Data-Driven Decision Making and Analytics Training course

Professional Development Training Course Outline

Category	Information Technology	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s hyper-competitive and data-rich business environment, organizations must leverage data-driven decision-making to gain a strategic edge. Training course on Data-Driven Decision Making and Analytics is designed to empower professionals with cutting-edge data analytics skills, enabling them to transform raw data into actionable insights. Participants will gain practical knowledge in data interpretation, predictive analytics, business intelligence (BI), and decision modelling—all essential tools for fostering agile, intelligent, and evidence-based organizational decisions.

With a focus on real-time analytics, AI-driven insights, and data visualization, this course blends hands-on experience with theoretical underpinnings to ensure a practical understanding of the entire analytics pipeline. From collecting and cleaning data to building compelling data dashboards and performing advanced statistical analysis, this course is tailored for individuals seeking to drive measurable impact through data science, machine learning, and performance metrics.

Programme Curriculum

Data-Driven Decision Making and Analytics Training course

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Course Objectives

1. Develop foundational understanding of data-driven decision-making processes.
2. Equip participants with data analytics tools such as Power BI, Excel, SQL & Python.
3. Apply statistical methods for business intelligence and performance tracking.
4. Enhance skills in data storytelling and visualization for stakeholder engagement.
5. Train participants in the use of machine learning for predictive modeling.
6. Improve decision accuracy using real-time data and dashboards.
7. Promote the use of big data and AI in solving business problems.
8. Teach effective data sourcing, cleaning, and preprocessing techniques.
9. Drive ROI through performance measurement and actionable KPIs.
10. Introduce trend forecasting using advanced data modeling.
11. Foster critical thinking through scenario-based analysis and simulation.
12. Improve risk management with evidence-based forecasting.
13. Encourage data governance and ethical data handling in analytics.

Organizational Benefits

1. Improved decision-making speed and accuracy.
2. Higher operational efficiency through data automation.
3. Enhanced customer insight and engagement.
4. Stronger competitive advantage via trend analysis.
5. Reduced costs through predictive maintenance and planning.
6. Effective resource allocation using real-time data.
7. Improved performance monitoring and benchmarking.
8. Strengthened data culture and innovation mindset.

9. Enhanced risk identification and mitigation strategies.
10. Compliance with data ethics and governance frameworks.

Target Participants

1. Business Analysts & Data Scientists
2. Operations Managers & Department Heads
3. Marketing, Finance, and HR professionals
4. Government and NGO decision-makers
5. Project Managers & Development Practitioners
6. Entrepreneurs and Start-up Founders
7. Graduate Students in Economics, Statistics, and IT
8. M&E Specialists and Program Officers

Course Outline

Module 1: Foundations of Data-Driven Decision Making

- Understanding data as a strategic asset
- Types of data: structured vs unstructured
- Data value chain
- Decision-making models
- Real-life case: Netflix’s data strategy

Module 2: Data Analytics Tools & Platforms

- Overview of BI tools: Power BI, Tableau, Excel
- Cloud platforms: Google Cloud, AWS
- SQL and Python basics
- Setting up analytics pipelines
- Case study: Amazon Web Services in retail

Module 3: Data Collection & Cleaning Techniques

- Primary vs secondary data sources
- Data validation techniques
- Handling missing values
- Standardization and normalization
- Case: WHO health data cleaning protocol

Module 4: Data Visualization & Storytelling

- Best practices for dashboards

- Graph selection and interpretation
- Crafting narratives from numbers
- Data storytelling for decision-makers
- Case: UNDP data visualization strategies

Module 5: Statistical Analysis for Business

- Descriptive vs inferential statistics
- Hypothesis testing
- Correlation and regression
- Confidence intervals
- Case: Forecasting trends in agriculture

Module 6: Predictive Analytics & Forecasting

- Time series forecasting
- Machine learning algorithms
- Trend detection
- Scenario analysis
- Case: Predicting customer churn in telecom

Module 7: Performance Measurement & KPIs

- Designing SMART KPIs
- Balanced scorecard approach
- Linking KPIs to strategy
- KPI dashboards
- Case: Performance dashboards in logistics

Module 8: Business Intelligence (BI) in Action

- BI architecture and processes
- Self-service BI
- Mobile BI and real-time data
- BI for competitive analysis
- Case: BI application in e-commerce

Module 9: Data Governance & Ethics

- Data privacy laws (GDPR, DPA)
- Data security frameworks
- Ethical AI and analytics
- Responsible data management
- Case: Facebook and data ethics

Module 10: Machine Learning Applications

- Supervised vs unsupervised learning
- Classification and clustering
- Neural networks basics
- ML deployment in business
- Case: ML in fraud detection

Module 11: Big Data Analytics

- Introduction to big data
- Hadoop and Spark overview
- Data lakes vs data warehouses
- Processing large datasets
- Case: Healthcare big data in Kenya

Module 12: Decision Support Systems

- DSS architecture
- Interactive dashboards
- Data input/output modeling
- DSS in government services
- Case: Kenya Revenue Authority DSS

Module 13: Data-Driven Risk Management

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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