

**For the students of
M. Com. (Applied Economics) Sem. IV
Paper: Research Methodology (Unit II)**

Note: Study material may be useful for the courses wherever Research Methodology paper is being taught.

Prepared by: Dr. Anoop Kumar Singh
Associate Professor,
Dept. of Applied Economics,
University of Lucknow

Collection of Data for Research Purposes

Data are the foundation of any statistical investigation and the job of collecting data is the same for a statistician as collecting stamps, Books, help books, guides and magazines and encyclopedia etc is for a librarian.

The systematic process of collecting specific information is called data collection. For example, collecting information about a student's academic or functional performance. It helps educators determine if instruction, programs, and interventions are effective and the educators can know when to make changes to a student's academic or functional program.

1. There are many methods available to gather information, and a wide variety of information sources.
2. One must begin to think ahead about how the related information could be organized, analyzed, interpreted and then reported to various audiences as a final report/result/information.
3. Data collection actually means gathering some information to address those critical research questions that one has identified earlier at the research design step.
4. To plan data collection, one must think about the questions to be answered and the information sources available therein.

Sources of Data Collection

On the basis of sources of collecting data, there are two types of data:

1. Primary Data
2. Secondary Data

Primary Sources of Data

Primary data refer to first hand information obtained by the researcher on the variables of interest for the given purposes of the study. Primary research consists of a collection of fresh or original data. It can be accomplished through various methods, including questionnaires and telephone interviews in market research, or experiments and direct observations in the physical sciences, amongst others. In collecting primary data, researcher can focus on both qualitative and quantitative issues. The data can be collected by

- (i) Individuals
- (ii) Focus groups

Focus groups are used for

- (i) Exploratory studies
- (ii) Conducting sample surveys
- (iii) Making generalizations based on the information gathered by them

Secondary Sources of Data

Secondary data are those numerical facts which have already been collected by someone else for their own purpose and exist in published or unpublished form.

(i) Published Sources

- (a) Government Publications such as Abstract of Agricultural Statistics, Labour Gazette, Reserve Bank of India Bulletin, Five Year Plan Draft and Census Reports etc.
- (b) International Publications such as United Nations Statistical Year Book, Annual Report of World Bank and International Monetary Fund etc.
- (c) Semi-Official Publications such as Municipal Corporation, Published Periodical Reports etc.
- (d) Committees and Commissions Report such as Reports of National Labour Commission, Pay Commission, Finance Commission and Planning Commission etc.
- (e) News Papers and Journals such as Yojna, Transport, The Financial Express and Commerce etc.
- (e) University Researches and Research Projects such as research projects funded by UGC, ICSSR, CSIR, Research institutes like Indian Statistical Institute etc; individual researches conducted by the students persuing Ph. D., D. Litt. M Phil. Etc.

(ii) Unpublished Sources

The unpublished data is also available from the resources such as:

- (a) Government and Private Offices
- (b) Research Institutes
- (c) Colleges and Universities
- (d) Trade Associations
- (e) Research Scholar's work during the research work etc.

Techniques for Collecting Primary Data

The three major techniques for collecting primary data are as:

- (i) Observation
- (ii) Survey
 - (a) Questionnaires
 - (b) Interviews

Observations

It is one of the most direct ways to collect data. It is a seeing process where the behavior of individual person, animal, event, episode etc is observed in their functional settings. Observation can range from complete participant observation to a more detached observation using a casually observing and noting occurrence of specific kinds of behaviors.

For example in case of the study on performance of teachers one can observe how effectively a teacher is teaching and controlling the class, what teaching aids are being used, how far the students are taking interest in the learning and understanding?

Participant and Non-Participant Observation:

In the participant observation, the observer himself participates in the system or a group of persons who are being observed. By active participation he observes the things very closely and record them. Usually it is kept confidential. For example, in a study of worker's group behavior, a researcher may take part in the working of that organization.

On the other hand in non-participant observation, observer stands apart and sees the objects or functioning of an individual or group without any direct participation in that. This method is flexible and allows the observer to see and record subtle aspects of events and behavior as they occur.

