Methods of Data Collection- Observation, Interview & Focus Group Discussion

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Introduction

- Data can be defined as the quantitative or qualitative values of a variable.

- Data is plural of datum which literally means to give or something given.

- Data is thought to be the lowest unit of information from which other measurements and analysis can be done.

- Data can be numbers, images, words, figures, facts or ideas.

- Data in itself cannot be understood and to get information from the data one must interpret it into meaningful information.

- Data is one of the most important and vital aspect of any research studies.
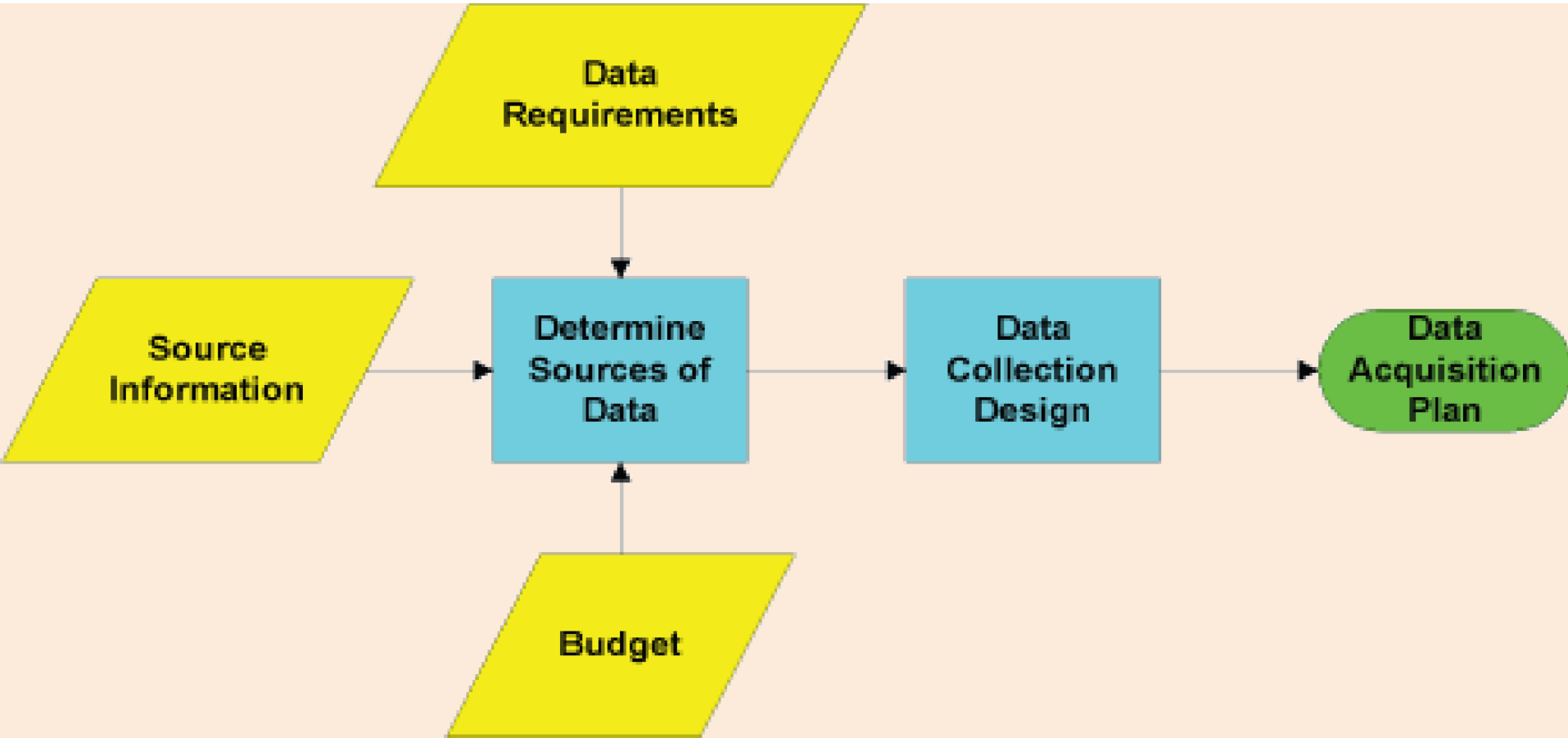
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- Data collection is a term used to describe a process of preparing and collecting data.

