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- **Course Code: FMCC10/21**
- **Course Name : Business Research Methods**
- **Unit – III / Topic : Data Collection and Data Processing**
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DATA COLLECTION AND DATA PROCESSING

Scheme Of Presentation

1. **Introduction**
2. **Primary and Secondary Data**
3. **Methods Of Collecting Primary data**

3.1. Observation Method

3.2. interview Method

3.2.1. Types Of Interview

3.2.2. Merits Of Interview Method

3.2.3. Telephonic Interview

Continue

- 3.3. Collection Of Data through Questionnaire
- 3.3.1. Merits Of Questionnaire
- 3.3.2.Demerits Of Questionnaire
- 3.3.3. Main Aspects OF Questionnaire
- 3.4. Collection Of Data through Schedules
- 3.5. Other Method Of Data Collection
- 4.Collection Of Secondary Data
- 5. Case Study Method

Introduction

- The task of data collection begins after a research problem has been defined and the research design/ plan chalked out.
- Two types of data viz., primary and secondary.
- The primary data are those which are collected afresh and for the first time, and thus happen to be original in character.
- 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.
- The methods of collecting primary and secondary data differ since primary data are to be originally collected, while in the case of secondary data the nature of data collection work is merely that of compilation.

Primary Data

- Data that has been generated by the researcher himself/herself, surveys, interviews, and experiments, specially designed for understanding and solving the research problem at hand.
- The sources of primary data are usually chosen and tailored specifically to meet the demands or requirements of particular research. Also, before choosing a data collection source, things like the aim of the research and target population need to be identified.

Methods of Collecting Primary Data

(i) observation method

(ii) interview method

(iii) through questionnaires

(iv) through schedules

(v) Other Methods

- (a) warranty cards
- (b) distributor audits
- (c) pantry audits
- (d) consumer panels
- (e) using mechanical devices
- (f) through projective techniques
- (g) depth interviews
- (h) content analysis.

Observation Method

- Most commonly used method specially in studies relating to behavioural sciences.
- Under the observation method, the information is sought by way of investigator’s own direct observation without asking from the respondent.
- The main advantage of this method is that subjective bias is eliminated, if observation is done accurately. ,
- the information obtained under this method relates to what is currently happening; it is not complicated by either the past behaviour or future intentions or attitudes.
- this method is independent of respondents’ willingness to respond and as such is relatively less demanding of active cooperation on the part of respondents as happens to be the case in the interview or the questionnaire method.

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.

Types of Interview

(a) Personal interviews:

1. Personal interview method requires a person known as the interviewer to ask questions generally in face-to-face contact with the other person or persons.
2. This sort of interview may be in the form of direct personal investigation or it may be an indirect oral investigation.
3. The method of collecting information through personal interviews is usually carried out in a structured way. As such we call the interviews structured interviews.

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- As against it, unstructured interviews are characterised by flexibility of approach to questioning. Unstructured interviews do not follow a system of pre-determined questions and standardised techniques of recording information.
- Focused interview is meant to focus attention on the given experience of the respondent and its effects. Under it, the interviewer has the freedom to decide the manner and sequence in which the questions would be asked and has also the freedom to explore reasons and motives.

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- The clinical interview is concerned with broad underlying feelings or motivations or with the course of an individual’s life experience. The method of eliciting information under it is generally left to the interviewer’s discretion.
- In the case of a non-directive interview, the interviewer’s function is simply to encourage the respondent to talk about the given topic with a bare minimum of direct questioning.

Merits of of the interview method

- More information and that too in greater depth can be obtained.
- Interviewer by his own skill can overcome the resistance, if any, of the respondents; the interview method can be made to yield an almost perfect sample of the general population.
- There is greater flexibility under this method as the opportunity to restructure questions is always there, especially in the case of unstructured interviews.
- Observation method can as well be applied to recording verbal answers to various questions.

