



Business Analysis Using Data Science & AI Course

11 – 15 October 2026
Manama (Bahrain)



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Introduction

This Business Analysis Using Data Science & AI course equips professionals with advanced capabilities to transform raw data into strategic business insights through modern analytical approaches. It explores integrating data science techniques with artificial intelligence to enhance business analysis and the accuracy of decision-making. Participants will gain a structured understanding of how data-driven ecosystems support organizational performance and competitiveness. The program emphasizes the practical interpretation of business problems through statistical reasoning, machine learning models, and AI-powered tools. It bridges the gap between traditional business analysis and modern intelligent systems used in high-performing organizations. Learners will be able to connect analytical thinking with real-world business challenges in a systematic and impactful way.

Targeted Groups

This Business Analysis Using Data Science & AI course targets professionals seeking knowledge and skills:

- Business analysts aim to enhance data-driven decision-making capabilities.
- Data analysts transitioning into AI for business analytics roles.
- Managers seeking improved strategic planning through business intelligence tools.
- Consultants working with data science for business optimization projects.
- Finance professionals applying predictive analytics for forecasting.
- IT specialists integrate machine learning for business systems.
- Entrepreneurs using data science for business growth strategies.
- Professionals involved in digital transformation initiatives.

Course Objectives

Participants will achieve the following objectives by completing the Business Analysis Using Data Science & AI course:

- Develop a strong understanding of business analysis through data science & AI to support organizational decision-making and strategic planning.
- Learn how to apply data-driven decision-making techniques to solve complex business problems efficiently.
- Gain the ability to interpret structured and unstructured data for business intelligence and performance improvement.
- Understand key principles of machine learning for business applications, including classification, regression, and clustering methods.
- Build knowledge of predictive analytics for forecasting trends, customer behavior, and market changes.
- Develop AI skills for business analytics to generate actionable insights and improve operational efficiency.
- Strengthen analytical thinking for evaluating business performance using modern digital tools and frameworks.
- Apply data science concepts to enhance business strategy, innovation, and competitive advantage in dynamic markets.

Targeted Competencies

Participants will gain the following competencies during the Business Analysis Using Data Science & AI program:

- Analyze business problems using data science and structured frameworks.
- Apply AI insights to improve decision-making and operations.
- Interpret data patterns, trends, and relationships in complex environments.
- Use business intelligence to support reporting and strategic planning.
- Apply predictive analytics for forecasting and risk assessment.
- Integrate machine learning models into business analysis workflows.
- Evaluate performance metrics and key indicators using analytical reasoning.

Studying Scenarios

In this Business Analysis Using Data Science & AI training, participants develop skills through the following scenarios:

- Analyzing customer purchasing behavior using data science for targeted marketing strategies.
- Applying predictive models to forecast sales performance in competitive markets.
- Using AI tools to optimize business operations and reduce operational inefficiencies.
- Evaluating financial data to support strategic investment decisions and risk mitigation.
- Designing data-driven dashboards for real-time business intelligence reporting.
- Interpreting market trends through machine learning for strategic business expansion.

Course Content

Unit 1: Foundations of Business Analysis and Data Science

- Business analysis using data science & AI in modern organizations.
- Core concepts of business intelligence and data-driven decision-making.
- Overview of data science applications across industries.
- Structured and unstructured data in business environments.
- Traditional analysis vs AI-powered analytics systems.
- Statistical thinking for improving insight accuracy.
- Data ecosystems and analytical workflow management.

Unit 2: Data Collection, Preparation and Business Intelligence

- Collecting business data from internal and external sources.
- Data cleaning and preprocessing for quality outputs.
- Structuring datasets for BI and reporting systems.
- Dashboards and visualization tools for monitoring performance.
- Data integration from multiple business sources.
- Key performance indicators in business analysis.
- Turning raw data into strategic insights.

Unit 3: Machine Learning for Business Analysis

- Machine learning basics for business applications.
- Supervised and unsupervised learning in business contexts.
- Regression models for forecasting performance.
- Classification for customer segmentation and behavior.
- Clustering for pattern discovery in datasets.
- Model evaluation for accuracy and reliability.
- Machine learning for decision optimization.

Unit 4: AI-Powered Decision Making and Predictive Analytics

- AI for business analytics and decision support systems.
- Predictive analytics for forecasting and risk analysis.
- AI-driven automation in analysis and reporting.
- Scenario modeling for business forecasting.
- AI insights in strategic planning decisions.
- Risk analysis using predictive models.
- Faster decisions using AI systems.

Unit 5: Advanced Applications, Strategy and Case Studies

- AI and data science in real business applications.
- Analytics for growth and competitive advantage.
- Digital transformation in business intelligence.
- Case studies of AI-driven optimization.
- Ethical issues in AI-based decision making.
- Future trends in business analytics.
- Scalable analytical frameworks for success.

Final Insights & Key Takeaways

This course strengthens the integration of business analysis with data science & AI to support intelligent, data-driven organizational strategies. Professionals will transform complex data into actionable insights that improve decision-making and business performance.