



B.Com Honours

Semester II

Calicut University

Data Analytics for Business

Course Code: COM2MN109 • Module 1 Notes

1. Introduction to Data Analytics and Data Science

In the modern digital economy, data is the new oil. Every credit card transaction, website click, social media post, and GPS signal generates data. To turn this raw data into strategic business decisions, organizations rely on data analytics and data science. This module introduces the definitions, scope, and applications of data analytics, the role of business analytics in decision-making, and the foundational areas of study in data science.

Defining Data Analytics & Business Analytics

Data Analytics

The qualitative and quantitative techniques used to examine raw datasets, clean them, and extract hidden patterns, correlations, and trends to draw conclusions about the information.

Business Analytics (BA)

The practical application of data analytics in a corporate context. It uses statistical methods and software to analyze historical business performance, predicting market trends and guiding executive decisions.

Role of Business Analytics in Corporate Decision-Making

Business Analytics changes decision-making from intuitive guessing ("gut feeling") to data-driven execution:

- **Risk Reduction:** Modeling market scenarios before committing capital to new product launches.
- **Customer Personalization:** Analyzing consumer transaction logs to recommend personalized products (e.g., Netflix/Amazon engines).
- **Operational Efficiency:** Tracking supply chain transit times to reduce inventory holding costs.

Concept and Areas of Data Science

****Data Science**** is a broader, multidisciplinary field that uses scientific methods, processes, algorithms, and systems to extract knowledge and insights from structured and unstructured data. It combines several distinct areas of study:

1. **Mathematics & Statistics:** Developing the underlying statistical models, probability distributions, and regression equations.
2. **Computer Science & Programming:** Writing code (Python, R, SQL) to clean, structure, and manipulate massive datasets.
3. **Domain Expertise (Business Knowledge):** Understanding the specific industry context (finance, retail, healthcare) to ask the right analytical questions.

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