- Systematic gathering of data for a particular purpose from various sources, that has been systematically observed, recorded, organized.

- Data are the basic inputs to any decision making process.
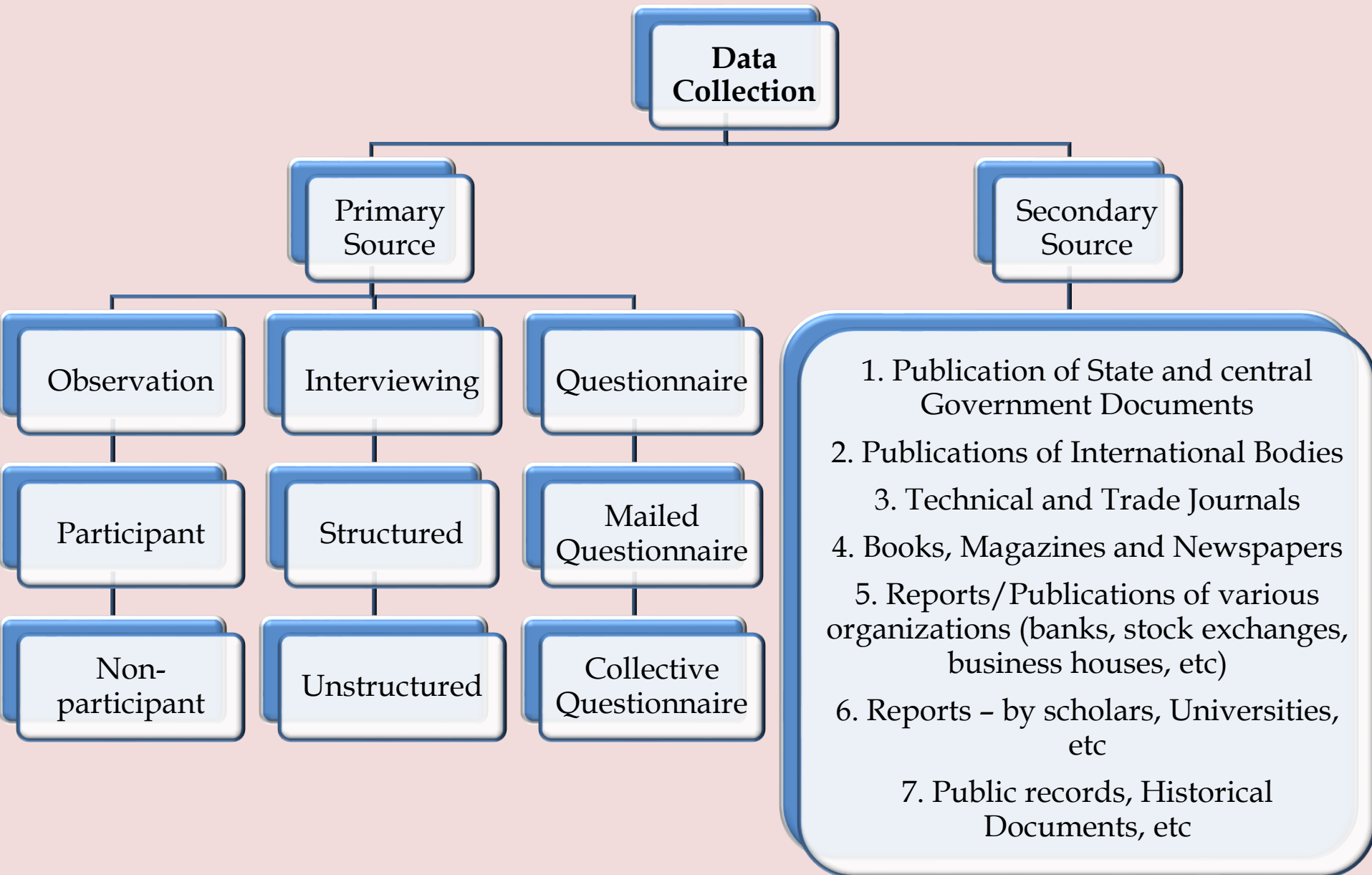
Purpose of Data Collection

- ❖ To obtain information
- ❖ To keep on record
- ❖ To make decisions about important issues
- ❖ To pass information on to others

Factors to be Considered Before Collection of Data (plan)

o Objectives and scope of the enquiry (research question).

o Sources of information (type, accessibility).

o Quantitative expression (measurement/scale).

o Techniques of data collection.

o Unit of collection.