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- Personal information can as well be obtained easily under this method.
- Samples can be controlled more effectively as there arises no difficulty of the missing returns; non-response generally remains very low.
- The interviewer can usually control which person(s) will answer the questions. This is not possible in mailed questionnaire approach. If so desired, group discussions may also beheld.

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- The interviewer may catch the informant off-guard and thus may secure the most spontaneous reactions than would be the case if a mailed questionnaire is used.
- The language of the interview can adapt to the ability or educational level of the person interviewed and as such misinterpretations concerning questions can be avoided.
- The interviewer can collect supplementary information about the respondent’s personal characteristics and environment which is often of great value in interpreting results.

Weaknesses of the interview method

- It is a very expensive method, especially when a large and widely spread geographical sample is taken.
- There remains the possibility of the bias of the interviewer as well as that of the respondent; there also remains the headache of supervision and control of interviewers.
- Certain types of respondents such as important officials or executives or people in high-income groups may not be easily approachable under this method, and the data may prove inadequate to that extent.
- This method is relatively more-time-consuming, especially when the sample is large and recalls upon the respondents are.

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- The presence of the interviewer on the spot may overstimulate the respondent, sometimes even to the extent that he may give imaginary information just to make the interview interesting.
- Under the interview method the organisation required for selecting, training and supervising the field staff is more complex with formidable problems.
- Interviewing at times may also introduce systematic errors.
- Effective interview presupposes proper rapport with respondents that would facilitate free and frank responses. This is often a very difficult requirement.

Telephone interviews

This method of collecting information consists in contacting respondents by telephone itself. It is not a very widely used method, but plays an important part in industrial surveys, particularly in developed regions. The chief merits of such a system are,

1. It is more flexible in comparison to the mailing method.
2. 2. It is faster than other methods i.e., a quick way of obtaining information.
3. It is cheaper than the personal interviewing method; here the cost per response is relatively low.
4. Recall is easy; callbacks are simple and economical.

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- There is a higher rate of response than what we have in the mailing method; the non-response is generally very low.
- Replies can be recorded without causing embarrassment to respondents.
- 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.
- Representative and wider distribution of the sample is possible.

Demerits of Telephonic Interview

- Little time is given to respondents for considered answers; the interview period is not likely to exceed five minutes in most cases.
- Surveys are restricted to respondents who have telephone facilities.
- Extensive geographical coverage may get restricted by cost considerations.
- It is not suitable for intensive surveys where comprehensive answers are required to various questions.
- Possibility of the bias of the interviewer is relatively more. 6. Questions have to be short and to the point; probes are difficult to handle.

Collection of Data Through Questionnaires

- 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 Questionnaire

- There is low cost even when the universe is large and is widely spread geographically.
- It is free from the bias of the interviewer; answers are in the respondents' own words.
- Respondents have adequate time to give well-thought-out answers.
- Respondents, who are not easily approachable, can also be reached conveniently.
- Large samples can be made use of and thus the results can be made more dependable and reliable.

Demerits of Questionnaire

- 1. Low rate of return of the duly filled in questionnaires; bias due to no-response is often indeterminate.
- It can be used only when respondents are educated and cooperating.
- The control over the questionnaire may be lost once it is sent.
- There is inbuilt inflexibility because of the difficulty of amending the approach once questionnaires have been dispatched.
- There is also the possibility of ambiguous replies or omission of replies altogether to certain questions; interpretation of omissions is difficult.
- It is difficult to know whether willing respondents are truly representative.
- This method is likely to be the slowest of all.

Main aspects of a questionnaire:

1. General form:

it can either be a structured or unstructured questionnaire. Structured questionnaires are those questionnaires in which there are definite, concrete and pre-determined questions. The questions are presented with exactly the same wording and in the same order to all respondents When these characteristics are not present in a questionnaire, it can be termed as an unstructured or non-structured questionnaire.