This method has certain advantages as mentioned below:

- (i) Easy to complete and saves time.
- (ii) Can be used in natural or experimental settings.
- (iii) They are free of the biases inherent in the self-report data.
- (iv) Most direct measure of behavior and Provides direct information.
- (v) They put the practitioner directly in touch with the behaviors in question.
- (vi) They are adapting in that they can be modified depending on what is being observed.
- (vii) They involved real-time data, describing behavior occurring in the present rather than the past.

Surveys

A survey is a systematic method of gathering information from the respondents selected in a sample of for the purpose of constructing quantitative descriptions of the attributes of a larger population.

Generally surveys are used:

- (i) when face-to-face meetings are inadvisable.
- (ii) to collect standardized information from large numbers of individuals
- (iii) when privacy is important or independent opinions and responses are needed.
- iv) Surveys may be administered in a variety of ways such as:
 - (a) Personal Interview
 - (b) Telephone Interview
 - (c) Self Administered Questionnaire
 - (d) Internet

Steps in Planning a Survey

- (a) Decide the person involved in the process.
- (b) Define clearly the survey content.
- (c) Identify all the respondents.
- (d) Decide which survey method is to be used.
- (e) Develop the simple and confined questionnaire.
- (f) Analyze the information collected from questionnaire.
- (g) Communicate about your survey and its results.
- (h) Finally develop a budget, timeline, and management process

Methods of Collecting Primary Data:

1. Direct Personal Investigation: Under this method an investigator personally comes in the contact of the persons (respondents) who are directly related to the enquiry and gathers requisite information. The term 'direct' of this method refers that responses are collected directly from those persons who have been selected for enquiry and the term personal indicates that the researcher personally goes to the field and collect the information.

This method is suitable when area of investigation is limited and the information obtained need to be kept confidential.

2. Indirect Oral Investigation: This method is used in case where it is not possible or desirable to approach the people or where there is reluctance on the part of the informants. Under this method, instead of interrogating directly to the selected person, the information is collected from third party informants. The information regarding personal habits, religion, family planning measures etc. are

sought by some other person who is supposed to have knowledge. The enquiry committees and commissions appointed by the governments or judicial bodies also adopt this method.

- (b) Possibility of incorrect or incomplete information is also possible
- (c) Ignorance of third part about the selected people.

3. Schedules to be Filled in by Enumerators: In this method a schedule containing various heads pertaining to issues involved in the study is prepared by the researcher. Here the information is filled in by field investigators through personal contacts. Field investigators may be appointed temporarily for data collection in a project. They are also imparted with training regarding the data collection. Then they contact the respondents by visiting their place and record the information in the schedules. They work under some senior supervisors who keep checking them on the spot.

4. Mailed Questionnaire: Under this method, an investigator prepares a questionnaire containing a number of questions and blank tables for giving answers and send out one copy to every informants along with a covering letter explaining the objective of the survey and instructions for filling up the same. The respondents are requested to furnish the answers and returns the questionnaire within a definite period. This method is widely used by private agencies, research organizations and individuals.

5. Information from Local Agents and Correspondents: This method is largely used by various government agencies and newspaper and media agencies which collect and publish or transmit the information regularly. Under this method, there is no any formal collection of data but agents or correspondents are appointed locally for different areas. They gather current information in their respective areas which are published on daily, weekly or monthly basis.

Instruments or Tools used in data collection

While collecting and recording the primary data, a number of forms, statements, electronic devices etc. are used by the investigators. These are called tools or instruments of data collection.. Information gathered through these tools also serves the purpose of measuring the variables pertaining to the study. These tools or instruments consist of Observation Schedule or Observationnaire, Interview guide, Questionnaire, Interview Schedule, Measurement Scales, Electronic devices etc.

Questionnaire

Techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order is called questionnaire method. Over the years, a lot of thought has been put into the science of the design of survey questions. A questionnaire is a standardized set of questions administered to the respondents in a survey. Questionnaires are one of the most efficient ways to collect data. Questionnaires should be used for explanatory or descriptive research, linked with other methods in a multiple-methods research design and to collect responses from a large sample prior to quantitative analysis. Questionnaires can be standard based on common research or they can be customized to meet the specific data gathering need.

