

Module-II: Research Process

- Stages in Research process
- Data Collection: Primary data: Observation, Experimentation, Interview, Schedules, Survey,
- Limitations of Primary data
- Secondary data: Sources and Limitations,
 - Factors affecting the choice of method of data collection.
- Questionnaire: Types, Steps in Questionnaire Designing, Essentials of a good questionnaire

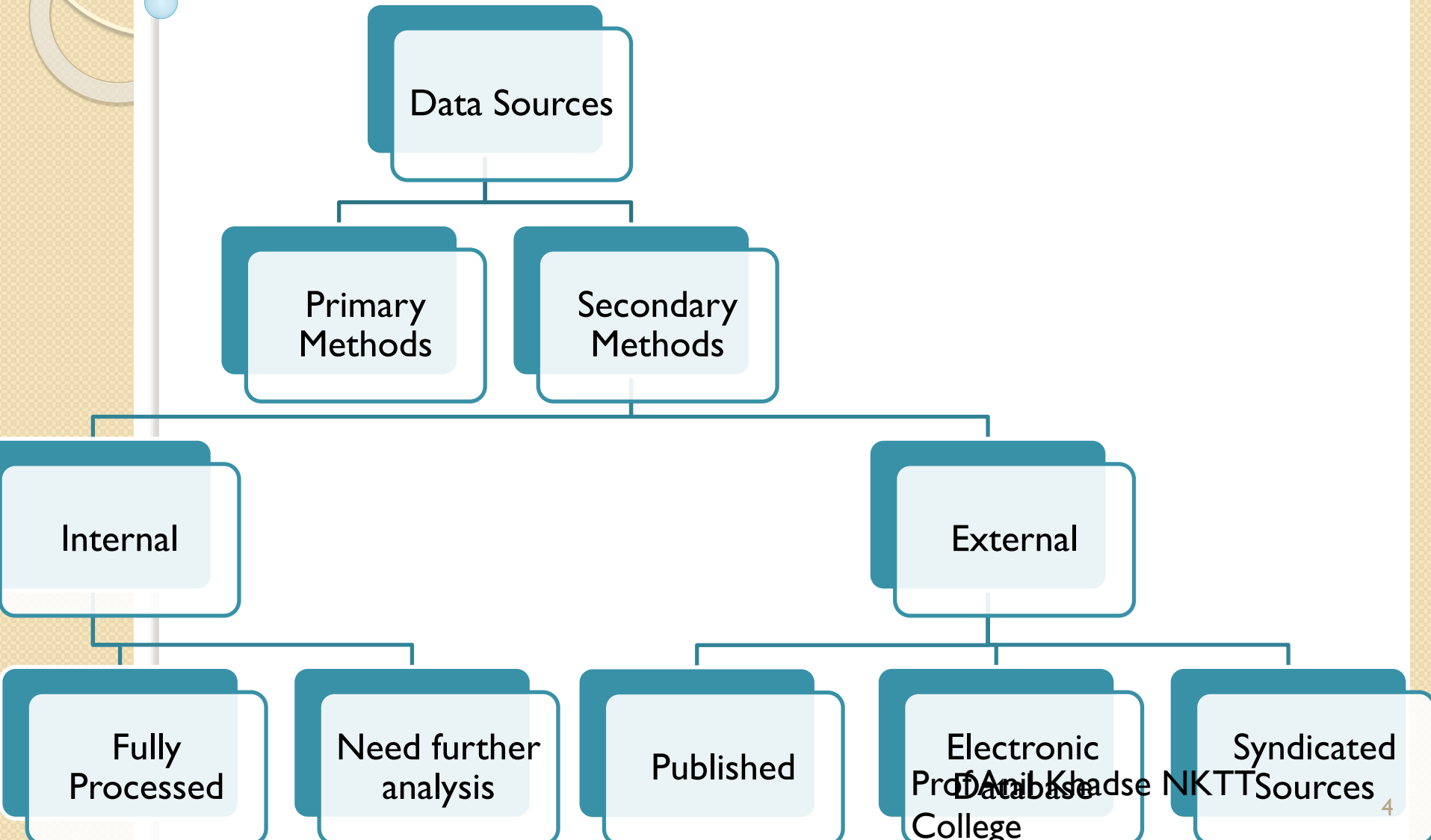
Stages in scientific research process

- Identification of Research Problem
- Formulation of research Problem
- ✓ Researchable, Interesting, purposeful, understandable
- ✓ Manageable , ethical
- Review of Literature
- Construction of hypothesis
- Preparation of Research Design
- Determination of sample size

