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**MLIS SEMESTER II
(PAPER – 1)
RESEARCH METHODS AND STATISTICAL
TECHNIQUES
TOPIC – DATA COLLECTION METHODS &
TOOLS
E-CONTENT**

Data Collection

Data collection is a methodical process of gathering and analyzing specific information to provide solutions to relevant questions and evaluate the results. It focuses on finding out all there is to a particular subject matter. Data is collected to be further subjected to hypothesis testing which seeks to explain a phenomenon.

Types Of Data Collection

Data Collection are divided into two categories :-

- Primary Data Collection
- Secondary Data Collection

Primary Data Collection

Primary data collection is the gathering of raw data collected at the source. It is a process of collecting the original data collected by a researcher for a specific research purpose. It could be further analyzed into two segments; qualitative research and quantitative data collection methods.

Qualitative Research Method

The qualitative research methods of data collection does not involve the collection of data that involves numbers or a need to be deduced through a mathematical calculation, rather it is based on the non-quantifiable elements like the feeling or emotion of the researcher. An example of such a method is an open-ended questionnaire.

Quantitative Method

Quantitative methods are presented in numbers and require a mathematical calculation to deduce. An example would be the use of a questionnaire with close-ended questions to arrive at figures to be calculated Mathematically. Also, methods of correlation and regression, mean, mode and median.

Secondary Data Collection

Secondary data collection, on the other hand, is referred to as the gathering of second-hand data collected by an individual who is not the original user. It is the process of collecting data that is already existing, be it already published books, journals and/or online portals. In terms of ease, it is much less expensive and easier to collect.

Data Collection Tools

Data collection tools refer to the devices/instruments used to collect data, such as a paper questionnaire or computer-assisted interviewing system. Case Studies, Interviews, Observation sometimes, and Surveys or Questionnaires are all tools used to collect data.

Questionnaire Method

This is the process of collecting data through an instrument consisting of a series of questions and prompts to receive a response from individuals it is administered to.

In this method a questionnaire is sent (mailed) to the concerned respondents who are expected to read, understand and reply on their own and return the questionnaire. It consists of a number of questions printed or typed in a definite order on a form or set of forms.

Often a questionnaire uses both open and closed questions to collect data. This is beneficial as it means both quantitative and qualitative data can be obtained.

Closed Questions

Closed questions structure the answer by only allowing responses which fit into pre-decided categories.

Open Questions

Open questions allow people to express what they think in their own words. Open-ended questions enable the respondent to answer in as much detail as they like in their own words.

Advantage

- ⦿ Can be administered in large numbers and is cost-effective.
- ⦿ It can be used to compare and contrast previous research to measure change.
- ⦿ Easy to visualize and analyze.
- ⦿ Respondent identity is protected.
- ⦿ Questionnaires can cover all areas of a topic.
- ⦿ Relatively inexpensive.

Disadvantage

- ⦿ Answers may be dishonest or the respondents lose interest midway.
- ⦿ Questionnaires can't produce qualitative data.
- ⦿ Questions might be left unanswered.
- ⦿ Respondents may have a hidden agenda.
- ⦿ Not all questions can be analyzed easily.

Interview Method

An interview is a face-to-face conversation between two individuals with the sole purpose of collecting relevant information to satisfy a research purpose.

This method of collecting data involves presentation of oral verbal stimuli and deeply in terms of oral- verbal responses.

It can be achieved by two ways:-

- ① Personal Interview

 - Direct personal investigation

 - Indirect oral examination

 - Structured interviews

 - Unstructured interviews

 - Focused interview

 - Clinical interviews

 - Non directive interview

- ② Telephonic Interview

(A) **Personal interview** - It requires a person known as interviewer to ask questions generally in a face to face contact to the other person. It can be –

Direct personal investigation- The interviewer has to collect the information personally from the services concerned.

Indirect oral examination- The interviewer has to cross examine other persons who are suppose to have a knowledge about the problem.

Structured interviews- Interviews involving the use of pre-determined questions and of highly standard techniques of recording

Unstructured interviews- It does not follow a system of pre-determined questions and is characterized by flexibility of approach to questioning.

Focused interview- It is meant to focus attention on the given experience of the respondent and its effect. The interviewer may ask questions in any manner or sequence with the aim to explore reasons and motives of the respondent.

Clinical interviews- It is concerned with broad underlying feeling and motives or individuals life experience which are used as method to collect information under this method at the interviewer direction.

Non directive interview- The interviewer's function is to encourage the respondent to talk about the given topic with a bare minimum of direct questioning.

(B) **Telephonic interviews** - It requires the interviewer to collect information by contacting respondents on telephone and asking questions or opinions orally.

Advantage

- ⦿ In-depth information
- ⦿ Freedom of flexibility
- ⦿ Accurate data

Disadvantage

- ⦿ Time-consuming
- ⦿ It is an expensive method.
- ⦿ High skilled interviewer is required.

Observation Method

This is a data collection method by which information on a phenomenon is gathered through observation. The nature of the observation could be accomplished either as a complete observer, an observer as a participant, a participant as an observer or as a complete participant. This method is a key base of formulating a hypothesis.

Types of Observation

(A) Structured (descriptive) and unstructured (exploratory) observation- When a observation is characterized by careful definition of units to be observed, style of observer, conditions of or observation and selection of pertinent data of observation it is a structured observation. When there characteristics are not thought of in advance or not present. it is a unstructured observation.

(B) Participant, Non-participant and disguised observation- When the observer observes by making himself more or less, the member of the group he is observing, it is participant observation but when the observer observes by detaching himself from the group under observation it is non participant observation. If the observer observes in such manner that his presence is unknown to the people he is observing it is disguised observation.

(C) Controlled (laboratory) and uncontrolled (exploratory) observation- If the observation takes place in the natural setting it is a uncontrolled observation but when observation takes place according to some pre-arranged plans ,involving experimental procedure it is a controlled observation.

Advantage

- ⦿ Easy to administer.
- ⦿ There subsists a greater accuracy with results.
- ⦿ It is a universally accepted practice.
- ⦿ It diffuses the situation of an unwillingness of respondents to administer a report.
- ⦿ It is appropriate for certain situations.

Disadvantage

- ⦿ Some phenomena aren't open to observation.
- ⦿ It cannot be relied upon.
- ⦿ Bias may arise.
- ⦿ It is expensive to administer.
- ⦿ Its validity cannot be predicted accurately.

Thank You