Types of Questionnaire

The design of a questionnaire differs according to how it is administered and in particular, the amount of contact you have with respondents. There are basically two types of questionnaires

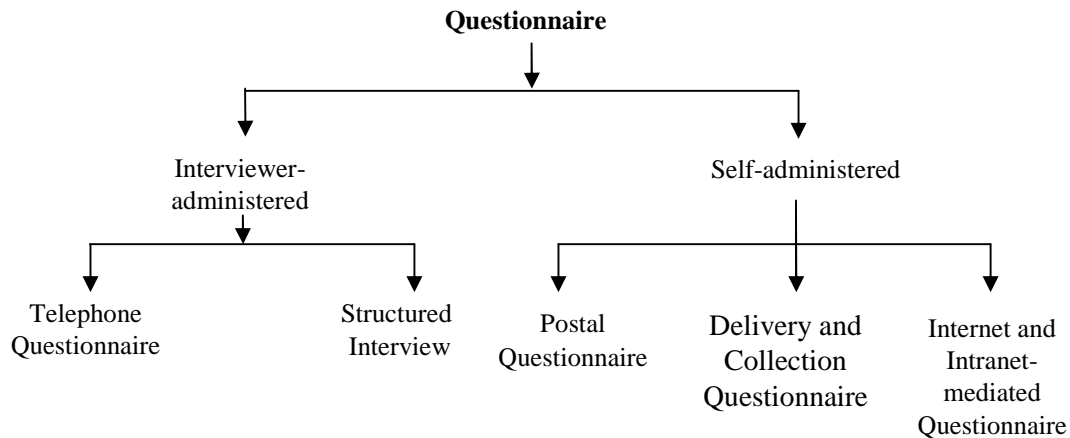
(i) Interviewer-Administered Questionnaire

Responses to interviewer-administered questionnaires are recorded by the interviewer on the basis of each respondent's answers. Questionnaires administered using the telephone is known as telephone questionnaire where as structured interviews (also known as interview schedules), refers to those questionnaires where interviewers physically meet respondents face to face and ask the question.

(ii) Self-Administered Questionnaire

Self-administered questionnaires are usually completed by the respondents itself either using the net or post etc. Such questionnaires are administered electronically using the internet or

intranet, posted to respondents who then return the questionnaire by post after its completion (postal or mail questionnaire), or delivered by hand to each respondent and collected later (delivery and collection questionnaire).



Precautions to be taken while preparing a Questionnaire

- (a) Leading-questions must be avoided.
- (b) Open-ended questions must be used cautiously.
- (c) Pretesting of questionnaire on a small number of respondents chosen from the same universe is advisable.
- (d) Questionnaire should not be constructed of very large or very short in size.
- (e) The questions should be short, simple and clearly worded.
- (f) One should try to use dichotomous (Yes/No) and multiple choice questions.
- (g) The questions should start with demographic questions to help respondents get started comfortably.
- (h) The researcher should think about the way he intends to use the collected data when preparing the questionnaire.

Interviews

Interviews are usually conducted one-to-one but can be carried out in a group as well. Interviews are probably the most widely used technique for collecting data as they permit the interviewer to ask the respondent direct questions. Further probing and clarification is possible while conducting interviews and this flexibility is invaluable for gaining private views and feelings about the organization and exploring new issues that emerge during the interview. Group interviews save time and allow people to build on other's responses, however, it inhibit respondent's answers if trust is an issue. Interviews are of the following two types:

(i) Unstructured Interviews

The objective of unstructured interviews is to bring some preliminary issues to the surface so that the researcher can determine what variables need further in-depth investigation and the interviewer does not enter the interview setting with a planned sequences of questions to be asked of the respondent.

(ii) Structured Interviews

In this case, the interviewer has a list of predetermined questions to be asked of the respondents and only those are conducted when it is known at the outset what information is needed.