Stages in scientific research process

- Collection of Data
- Processing of data
- Analysis of data
- Testing of hypothesis
- Generalizations & Interpretation
- Preparation of Report
 - Preliminary pages
 - Main body
 - End matter (concluding part)
- Follow up of Report

Methods & Techniques of Data Collection



Methods of Data Collection

- PRIMARY DATA
 - Survey method
 - Observation method
 - Experimentation method

Significance/ Advantages of Primary Data

- First hand information
- In-depth information
- Reliable information
- Accurate data
- Specific data
- Supplements secondary data
- Enhances quality of research work
- Helps in formulation of hypothesis

Methods of Data Collection

° Survey / Interview Method

- ❑ Personal Interview
- ❑ Telephone Interview
- ❑ Mail survey / Questionnaire Method

Methods of Data Collection

Personal Interview

Types:

- Formal & Informal
- Structured & Unstructured
- Individual & Group
- Specific Interview
- Directive & Non-directive

Telephone Interview

- Interview conducting on telephone
- Questions are asked and answers are recorded
- Replaces face to face interaction
- No restriction on geographical boundaries

Mail survey/Questionnaire Method:

- Questionnaire is prepared
- Questionnaire sent through post/courier or advertised in newspaper, Magazine
- Request to complete and return to researcher.

Advantages of Survey method

- Reliability
- Detailed Information
- Helps in Hypothesis Formulation
- Flexibility
- Personal Touch
- Helps to Overcome Resistance

Disadvantages of Survey method

- Time Consuming
- Expensive
- Paper work
- Respondent Bias
- Interviewer Bias
- Sampling Problems

Observation Method

- Direct method of Collecting Primary data
- Most appropriate method to use in case of descriptive research
- The method involves viewing & recording individuals, groups, organizations

Advantages of Observation method

- No respondent Bias
- First hand information about people
- The information collected is reliable & accurate

Disadvantages of observation method

- Time Consuming
- Expensive
- The researcher may not get complete information
- There may be bias of researcher as he may record certain observations as per his own judgement

Experimentation Method

- Used for scientific study
- To study cause effect relationship between two or more variables.
- Used to development of new product

Advantages:

1. It provide first hand information
2. It provide reliable and relevent information
3. Researcher may develop new technique/methods

Disadvantages

1. Very expensive
2. Lots of time and efforts required
3. Delay in result may generate frustration

Limitations of primary data Collection Method

- Paper work
- Expensive
- Sampling Errors
- Time Consuming
- Respondent Bias
- Interviewer Bias
- Processing of data
- Problem of Quick decision making

Secondary data

Features :

- Recorded data
- Easy to collect
- Quantitative data
- Comprehensive
- Sources
- Relevancy
- Availability

