



## UNIT I

# INTRODUCTION TO BUSINESS INTELLIGENCE

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## What is Analytics?

**Analytics** is the use of:

data,

information technology,

statistical analysis,

quantitative methods, and

mathematical or computer-based models

to help managers gain improved insight about their business operations and make better, fact-based decisions.



## What is Business Analytics?

- Business analytics is the process of collating, sorting, processing, and studying business data, and using statistical models to transform data into business insights.
- The goal of business analytics is to determine which datasets are useful and how they can be leveraged to solve problems and increase efficiency, productivity, and revenue.

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## Definitions of Business Intelligence

“The process of taking large amounts of data, analyzing that data and presenting a high level set of reports that condense the essence of that data into the basis of business actions, enabling management to make fundamental daily business decisions ” (Stackowiak et al 2007).

“The way and method of improving business performance by providing powerful assists for executive decision maker to enable them to have actionable information at hand.” ( Cui et al-2007).

“The process of collection, treatment and diffusion of information that has an objective, the reduction of uncertainty in the making of all strategic decisions” (Zeng et al-2006).

## Scope and fit of BI solutions in existing infrastructure

- A BI that includes effective data warehouse and also a reactive component capable of monitoring the time critical operational processes to allow tactical and operational decision makers to tune their actions according to the company strategy. (Golfarelli et al-2004).
- BI provides an in-depth analysis of detailed business data, including database and application technologies as well as analysis practices. (Gangadharan and Swamy-2004).

## BI vs BA

- A subset of business intelligence (BI), business analytics is generally implemented with the goal of identifying actionable data.
- Business intelligence is typically descriptive, focusing on the strategies and tools utilized to acquire, identify, and categorize raw data and report on past or current events.
- Business analytics is more prescriptive, devoted to the methodology by which the data can be analyzed, patterns recognized, and models developed to clarify past events, create predictions for future events, and recommend actions to maximize ideal outcomes.

## Applications

- ▶ Management of customer relationships
- ▶ Financial and marketing activities
- ▶ Market Basket Analysis
- ▶ Supply chain management
- ▶ Web Analytics
- ▶ Social Media Analytics
- ▶ Fraud analytics
- ▶ Retail sales analytics

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## Importance of Business Analytics

- ▶ There is a strong relationship of BA with:
  - profitability of businesses
  - revenue of businesses
  - shareholder return
- ▶ BA enhances understanding of data
- ▶ BA is vital for businesses to remain competitive
- ▶ BA enables creation of informative reports

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## The Challenges of Building BI Solutions

- There are several issues inherent to any BI project:
  - Data exists in multiple places
  - Data is not formatted to support complex analysis
  - Different kinds of workers have different data needs
  - What data should be examined and in what detail
  - How will users interact with that data

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## Evolution of BI

- 1980
  - Executive information systems (EIS)
  - decision support systems (DSS)
- 1990
  - Data warehousing (DW), business intelligence (BI)
- 2000s
  - Dashboards and scorecards, performance management
- 2010+
  - Analytics, Big data, mobile BI

## Types of Information Processing

- Transaction Processing
  - Focus on individual data item processing
  - Data insertion, deletion etc.
- Analytical Processing
  - Focus on reporting analysis, decision support

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## References

- Business Intelligence Guidebook: From Data Integration to Analytics, Rick Sherman, ISBN: 978-0-12-411461-6, 2015, Morgan Kaufmann
- Business Intelligence: A Managerial Approach By David King, Efraim Turban, and Ramesh Sharda

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