. The data may be classified as primary and secondary data. Let us now discuss these two kinds of data in detail.

3.3 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.

With the above discussion, we can understand that the difference between primary and secondary data is only in terms of degree. That is that the data which is primary in the hands of one becomes secondary in the hands of another.

Self Assessment Exercise A

1) What do you mean by data? Why it is needed for research?

....

....

....

2) Distinguish between primary and secondary data. Illustrate your answer with examples.

....

....

....

3.4 SOURCES OF SECONDARY DATA

We have discussed above the meaning of primary and secondary data. Sometimes, it is not possible to collect primary data due to time, cost and human resource constraints. Therefore, researchers have to take the help of secondary data. Now let us discuss, (a) various sources from where, one can get secondary data, (b) precautions while using secondary data, its merits and demerits and some documentary and electronic sources of data in India.

3.4.1 Documentary Sources of Data

This category of secondary data source may also be termed as **Paper Source**. The main sources of documentary data can be broadly classified into two categories:

a) Published sources, and

b) Unpublished sources.

Let us discuss these two categories in detail.

a) **Published Sources**

There are various national and international institutions, semi-official reports of various committees and commissions and private publications which collect and publish statistical data relating to industry, trade, commerce, health etc. These publications of various organisations are useful sources of secondary data. These are as follows:

1) **Government Publications:** Central and State Governments publish current information alongwith statistical data on various subjects, quarterly and annually. For example, Monthly Statistical Abstract, National Income Statistics, Economic Survey, Reports of National Council of Applied Economic Research (NCEAR), Federation of Indian Chambers of Commerce and Industry (FICCI), Indian Council of Agricultural Research (ICAR), Central Statistical Organisation (CSO), etc.

2) **International Publications:** The United Nations Organisation (UNO), International Labour Organisation (ILO), International Monetary Fund (IMF), World Bank, Asian Development Bank (ADB) etc., also publish relevant data and reports.

3) **Semi-official Publications:** Semi-official organisations like Corporations, District Boards, Panchayat etc. publish reports.

4) **Committees and Commissions:** Several committees and commissions appointed by State and Central Governments provide useful secondary data. For example, the report of the 10th Financial Commission or Fifth Pay Commissions etc.

5) **Private Publications:** Newspapers and journals publish the data on different fields of Economics, Commerce and Trade. For example, Economic Times, Financial Express etc. and Journals like Economist, Economic and Political Weekly, Indian Journal of Commerce, Journal of Industry and Trade, Business Today etc. Some of the research and financial institutions also publish their reports annually like Indian Institute of Finance. In addition to this, reports prepared by research scholars, universities etc. also provide secondary source of information.

b) **Unpublished Sources**

It is not necessary that all the information/data maintained by the institutions or individuals are available in published form. Certain research institutions, trade associations, universities, research scholars, private firms, business institutions etc., do collect data but they normally do not publish it. We can get this information from their registers, files etc.

3.4.2 Electronic Sources

The secondary data is also available through electronic media (through Internet). You can download data from such sources by entering web sites like *google.com; yahoo.com; msn.com;* etc., and typing your subject for which the information is needed.

You can also find secondary data on electronic sources like CDs, and the following online journals:

Electronic Journal	http://businessstandard.com
Electronic Journal	http://www.businessworldindia.com
Electronic Journal	http://www.business-today.com
Electronic Journal	http://www.india-invest.com
Census of India	http://www.censusindia.net
Union Budget and Economic Survey	http://www.indianbudget.nic.in
Directory of Government of India Institutions	http://goidirectory.nic.in
Indian Council of Agricultural Research	http://www.icar.org.in
Ministry of Commerce and Industry	http://www.commin.nic.in
Indian Institute of Foreign Trade	http://www.iift.edu
Department of Industrial Policy and Promotion, Ministry of Commerce and Industry	http://www.dipp.nic.in
Ministry of Consumer Affairs, Food & Public Distribution	http://www.fccimin.in
Khadi and Village Industries	http://www.kvic.org.in
Board for Industrial & Financial Reconstruction	http://www.bifr.nic.in
Building Material & Technology Promotion Council	http://www.bmtpc.org
Central Food Technological Research Institute	http://www.cftri.com
National Council for Traders Information	http://www.ncti-india.com
National Handloom Development Corporation Ltd.	http://www.nhdcltd.com
The Associated Chamber of Commerce and Industry	http://www.assochm.org
Federation of Indian Chambers of Commerce and Industry	http://www.ficiofindia.com

Now you have learnt that the secondary data are available in documents, either published or unpublished, and electronic sources. However, you have to take precautions while using secondary data in research. Let us discuss them in detail.

