

Course No. 1772

# Data-Driven & AI-Powered Decision Making Training Course

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**DATA ANALYTICS & BUSINESS INTELLIGENCE**  
**DATA, ANALYTICS & DIGITAL TRANSFORMATION**

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DURATION

**5 Days**

DELIVERY

**Classroom**



## Course Overview

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Data-Driven & AI-Powered Decision Making is a practical professional training course designed to strengthen the ability of leaders, managers, and decision makers to transform data into actionable insights and use analytics and artificial intelligence to improve operational, managerial, and strategic decisions.

The course provides an integrated approach to decision-making, beginning with defining the business problem and information requirements, followed by data collection, quality assessment, analysis, interpretation, and the development of practical alternatives and recommendations.

Participants will explore how artificial intelligence and predictive analytics can be applied to identify patterns, trends, opportunities, and risks, forecast potential outcomes, and evaluate different scenarios. Particular attention is given to validating AI-generated outputs and understanding their limitations before using them in important decisions.

Through practical exercises, case studies, simulations, and business scenarios, participants will learn how to combine data, AI capabilities, professional expertise, and human judgment to make faster, more accurate, and more accountable decisions.

## Objectives

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- By the end of this course, participants will be able to:
- Understand the principles of data-driven and AI-powered decision-making.
- Identify decisions that can benefit from data analytics and AI capabilities.
- Assess data quality, reliability, relevance, and completeness.
- Transform raw data into meaningful and actionable insights.
- Apply descriptive, diagnostic, and predictive analytics to support decisions.
- Use AI to identify patterns, trends, opportunities, and emerging risks.
- Apply AI-supported forecasting and scenario analysis.
- Evaluate the accuracy and reliability of AI-generated outputs.
- Identify bias, assumptions, uncertainty, and limitations in data and AI models.

- Combine analytical insights with professional expertise and human judgment.
- Improve the speed, consistency, and quality of decision-making.
- Apply structured frameworks to evaluate and compare decision alternatives.
- Strengthen governance and accountability in data- and AI-supported decisions.
- Build a culture of evidence-based and data-driven decision-making.
- Develop a practical framework for data-driven and AI-powered decision-making.

## Who Should Attend

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This course is designed for CEOs, senior executives, managers, department heads, team leaders, and decision makers who rely on data, information, and performance insights to manage operations and make business decisions.

It is particularly relevant to professionals working in strategy, digital transformation, data and analytics, artificial intelligence, finance, operations, risk management, performance management, business development, and corporate planning.

The programme is suitable for government and public sector organizations, banks and financial institutions, oil and gas, energy, engineering, manufacturing, telecommunications, logistics, healthcare, and large corporations seeking to strengthen decision-making through data, analytics, and responsible use of AI.

## Learning Outcomes

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- Upon successful completion of the course, participants will be able to:
- Define the information requirements needed for different types of decisions.
- Assess the quality, credibility, and suitability of data for decision-making.
- Analyze data to identify relevant trends, patterns, relationships, and performance gaps.
- Convert analytical findings into actionable business insights and recommendations.
- Apply descriptive, diagnostic, and predictive analytics to support decisions.
- Use AI tools to analyze business information and data.
- Apply AI-supported forecasting and scenario analysis.

- Evaluate and compare alternatives using evidence-based approaches.
- Validate AI-generated outputs before incorporating them into decisions.
- Identify bias, errors, uncertainty, and limitations in data and AI-generated insights.
- Integrate digital insights with professional expertise and human judgment.
- Develop measures for evaluating decision quality and business impact.
- Apply governance and accountability principles to AI- and data-supported decisions.
- Strengthen organizational practices that encourage evidence-based decision-making.
- Develop an integrated model for data-driven and AI-powered decision-making.

## Course Outline

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### DAY 01

## Foundations of Data-Driven Decision Making

- Understanding data-driven decision-making
- The evolution of decision-making in the digital organization
- Intuition-based versus evidence-based decision-making
- Types of operational, managerial, and strategic decisions
- Defining the business problem and decision question
- Identifying information and data requirements
- Internal and external data sources
- Data quality, accuracy, completeness, and consistency
- Identifying data bias and quality issues
- Building a structured evidence-based decision framework

### PRACTICAL APPLICATION

Analyzing a business decision and identifying the data required to support it

**DAY 02**

## Data Analytics & Turning Information into Insight

- Fundamentals of descriptive and diagnostic analytics
- Reading and interpreting business data
- Identifying trends, patterns, and performance relationships
- Historical performance analysis
- Detecting deviations, gaps, and emerging issues
- Using performance indicators to support decisions
- Turning analytical findings into actionable insights
- Presenting analytical results for executive decision-making
- Avoiding common data interpretation errors
- Using dashboards and analytical reports effectively

**PRACTICAL APPLICATION**

Analyzing a business dataset and developing management insights and recommendations

**DAY 03**

## AI & Predictive Analytics for Decision-Making

- The role of artificial intelligence in organizational decision-making
- Using AI to analyze business data and information
- AI-supported pattern and trend identification
- Predictive analytics and forecasting
- Forecasting demand, performance, and risk
- AI-supported scenario analysis
- Evaluating strategic alternatives and potential outcomes
- Generative AI for business analysis and decision support
- Assessing the quality and accuracy of AI-generated outputs
- Human validation of AI recommendations and insights

## DAY 03 — CONTINUED

**PRACTICAL APPLICATION**

Using AI-supported analysis to evaluate a business scenario and make a data-driven decision

**DAY 04****Decision Quality, Risk & Governance**

- The relationship between data quality and decision quality
- Human and technological biases in decision-making
- Managing uncertainty and incomplete information
- Assessing risks associated with AI-supported decisions
- Validating analytical results and recommendations
- Human oversight of AI-supported decision processes
- Defining accountability and decision ownership
- Data and AI governance principles
- Data privacy, security, and responsible use
- Building trust in AI- and data-supported decisions

**PRACTICAL APPLICATION**

Evaluating an AI-supported decision, identifying risks, and establishing appropriate controls

**DAY 05****Building an AI-Powered Decision-Making Organization**

- Designing an integrated data-driven decision-making model
- Integrating data, analytics, and AI into the decision cycle
- Linking decisions with organizational objectives and performance indicators
- Defining decision-making roles, responsibilities, and accountability
- Building a data-driven organizational culture
- Developing analytical and AI capabilities across leadership teams
- Measuring decision quality, business impact, and value creation

## DAY 05 — CONTINUED

- Improving decision speed and organizational responsiveness
- Scaling analytics and AI-enabled decision practices
- Establishing continuous improvement mechanisms for decision quality
- Final Integrated Workshop: Developing a comprehensive Data-Driven & AI-Powered Decision-Making Framework and Implementation Roadmap

## Register or Request More Information

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Course page: <https://quest-training.com/courses/data-driven-ai-powered-decision-making-training-course>

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