Methods of Data Collection

- **Data Collection**
  - **Primary Source**
    - Observation
      - Participant
      - Non-participant
    - Interviewing
      - Structured
      - Unstructured
    - Questionnaire
      - Mailed Questionnaire
      - Collective Questionnaire
  - **Secondary Source**
    1. Publication of State and central Government Documents
    2. Publications of International Bodies
    3. Technical and Trade Journals
    4. Books, Magazines and Newspapers
    5. Reports/Publications of various organizations (banks, stock exchanges, business houses, etc)
    6. Reports – by scholars, Universities, etc
    7. Public records, Historical Documents, etc

Primary Data

- Primary data are original observations collected by the researcher or by his agent for the first time for any investigation and it is collection of data from first hand information.

- This type of primary data is mostly pure and original data.

- The primary data is the one type of important data it is useful for current studies as well as for future studies

Observation Method

Observation becomes a scientific tool and the method of data collection, when it serves a formulated research purpose, is systematically planned and recorded and is subjected to checks and controls on validity and reliability.

Participant Observation – when the observation is characterized by a careful definition of the units to be observed, the style of recording the observed information, standardized conditions of observation and the selection of pertinent data of observation. The respondents role is very important.

Non-participant Observation – when it takes place without the above characteristics.

Interviewing Method

The Interview Method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral – verbal responses. It requires the interviewer asking questions in a face-to-face contact with the person.

Structured Interview - the use of a set of predetermined questions and highly standardized techniques of recording.

Unstructured Interview - It do not follow a system of pre-determined questions and standardized techniques of recording information and it fully based on flexibility and requirements.

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Clinical Interview - is concerned with broad underlying feelings or motivations or with the course of an individual's life experience.

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

Focused Interview - The main task is to confine the respondent to discuss about given experience to them and its effects.

Focus Group Discussion (FGD)

- A focus group discussion (FGD) is a good way to gather together people from similar backgrounds or experiences to discuss a specific topic of interest.

- The group of participants is guided by a moderator (or group facilitator) who introduces topics for discussion and helps the group to participate in a lively and natural discussion amongst themselves.

- The strength of FGD relies on allowing the participants to agree or disagree with each other so that it provides an insight into how a group thinks about an issue, about the range of opinion and ideas, and the inconsistencies and variation that exists in a particular community in terms of beliefs and their experiences and practices.

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- The strength of FGD relies on allowing the participants to agree or disagree with each other so that it provides an insight into how a group thinks about an issue, about the range of opinion and ideas, and the inconsistencies and variation that exists in a particular community in terms of beliefs and their experiences and practices.

- Quantitative parameters are not applied for focus group discussion results: representativeness is not required, as well as the error of the results are not estimated. The depth of the content, particularity and interpretation, but not statistical analysis, are most important.

- Focus group discussions are carried out in special laboratory with recording and observing equipment. Thus, discussion is recorded; simultaneously, the run of discussion may be observed through the one-way mirror.

Questionnaire Method

Questionnaire is the most commonly used method in survey. Questionnaires are a list of questions either an open-ended or close - ended for which the respondent give answers. Questionnaire can be conducted via telephone, mail, live in a public area, or in an institute, through electronic mail or through fax and other methods.

Mailed Questionnaire - a Questionnaire is sent (by post) to the persons concerned with a request to answer the questions and return the Questionnaire.

Collected Questionnaire – The researcher goes to the respondents, give and asks them to fill the questionnaire as per their own ideology.

Schedules

Data Collection through Schedules – Very similar to the Questionnaire method. The main difference is that a schedule is filled by the trained *enumerator* who is specially appointed for the purpose. Enumerator goes to the respondents, asks them the questions from the Performa in the order listed, and records the responses in the space provided.

Other Methods of Data Collection

Warranty Cards - It is a method for data collection in which postal size cards are used by dealers of consumer durables to collect info regarding their product.

Distributor or Store Audits - performed by distributors as well as manufactures through their salesmen at regular intervals. In this type of audit, the investigator collects an inventory of types, quantities and prices of commodities consumed.