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2. Question sequence:

A proper question sequence reduces the chances of individual questions being misunderstood considerably. The question sequence must be clear and smoothly moving meaning thereby that the relation of one question to another should be readily apparent to the respondent, with questions that are easiest to answer being put in the beginning.

3. Question formulation and wording:

About this aspect of the questionnaire, the researcher should note that each question must be very clear for any sort of misunderstanding can do irreparable harm to a survey. Questions should also be impartial to avoid a biased picture of the true state of affairs. Questions should be constructed with a view to their forming a logical part of a well-thought-out tabulation plan.

Collection of Data Through Schedules

- 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 (proforma containing a set of questions) are being filled in by the enumerators who are specially appointed for the purpose. These enumerators along with schedules, go to respondents, put to them the questions from the proforma in the order the questions are listed and record the replies in the space meant for the same in the proforma.

OTHER METHODS OF DATA COLLECTION

1. Warranty cards:

Warranty cards are usually postal-sized cards which are used by dealers of consumer durables to collect information regarding their products. The information sought is printed in the form of questions on the 'warranty cards' which is placed inside the package along with the product with a request to the consumer to fill in the card and post it back to the dealer.

2. Distributor or store audits:

Distributor or store audits are performed by distributors as well as manufactures through their salesmen at regular intervals. Distributors get the retail stores audited through salesmen and use such information to estimate market size, market share, seasonal purchasing pattern and so on. The data are obtained in such audits not by questioning but by observation.

3. Pantry audits:

Pantry audit technique is used to estimate consumption of the basket of goods at the consumer level. In this type of audit, the investigator collects an inventory of types, quantities and prices of commodities consumed. Thus in pantry audit data are recorded from the examination of consumer’s pantry. The usual objective in a pantry audit is to find out what types of consumers buy certain products and certain brands, the assumption being that the contents of the pantry accurately portray consumer’s preferences.

4. Consumer panels:

An extension of the pantry audit approach on a regular basis is known as 'consumer panel', where a set of consumers are arranged to come to an understanding to maintain detailed daily records of their consumption and the same is made available to investigator on demands. In other words, a consumer panel is essentially a sample of consumers who are interviewed repeatedly over a period of time.

5. Use of mechanical devices:

The use of mechanical devices has been widely made to collect information by way of indirect means. Eye camera, Pupilometric camera, Psychogalvanometer, Motion picture camera and Audiometer are the principal 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. Projective techniques:

Projective techniques (or what are sometimes called as indirect interviewing techniques) for the collection of data have been developed by psychologists to use projections of respondents for inferring about underlying motives, urges, or intentions which are such that the respondent either resists to reveal them or is unable to figure out himself. In projective techniques the respondent in supplying information tends unconsciously to project his own attitudes or feelings on the subject under study.

7. Depth interviews:

Depth interviews are those interviews that are designed to discover underlying motives and desires and are often used in motivational research. Such interviews are held to explore needs, desires and feelings of respondents. In other words, they aim to elicit unconscious as also other types of material relating especially to personality dynamics and motivations. As such, depth interviews require great skill on the part of the interviewer and at the same time involve considerable time.

8**. Content-analysis:**

Content-analysis consists of analysing the contents of documentary materials such as books, magazines, newspapers and the contents of all other verbal materials which can be either spoken or printed.

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 analysed by someone else. When the researcher utilises 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. Secondary data may either be published data or unpublished data.

Published data

- (a) various publications of the central, state are local governments;
- (b) various publications of foreign governments or of international bodies and their subsidiary organisations;
- (c) technical and trade journals;
- (d) books, magazines and newspapers;
- (e) reports and publications of various associations connected with business and industry, banks, stock exchanges, etc.;
- (f) reports prepared by research scholars, universities, economists, etc. in different fields; and
- (g) public records and statistics, historical documents, and other sources of published information.