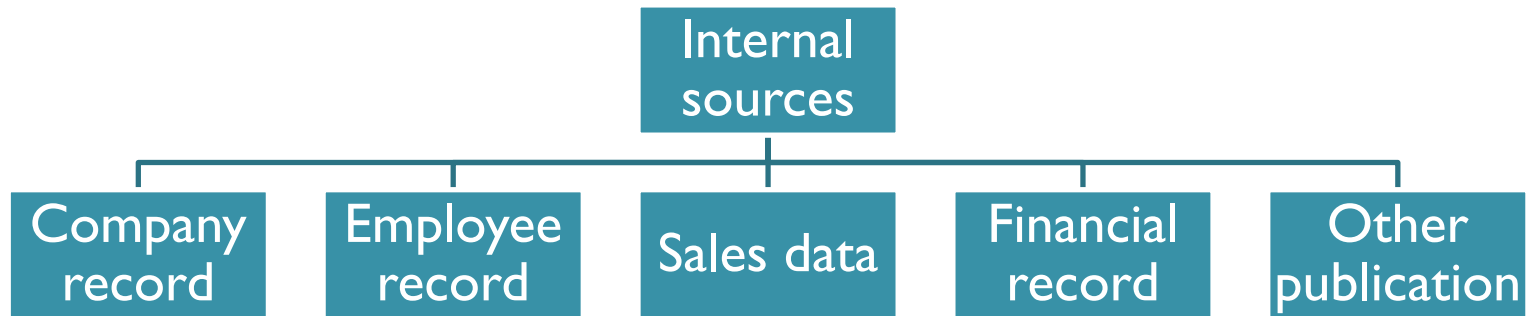
Advantages of secondary data

- Less expensive
- Less time consuming
- Less processing of data
- Quick decision
- Supplements primary data
- Less paper work

Disadvantages:

- Applicability of data: not suitable for our study/
outdated
- Accuracy of data: may not be reliable and accurate

Sources/ Methods of secondary data



Uses of internal sources

Product Analysis

Customer Analysis

Analysis of sales territories

Sales frequency analysis

Financial Analysis

Stock Turnover Analysis

External sources:

Government sources:

- Census Report-Registrar general of India
- Statistics for National Income- (CSO)
- Industrial Statistics- (CSO)
- Statistics for Foreign Trade
(Director General of commercial Intelligence)
- Price Statistics
(Ministry of Commerce & Industry)

Syndicated Sources:

- Organisation like advertising agencies, research firm.
- Syndicated services collect data on consumer goods market, TV viewing, magazine leadership, media advertising etc.

Distinguish between primary and secondary data

- **Meaning**
- Methods
- Accuracy
- Reliability
- Time factor
- Cost factor
- Paper work
- Specific / general
- In-depth information
- Need for sampling
- Respondents Bias
- Quality of decision making

Factors influencing data collection Method

Time factor

Cost factor

Quality of decision making

Type of research work

Nature of researcher

Objective of research

Availability of Respondents

Availability of Research Staff

Importance of questionnaire

- ❖ Relevant data
- ❖ Convenience to respondents
- ❖ Structured & unstructured responses
- ❖ Qualitative & Quantitative data
- ❖ Large coverage
- ❖ Proper processing
- ❖ Easy to alter
- ❖ Sensitive information

TYPES OF QUESTIONNAIRE

1. Structured questionnaire

- Close form questionnaire
- Open ended questionnaire

2. Unstructured questionnaire

3. Codified questionnaire

4. Uncodified questionnaire

5. Pictorial questionnaire

Steps in preparation of questionnaire

- Proper understanding of the research problem & objective
- Target respondent
- Decision on No. of questions
- Decision on types of questions
- Decision on wording
- Decision on sequence of questions
- Physical characteristics of questionnaire
(size, Quality & colour paper)
- Approval of questionnaire
- Pilot study
- Final draft

STEPS INVOLVED IN QUESTIONNAIRE DESIGN

◦ Convert research objective into information needed

Method of administering Questionnaire

Content of Questionnaire

Motivating the respondent to answer

Determining types of Questions

Question design Criteria

Determine questionnaire structure

Physical presentation of questionnaire

Pilot testing

Final draft

Research questions	Research objective	Variable to be studied	Information required	Population to be studied
What is the nature of plastic bag uses amongst people in NCR(National Capital Region)	<p>1.To identify the different uses of plastic bags.</p> <p>2.To find out method of disposal of plastic bags.</p> <p>3.To find out who uses plastic bags.</p> <p>4.To find out what is the level of consciousness that people have about the environment</p>	<p>Uses behaviour</p> <p>Demographic details</p>	<p>Uses of plastic bags</p> <p>Disposal of plastic bags</p>	<p>Consumers</p> <p>Retailers</p>

Types of Questions

a) Open ended questions

b) Close ended questions

MCQ, Dichotomous

c) Semi-structured questions

d) Filtered questions

THANK YOU



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