3.4.3 Precaution in Using Secondary Data

With the above discussion, we can understand that there is a lot of published and unpublished sources where researcher can gets secondary data. However, the researcher must be cautious in using this type of data. The reason is that such type of data may be full of errors because of bias, inadequate size of the sample, errors of definitions etc. Bowley expressed that it is never safe to take published or unpublished statistics at their face value without knowing their meaning and limitations. Hence, before using secondary data, you must examine the following points.

Suitability of Secondary Data

Before using secondary data, you must ensure that the data are suitable for the purpose of your enquiry. For this, you should compare the objectives, nature and scope of the given enquiry with the original investigation. For example, if the objective of our enquiry is to study the salary pattern of a firm including perks and allowances of employees. But, secondary data is available only on basic pay. Such type of data is not suitable for the purpose of the study.

Reliability of Secondary Data

For the reliability of secondary data, these can be tested: i) unbiasedness of the collecting person, ii) proper check on the accuracy of field work, iii) the editing, tabulating and analysis done carefully, iv) the reliability of the source of information, v) the methods used for the collection and analysis of the data. If the data collecting organisations are government, semi-government and international, the secondary data are more reliable corresponding to data collected by individual and private organisations.

Adequacy of Secondary Data

Adequacy of secondary data is to be judged in the light of the objectives of the research. For example, our objective is to study the growth of industrial production in India. But the published report provide information on only few states, then the data would not serve the purpose. Adequacy of the data may also be considered in the light of duration of time for which the data is available. For example, for studying the trends of per capita income of a country, we need data for the last 10 years, but the information available for the last 5 years only, which would not serve our objective.

Hence, we should use secondary data if it is reliable, suitable and adequate.

3.4.4 Merits and Limitations of Secondary Data

Merits

1) Secondary data is much more economical and quicker to collect than primary data, as we need not spend time and money on designing and printing data collection forms (questionnaire/schedule), appointing enumerators, editing and tabulating data etc.

2) It is impossible to an individual or small institutions to collect primary data with regard to some subjects such as population census, imports and exports of different countries, national income data etc. but can obtain from secondary data.

Limitations

1) Secondary data is very risky because it may not be suitable, reliable, adequate and also difficult to find which exactly fit the need of the present investigation.

2) It is difficult to judge whether the secondary data is sufficiently accurate or not for our investigation.

3) Secondary data may not be available for some investigations. For example, bargaining strategies in live products marketing, impact of T.V. advertisements on viewers, opinion polls on a specific subject, etc. In such situations we have to collect primary data.

Self Assessment Exercise B

1) Write names of five web sources of secondary data which have not been included in the above table.

....

....

....

2) Explain the merits and limitations of using secondary data.

....

....

....

3) What precautions must a researcher take before using the secondary data?

....

....

....

4) In the following situations indicate whether data from a census should be taken?

   i) A TV manufacturer wants to obtain data on customer preferences with respect to size of TV.

   ii) IGNOU wants to determine the acceptability of its employees for subscribing to a new employee insurance programme.

   ....

   ....

   ....

3.5 METHODS OF COLLECTING PRIMARY DATA

If the available secondary data does not meet the requirements of the present study, the researcher has to collect primary data. As mentioned earlier, the data which is collected for the first time by the researcher for his own purpose is called primary data. There are several methods of collecting primary data, such as observation, interview through reporters, questionnaires and schedules. Let us study about them in detail.

3.5.1 Observation Method

The Concise Oxford Dictionary defines observation as, 'accurate watching and noting of phenomena as they occur in nature with regard to cause and effect or mutual relations'. Thus observation is not only a systematic watching but it also involves listening and reading, coupled with consideration of the seen phenomena. It involves three processes. They are: sensation, attention or concentration and perception.

Under this method, the researcher collects information directly through observation rather than through the reports of others. It is a process of recording relevant information without asking anyone specific questions and in some cases, even without the knowledge of the respondents. This method of collection is highly effective in behavioural surveys. For instance, a study on behaviour of visitors in trade fairs, observing the attitude of workers on the job, bargaining strategies of customers etc. Observation can be participant observation or non-participant observation. In **Participant Observation Method**, the researcher joins in the daily life of informants or organisations, and observes how they behave. In the **Non-participant Observation Method**, the researcher will not join the informants or organisations but will watch from outside.