- The sources of unpublished data are many;

they may be found in diaries, letters, unpublished biographies and autobiographies and also may be available with scholars and research workers, trade associations, labour bureaus and other public/ private individuals and organisations

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?

(e) Was there any bias of the compiler?

(f) 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. In this context, the researcher must very carefully scrutinise the definition of various terms and units of collection used at the time of collecting the data from the primary source originally.

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.

CASE STUDY METHOD

- The case study method is a very popular form of qualitative analysis and involves a careful and complete observation of a social unit, be that unit a person, a family, an institution, a cultural group or even the entire community. It is a method of study in depth rather than breadth.
- The case study places more emphasis on the full analysis of a limited number of events or conditions and their interrelations.
- The case study deals with the processes that take place and their interrelationship. Thus, a case study is essentially an intensive investigation of the particular unit under consideration.
- The object of the case study method is to locate the factors that account for the behaviour patterns of the given unit as an integrated totality.

- Characteristics: The important characteristics of the case study method are as under:
- 1. Under this method the researcher can take one single social unit or more of such units for his study purpose; he may even take a situation to study the same comprehensively.
- 2. Here the selected unit is studied intensively i.e., it is studied in minute details. Generally, the study extends over a long period of time to ascertain the natural history of the unit so as to obtain enough information for drawing correct inferences.

Understanding Key Financial and Economic Data Sources

RBI Data Database

- The RBI Data Database is a comprehensive resource for data on India's monetary policy, banking statistics, financial markets, and macroeconomic indicators. It provides free access to a wide range of economic data essential for policy analysis, academic research, and financial modeling.
- Applications:
- - Economic Policy Analysis
- - Financial Modeling
- - Academic Research

Bloomberg Database

- The Bloomberg Database is a global platform offering real-time data, news, and analytics on financial markets. It covers a wide array of data including stock prices, market trends, economic indicators, and more. Access is subscription-based, typically through Bloomberg terminals.
- Applications:
- - Financial Analysis
- - Investment Research
- - Market Trends Monitoring

CMIE Database

- The CMIE Database provides extensive data on economic indicators, industry performance, company financials, and consumer behavior. It is a vital resource for economic research, business strategy, and market analysis.
- Access is subscription-based.
- Applications:
- - Economic Research
- - Business Strategy
- - Market Analysis

Capitaline Database

- Capitaline Database specializes in providing detailed company financials, stock market data, and sectoral analysis. It is widely used in equity research, corporate finance, and investment decision-making.
- Access is subscription-based.
- Applications:
- - Equity Research
- - Corporate Finance
- - Investment Decision-Making

Comparative Analysis

- Comparing the four databases:
- - **RBI Data**: Free access, focuses on India's economic data.
- - **Bloomberg**: Subscription-based, global market data and analytics.
- - **CMIE**: Subscription-based, extensive industry and economic data.
- - **Capitaline**: Subscription-based, detailed company financials and market data.
- Choose based on the type of analysis, depth of data required, and accessibility needs.

How to Choose the Right Database

- When selecting a database, consider the following factors:
- - **Type of Analysis**: Determine whether you need economic, financial, or industry-specific data.
- - **Data Requirements**: Evaluate the depth and breadth of data you need.
- - **Accessibility**: Consider the budget and access options (free vs. subscription-based).
- Choose the database that best aligns with your research or analysis needs.

Practical Applications

- Examples of how these databases are used in practice:
- - **RBI Data**: Used for macroeconomic research and policy analysis in India.
- - **Bloomberg**: Essential for analyzing financial markets, investment research, and tracking market trends.
- - **CMIE**: Utilized for industry analysis, economic research, and business strategy development.
- - **Capitaline**: Key resource for equity research, corporate finance, and making informed investment decisions.

Conclusion

- In summary, selecting the appropriate data source is crucial for effective analysis. Each of the databases discussed offers unique strengths, making them suitable for different types of research and analysis.
- Leverage these resources to make informed, data-driven decisions.

THANK YOU