Pantry Audits - 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.

Consumer Panels - A consumer panel is a group of individuals selected by a business or organization to provide input and opinion on products and services for research on consumer behavior. Panel members are chosen to be representative of the general population or a target group.

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- **Mechanical Devices** – Using sensors, cameras and other mechanical end electronic devices to collect data.

- **Depth Interviews** - is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation.

- **Content Analysis** - is a research method used to identify patterns in recorded communication.

- **Projective Tests** - is a personality test designed to let a person respond to ambiguous stimuli, presumably revealing hidden emotions and internal conflicts projected by the person into the test.

TYPES OF QUESTIONS
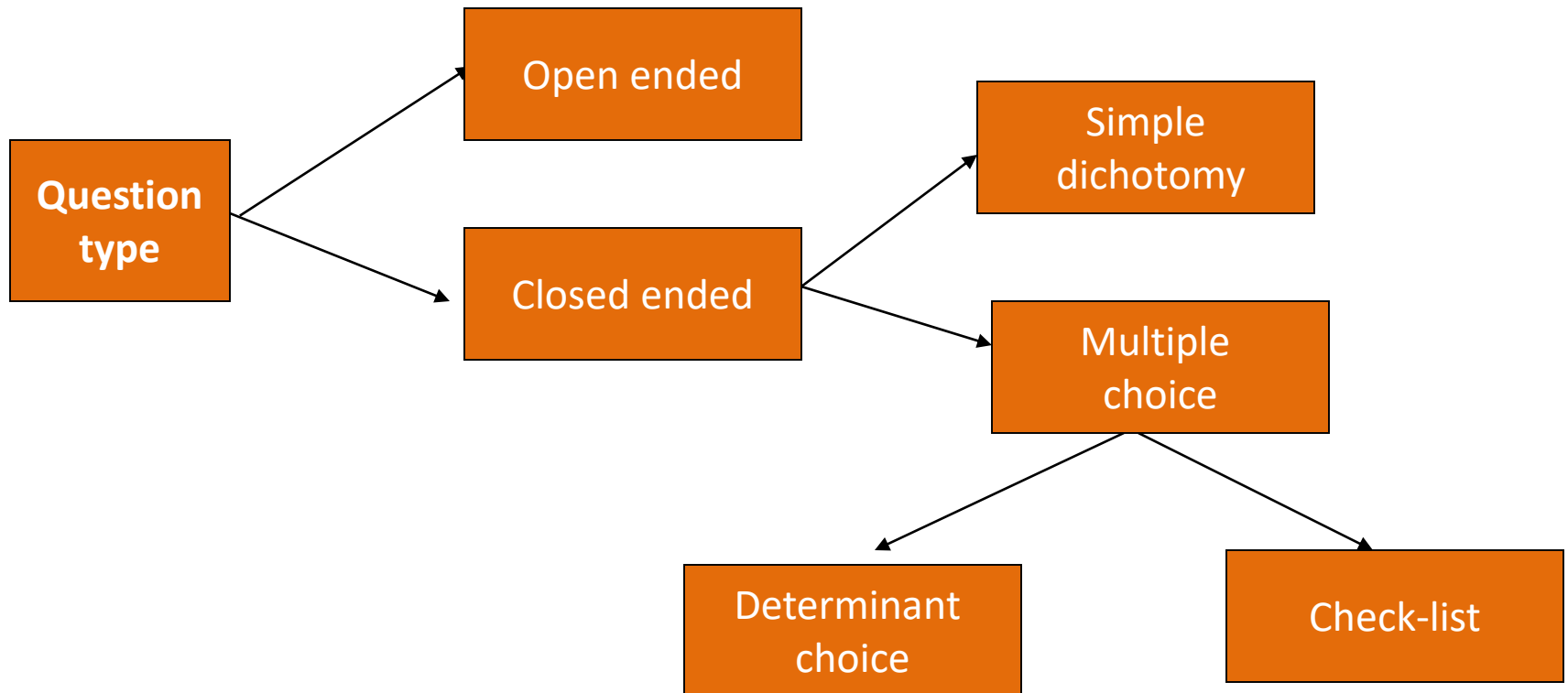
ALTERNATIVE QUESTION FORMATS

1. Open-ended – Questions in which the respondent answers in his own words.

2. Closed-ended (or Fixed Alternative) – Question in which respondent selects one or more options from pre-determined set of responses.