Merits

1) This is the most suitable method when the informants are unable or reluctant to provide information.
2) This method provides deeper insights into the problem and generally the data is accurate and quicker to process. Therefore, this is useful for intensive study rather than extensive study.

Limitations

Despite of the above merits, this method suffers from the following limitations:

1) In many situations, the researcher cannot predict when the events will occur. So when an event occurs there may not be a ready observer to observe the event.
2) Participants may be aware of the observer and as a result may alter their behaviour.
3) Observer, because of personal biases and lack of training, may not record specifically what he/she observes.
4) This method cannot be used extensively if the inquiry is large and spread over a wide area.

3.5.2 Interview Method

Interview is one of the most powerful tools and most widely used method for primary data collection in business research. In our daily routine we see interviews on T.V. channels on various topics related to social, business, sports, budget etc. In the words of C. William Emory, 'personal interviewing is a two-way purposeful conversation initiated by an interviewer to obtain information that is relevant to some research purpose'. Thus an interview is basically, a meeting between two persons to obtain the information related to the proposed study. The person who is interviewing is named as interviewer and the person who is being interviewed is named as informant. It is to be noted that, the research data/information collect through this method is not a simple conversation between the investigator and the informant, but also the glances, gestures, facial expressions, level of speech etc., are all part of the process. Through this method, the researcher can collect varied types of data intensively and extensively.

Interviewes can be classified as direct personal interviews and indirect personal interviews. Under the techniques of **direct personal interview**, the investigator meets the informants (who come under the study) personally, asks them questions pertaining to enquiry and collects the desired information. Thus if a researcher intends to collect the data on spending habits of Delhi University (DU) students, he/ she would go to the DU, contact the students, interview them and collect the required information.

Indirect personal interview is another technique of interview method where it is not possible to collect data directly from the informants who come under the study. Under this method, the investigator contacts third parties or witnesses, who are closely associated with the persons/situations under study and are capable of providing necessary information. For example, an investigation regarding a bribery pattern in an office. In such a case it is inevitable to get the desired information indirectly from other people who may be knowing them. Similarly, clues about the crimes are gathered by the CBI. Utmost care must be exercised that these persons who are being questioned are fully aware of the facts of the problem under study, and are not motivated to give a twist to the facts.

Another technique for data collection through this method can be structured and unstructured interviewing. In the **Structured interview** set questions are asked and the responses are recorded in a standardised form. This is useful in large scale interviews where a number of investigators are assigned the job of interviewing. The researcher can minimise the bias of the interviewer. This technique is also named as formal interview. In **Un-structured interview**, the investigator may not have a set of questions but have only a number of key points around which to build the interview. Normally, such type of interviews are conducted in the case of an explorative survey where the researcher is not completely sure about the type of data he/ she collects. It is also named as informal interview. Generally, this method is used as a supplementary method of data collection in conducting research in business areas.

Now-a-days, telephone or cellphone interviews are widely used to obtain the desired information for small surveys. For instance, interviewing credit card holders by banks about the level of services they are receiving. This technique is used in industrial surveys specially in developed regions.

Merits

The major merits of this method are as follows:

1) People are more willing to supply information if approached directly. Therefore, personal interviews tend to yield high response rates.

2) This method enables the interviewer to clarify any doubt that the interviewee might have while asking him/her questions. Therefore, interviews are helpful in getting reliable and valid responses.

3) The informant's reactions to questions can be properly studied.
4) The researcher can use the language of communication according to the standard of the information, so as to obtain personal information of informants which are helpful in interpreting the results.

Limitations

The limitations of this method are as follows:

1) The chance of the subjective factors or the views of the investigator may come in either consciously or unconsciously.
2) The interviewers must be properly trained, otherwise the entire work may be spoiled.
3) It is a relatively expensive and time-consuming method of data collection especially when the number of persons to be interviewed is large and they are spread over a wide area.
4) It cannot be used when the field of enquiry is large (large sample).

Precautions : While using this method, the following precautions should be taken:

- obtain thorough details of the theoretical aspects of the research problem.
- Identify who is to be interviewed.
- The questions should be simple, clear and limited in number.
- The investigator should be sincere, efficient and polite while collecting data.
- The investigator should be of the same area (field of study, district, state etc.).

Self Assessment Exercise C

1) How can data be collected through the Observation Method?

....

....

....

