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B.Com Honours

Semester I

Calicut University

# **Business Analytics for Decision Making**

Course Code: COM1MN110 • Module 4 Notes

# 1. Data and Information: Classification and Sourcing

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The quality of any business analytics insight depends entirely on the quality of the input data. In statistics, "garbage in, garbage out" remains the defining rule. Analysts must understand the differences between data types, the challenges of using pre-existing data, and structured methods of data collection. This final module covers primary vs. secondary data, secondary data limitations, internal and external data sources, and data collection techniques.

## Primary vs. Secondary Data

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### Primary Data

Data collected first-hand by the researcher specifically for the current project. E.g., custom customer surveys, focus groups, website user testing logs.

**Pros:** Highly relevant, specific, controlled quality.

**Cons:** High cost, slow collection time.

### Secondary Data

Pre-existing data collected by others for different purposes. E.g., government census files, financial market feeds, competitor websites.

**Pros:** Low cost (often free), immediately available.

**Cons:** May lack relevance or accuracy.

## Challenges and Problems of Using Secondary Data

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While immediately available, secondary data presents several structural challenges:

- **Reliability & Bias:** The original collector might have used flawed methodology or had promotional bias.
- **Outdated Information:** Markets evolve rapidly; census data from five years ago might lead to incorrect demand forecasts.
- **Definition & Unit Mismatch:** The data might define categories differently (e.g., defining "youth" as 18-25 while the firm defines it as 15-30) or use different units of measurement.

## Internal vs. External Data Sources

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Firms source data from both inside and outside their corporate boundaries:

- **Internal Sources:** Data generated within daily business operations. E.g., ERP systems (inventory, manufacturing logs), CRM platforms (customer support logs, purchase history), and sales transaction databases. Highly secure and specific.
- **External Sources:** Data compiled outside the company. E.g., government publications (RBI reports, Ministry of Commerce statistics), international portals (World Bank, IMF databases), commercial market research firms (Nielsen, Gartner), and public search engine trends.

## 2. Methods of Data Collection

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When secondary sources are insufficient, firms must collect primary data using structured techniques:

Method	How it Works	Best Applied In
<b>Direct Observation</b>	Researchers observe subjects silently without direct interaction (e.g., tracking customer foot traffic in a supermarket).	Behavioral studies, retail store layout design.
<b>Questionnaires</b>	Using written, structured lists of questions (closed-ended, open-ended, Likert scales) distributed online or in print.	Mass customer satisfaction surveys, brand preference polls.
<b>Interviews</b>	Direct face-to-face or telephone conversation between the researcher and respondent (can be structured or unstructured).	Qualitative research, deep executive feedback, B2B research.
<b>Abstraction from Records</b>	Retrieving historical data from existing logs, archive sheets, or transaction database records.	Financial audits, operations reviews, trend analysis.
<b>Published Statistics</b>	Using aggregated, public datasets published by official bodies (e.g., tax records, demographic sheets).	Macroeconomic research, competitor benchmarking.

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