

BUSINESS ANALYTICS

TYPES, APPLICATIONS, AND CASE STUDIES



INTRODUCTION

- Business Analytics (BA) is the process of using data, statistical models, and analytical methods to gain insights, make informed decisions, and drive business growth. It is generally divided into three main types:
- Descriptive Analytics
- Predictive Analytics
- Prescriptive Analytics

DESCRIPTIVE ANALYTICS

- Focuses on analyzing past data to understand what happened
- Techniques: Reports, dashboards, trend analysis
- Answers: 'What happened?'
- Example: Monthly sales reports showing revenue trends

PREDICTIVE ANALYTICS

- Uses models to forecast future outcomes
- Techniques: Regression, classification, forecasting, ML
- Answers: 'What is likely to happen?'
- Example: Predicting customer churn in telecom

PRESCRIPTIVE ANALYTICS

- Recommends actions to optimize results
- Techniques: Optimization, simulation, decision analysis
- Answers: 'What should we do?'
- Example: Recommending optimal inventory levels

APPLICATIONS OF BUSINESS ANALYTICS

- Marketing: Targeted ads, customer segmentation
- Finance: Fraud detection, credit risk scoring
- Operations: Inventory optimization, demand forecasting
- Healthcare: Predicting outbreaks, treatment plans
- Retail: Basket analysis, personalized recommendations

CASE STUDY: NETFLIX



- Problem: Improve user engagement & reduce churn
- Solution: Predictive models for viewing patterns, prescriptive analytics for release timings
- Impact: Increased satisfaction & retention



CASE STUDY: WALMART

- Problem: Managing large-scale inventory
- Solution: Descriptive analytics for sales trends, predictive analytics for demand forecasting
- Impact: Reduced stock-outs & improved service

CASE STUDY: HEALTHCARE



- Problem: High patient readmission rates
- Solution: Predictive models to identify at-risk patients
- Impact: Reduced readmissions & better care

SUMMARY

- Descriptive Analytics: Understands the past
- Predictive Analytics: Forecasts the future
- Prescriptive Analytics: Recommends actions

Business Analytics improves decision-making, optimizes operations, and drives growth.