2) Distinguish between the observation and the interview method of data collection.

....

....

....

3.5.3 Through Local Reporters and Correspondents

Under this method, local investigators/agents or correspondents are appointed in different parts of the area under investigation. This method is generally adopted by government departments in those cases where regular information is to be collected. This method is also useful for newspapers, magazines, radio and TV news channels. This method has been used when regular information is required and a high degree of accuracy is not of much importance.

Merits

1) This method is cheap and economical for extensive investigations.
2) It gives results easily and promptly.
3) It can cover a wide area under investigation.

Limitations

1) The data obtained may not be reliable.
2) It gives approximate and rough results.
3) It is unsuited where a high degree of accuracy is desired.
4) As the agent/reporter or correspondent uses his own judgement, his personal bias may affect the accuracy of the information sent.

3.5.4 Questionnaire and Schedule Methods

Questionnaire and schedule methods are the popular and common methods for collecting primary data in business research. Both the methods comprise a list of questions arranged in a sequence pertaining to the investigation. Let us study these methods in detail one after another.

i) **Questionnaire Method**

Under this method, questionnaires are sent personally or by post to various informants with a request to answer the questions and return the questionnaire. If the questionnaire is posted to informants, it is called a **Mail Questionnaire**. Sometimes questionnaires may also sent through E-mail depending upon the nature of study and availability of time and resources. After receiving the questionnaires the informants read the questions and record their responses in the space meant for the purpose on the questionnaire. It is desirable to send the quetionnaire with self-addressed envelopes for quick and high rate of response.

Merits

1) You can use this method in cases where informants are spread over a vast geographical area.
2) Respondents can take their own time to answer the questions. So the researcher can obtain original data by this method.
3) This is a cheap method because its mailing cost is less than the cost of personal visits.
4) This method is free from bias of the investigator as the information is given by the respondents themselves.
5) Large samples can be covered and thus the results can be more reliable and dependable.

Limitations

1) Respondents may not return filled in questionnaires, or they can delay in replying to the questionnaires.

2) This method is useful only when the respondents are educated and co-operative.

3) Once the questionnaire has been despatched, the investigator cannot modify the questionnaire.

4) It cannot be ensured whether the respondents are truly representative.

ii) **Schedule Method**

As discussed above, a Schedule is also a list of questions, which is used to collect the data from the field. This is generally filled in by the researcher or the enumerators. If the scope of the study is wide, then the researcher appoints people who are called enumerators for the purpose of collecting the data. The enumerators go to the informants, ask them the questions from the schedule in the order they are listed and record the responses in the space meant for the answers in the schedule itself. For example, the population census all over the world is conducted through this method. The difference between questionnaire and schedule is that the former is filled in by the informants, the latter is filled in by the researcher or enumerator.

Merits

1) It is a useful method in case the informants are illiterates.

2) The researcher can overcome the problem of non-response as the enumerators go personally to obtain the information.

3) It is very useful in extensive studies and can obtain more reliable data.

Limitations

1) It is a very expensive and time-consuming method as enumerators are paid persons and also have to be trained.

2) Since the enumerator is present, the respondents may not respond to some personal questions.

3) Reliability depends upon the sincerity and commitment in data collection.

The success of data collection through the questionnaire method or schedule method depends on how the questionnaire has been designed.

Designing the Questionnaire

The success of collecting data either through the questionnaire method or through the schedule method depends largely on the proper design of the questionnaire. This is a specialised job and a requires high degree of skill, experience, thorough knowledge of the research topic, ability to frame questions and a great deal of patience. There are no hard and fast rules in designing the questionnaire. However, the following general guidelines may be helpful in this connection.

- The number of questions should be minimised as far as possible because informants may not like to spend much time to answer a lengthy questionnaires.
- The questions should be precise, clear and unambiguous. Lengthy questions tend to confuse the informant.

- Choose the appropriate type of questions. Generally there are five kinds of questions used in questionnaires. They are as follows :

  i) Simple choice questions which offer the respondents a choice between two answers, such as, ‘Yes’ or ‘No’, ‘Right’ or ‘Wrong’. ‘Do you own a computer?’ Can easily be answered with ‘Yes’ or ‘No’.

  ii) Multiple choice questions are often used as a follow-up to simple choice questions. This type of questions provide a choice between a number of factors that might influence informant preferences. For example, where do you sell your agricultural products? a) In village market, b) In a regulated market, c) To commission agent, d) Any other…

  iii) Open-ended questions allow the informants to give any related answer in their own words. For example, what should be done to enhance the practical utility of commerce programmes?

  iv) Specific questions which require specific information. For example, “From where did you take the loan for your business.”

  v) Scaled questions are used to record how strongly the opinions are expressed. For example, How do you rate the facilities provided by the market committee?

  a) Very good, b) Good, c) Normal, d) Bad, or e) Very bad.