    ◦ Simple dichotomy → Closed ended question with only two response alternatives

    ◦ Multiple Choice → Closed ended question with more than two response alternatives.

    - Determinant choice – Multiple choice question in which respondent must select only one of the response alternatives.

    - Checklist question - Multiple choice question in which respondent can select more than one of the response alternatives.

Requirements for Close-Ended Questions

▶ Response categories provided for each close-ended question should be *mutually exclusive* and *exhaustive*

1. <u>Mutually Exclusive</u> → Response categories must be such that the same respondent cannot be classified into more than one category; e.g. the categories Rs.1,000-5,000 and Rs.5,000-10,000 are not mutually exclusive.

2. <u>Mutually Exhaustive</u> – Response categories should include all possible response options. Sometimes this is achieved by including a response option like "Other (Please specify)…."

EXAMPLES

▸ Sometimes, several questions are needed to obtain the required information in an unambiguous manner. Consider the question:

   "Do you think Coca-Cola is a tasty and refreshing soft
    drink?"   (Incorrect)

▸ Such a question is called a **double-barreled question**, because two or more questions are combined into one. To obtain the required information, two distinct questions should be asked:

   "Do you think Coca-Cola is a tasty soft drink?" and
   "Do you think Coca-Cola is a refreshing soft drink?"
                                                                                  (Correct)

Overcoming Inability To Answer – Can the Respondent Remember?

How many gallons of soft drinks did you consume during the last four weeks? (Incorrect)

How often do you consume soft drinks in a typical week? (Correct)

1. ___ Less than once a week
2. ___ 1 to 3 times per week
3. ___ 4 to 6 times per week
4. ___ 7 or more times per week

Choosing Question Wording – Use Unambiguous Words

In a typical month, how often do you shop in department stores?
_____ Never
_____ Occasionally
_____ Sometimes
_____ Often
_____ Regularly

(Incorrect)

In a typical month, how often do you shop in department stores?
_____ Less than once
_____ 1 or 2 times
_____ 3 or 4 times
_____ More than 4 times   (Correct)

Merits and Demerits of Primary Data

Merits

- Targeted issues are addressed
- Data interpretation is better
- High accuracy of data
- Addressing specific research issues
- Greater control

Demerits

- Cost
- Time
- More personnel /resources
- Inaccurate feedback
- Training, skill and difficult.

Secondary Data

Secondary data are those which have already been collected by someone else and which have through some statistical analysis

Published data are available in:

1. Publications of State/Central Govt.s
2. Publications of International Bodies
3. Technical and Trade Journals
4. Books, Magazines and Newspapers
5. Reports/Publications of various organizations (banks, stock exchanges, business houses, etc)
6. Reports – by scholars, Universities, etc
7. Public records, Historical Documents, etc

Merits and Demerits of Secondary Data

Merits

- Quick and cheap
- Wider geographical area
- Longer orientation period
- Leading to primary data

Demerits

- Not fulfilling specific research needs
- Poor accuracy
- Not up to date
- Poor accessibility in some cases

Key Differences Between Primary and Secondary Data

1. The term primary data refers to the data originated by the researcher for the first time. Secondary data is the already existing data, collected by the investigator agencies and organisations earlier.

2. Primary data is a real-time data whereas secondary data is one which relates to the past.

3. Primary data is collected for addressing the problem at hand while secondary data is collected for purposes other than the problem at hand.

4. Primary data collection is a very involved process. On the other hand, secondary data collection process is rapid and easy.

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5. Primary data collection sources include surveys, observations, experiments, questionnaire, personal interview, etc. On the contrary, secondary data collection sources are government publications, websites, books, journal articles, internal records etc.

6. Primary data collection requires a large amount of resources like time, cost and manpower. Conversely, secondary data is relatively inexpensive and quickly available.

7. Primary data is always specific to the researcher's needs, and he controls the quality of research. In contrast, secondary data is neither specific to the researcher's need, nor he has control over the data quality.

8. Primary data is available in the raw form whereas secondary data is the refined form of primary data. It can also be said that secondary data is obtained when statistical methods are applied to the primary data.

9. Data collected through primary sources are more reliable and accurate as compared to the secondary sources.

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