- The questions should be arranged in a logical sequence to avoid embarrassment. For example, asking a question how many children do you have? Then the next question : Are you married?

- Questions which require calculations should be avoided. For example, question regarding yearly income of the respondents who are getting daily wage or piece wages, should not be asked.

Pilot testing or Pre-testing the Questionnaire

Before finalising the questionnaire, it is desirable to carry out a preliminary experiment on a sample basis. The investigator should examine each question to ensure that the question is not confusing, leading to biased responses etc. The real test of a questionnaire is how it performs under actual conditions of data collection. This test can be carried out among small groups of subjects in order to provide an estimate of the time needed for responding to the survey. The questionnaire pre-test serves the same role in questionnaire design as testing a new product in the market. As test marketing provides the real test of customer reactions to the product and the accompanying marketing programmes, in the same way, the pre-test provides the real test of the questionnaire. Therefore this work must be done with utmost care and caution to yield good results.

Specimen Questionnaire

The following specimen questionnaire incorporates most of the qualities which we have discussed above. It relates to ‘Computer User Survey’.

Computer User Survey

1. What brand of Computer do you primarily use?

   (i) IBM | (ii) Compaq
   (iii) HCL | (iv) Dell
   (v) Siemens | (vi) Any other

   ____
   (please specify)

2. Where was the computer purchased?
   (i) Computer store | (ii) Mail order
   (iii) Manufacturer | (iv) Company Dealer
   (v) Any other ______________

3. How long have you been using computers? ______years _____months.

4. In a week about how many hours do you spend on the computer ____ hours?

5. Which database management package do you use most often?
   (i) Dbase-II | (ii) Dbase-III
   (iii) Lotus 1,2,3 | (iv) MS-Excel
   (v) Oracle | (vi) Any other

   ____
   (please specify)

6. Does the computer, that you primarily use, have a hard disk
   Yes ☐ No ☐

7. Where did you obtain the software that you use?
   (i) Computer user group | (ii) Regular dealer
   (iii) Mail order | (iv) Directly from Software dealer
   (v) Any other ______________

8. On the following 9-point scale, rate the degree of difficulty that you have encountered in using the computer.

   Extremely difficult ——► 1 2 3 4 5 6 7 8 9 ◄—— Not difficult

9. If you have to purchase a personal computer today, which one would you be most likely to purchase?

   (i) IBM | (ii) Compaq
   (iii) HCL | (iv) Dell
   (v) Siemens | (vi) Any other

   ____
   (please specify)

10. What is your sex ☐ Male ☐ Female

11. Please state your date of birh ....
    Month Day Year

12. Your Qualifications
    (i) Secondary | (ii) Sr. Secondary
    (iii) Graduate | (iv) Post-graduate
    (v) Doctorate | (vi) Any other

    ____
    (please specify)

13. Which of the following best describe you primary field of employment.
    (i) Medical | (ii) Education
    (iii) Business | (iv) Government
    (v) Technical | (vi) Any other ____________
    (please specify)

14. What is your current Salary?

3.6 CHOICE OF SUITABLE METHOD

You have noticed that there are various methods and techniques for the collection of primary data. You should be careful while selecting the method which should be appropriate and effective. The selection of the methods depends upon various factors like scope and objectives of the inquiry, time, availability of funds, subject matter of the research, the kind of information required, degree of accuracy etc. As apprised, every method has its own merits and demerits. For example, the observation method is suitable for field surveys when the incident is really happening, the interview method is suitable where direct observation is not possible. Local reporter/correspondent method is suitable when information is required at regular intervals. The questionnaire method is appropriate in extensive enquiries where sample is large and scattered over large geographical areas and the respondents are able to express their responses in writing. The Schedule method is suitable in case respondents are illiterate.

Self Assessment Exercise D

1) List out the methods of collecting primary data.

....

....

....

2) Point out the major problems in constructing questionnaires.

....

....

....

3) Distinguish between direct personal interview and indirect interview. Give suitable examples.

....

....

....

4) Distinguish between Schedule and Questionnaire?

....

....

....

5) Are the following statement true or false?

a) Interview method introduces more bias than the use of questionnaire.

b) 'Yes' or 'No' type questions should not be used in questionnaires unless only one of the two answer is possible.

c) Open questions are more difficult than most other types to tabulate.

3.7 LET US SUM UP

In this unit we elaborated on the meaning of data, methods of data collection, merits and limitations of data collection, precautions which are needed for the collection of data.

The information collected from various processes for a specific purpose is called data. Statistical data may be either primary data or secondary data. Data which is collected originally for a specific purpose is called primary data. The data which is already collected and processed by some one else and is being used now in the present study, is called secondary data. Secondary data can be obtained either from published sources or unpublished sources. It should be used if it is reliable, suitable and adequate, otherwise it may result in misleading conclusions. It has its own merits and demerits. There are several problems in the collection of primary data. These are: tools and techniques of data collection, degree of accuracy, designing the questionnaire, selection and training of enumerators, problem of tackling non-responses and other administrative aspects.

Several methods are used for collection of primary data. These are: observation, interview, questionnaire and schedule methods. Every method has its own merits and demerits. Hence, no method is suitable in all situations. The suitable method can be selected as per the needs of the investigator which depends on objective nature and scope of the enquiry, availability of funds and time.

3.8 KEY WORDS

Data: Quantitative or/ and qualitative information, collected for study and analysis.

Interview: A method of collecting primary data by meeting the informants and asking the questions.

Observation: The process of observing individuals in controlled situations.

Questionnaire: is a device for collection of primary data containing a list of questions pertaining to enquiry, sent to the informants, and the informant himself writes the answers.

Primary Data: Data that is collected originally for the first time.

Secondary Data: Data which were collected and processed by someone else but are being used in the present study.

Published Sources: Sources which consist of published statistical information.

Schedule: is a device for collection of primary data containing a list of questions to be filled in by the enumerators who are specially appointed for that purpose.

3.9 ANSWERS TO SELF ASSESSMENT EXERCISES

A. 1) In many business companies, some of the data required for statistical analysis are obtained from internal sources like computer files of accounting data. Together with internal data, business often uses data from external sources. For example, aggregate data on national economic activity are readily available from CSO, annual report of Ministry of Labour, Government of India.

2) Data which is collected originally is called primary data and the same collected by others are called secondary data. For example, a researcher interested in knowing what consumer's choice about the brand of

toothpaste, he or she must make a survey and collect data on the opinions of the consumer. This is called primary data. The data obtained from published and unpublished sources is called secondary data.

B. 1)
- http://www.bis.org.in
- http://www.business-today.com
- http://www.businessonlineindia.com
- http://www.indiacofee.org
- http://www.dgft.nic.in

IV. i) No, ii) No

D. 1) Observation Method, interview method, data collection through reporters/ correspondents, questionnaries and schedule methods.

2) a) What information will be sought?

b) What type of questionnaire will be required?

c) How many questions will be used?

d) What will the content of the individual questions be?

e) How will those questionnaires be administered?

3) i) Personal Interview: Under this method, the investigator collects information personally from the concerned sources.

ii) Indirect Interview : Under this method, the investigator contacts third parties or witnesses capable of supplying the necessary information.

5) i) True ii) True iii) True.

3.10 TERMINAL QUESTIONS

1) What precautions would you take while using the data from secondary sources.
2) Explain what precautions must be taken while designing a questionnaire in order that it may be really useful. Illustrate your answer giving suitable examples.
3) Construct a suitable questionnaire containing not more than twenty five questions pertaining to the sales promotion of your company's product.
4) Distinguish between the following :
   a) Primary and Secondary Data
   b) Internal and External Data
   c) A Schedule and Questionnaire
5) Explain the various methods of collecting primary data pointing out their merits and demerits?
6) What is the need for pre-testing the drafted questionnaire.

Note: These questions/exercises will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the university for assessment. These are for your practice only.

3.11 FURTHER READING

The following text books may be used for more indepth study on the topics dealt with in this unit.

Kothari, C.R. 2004. *Research Methodology Methods and Techniques*, New Age International (P) Limited : New Delhi.

Rao K.V. 1993. *Research Methodology in Commerce and Management*, Sterling Publishers Private Limited : New Delhi.

Sadhu, A.N. and A. Singh, 1980. *Research Methodology in Social Sciences*, Sterling Publishers Private Limited : New Delhi.