

# Transforming Data into Actionable Insights with Advanced BI

**Course Description** This 5-day programme equips participants with the skills to analyse business data, design interactive dashboards, and deliver actionable insights using Excel and Power BI. The course blends BI concepts with hands-on exercises, ensuring learners can transform raw data into meaningful business intelligence.

**Duration** 5 Days

## Pre-requisites

- Basic knowledge of data concepts and reporting
- Familiarity with Excel or BI tools
- Understanding of business processes and KPIs

## Learning Objectives

- Understand advanced Business Intelligence concepts, frameworks, and methodologies
- Extract, clean, validate, transform, and manage business data effectively
- Develop interactive dashboards and executive reports using Power BI and other BI tools
- Apply SQL for data extraction, querying, transformation, and analytical preparation
- Use Python to support data analysis, automation, forecasting, and advanced analytics
- Develop and optimize DAX queries, measures, calculated columns, and analytical calculations in Power BI

- Apply data governance, compliance intelligence, and risk analytics principles
- Perform advanced statistical analysis, regression, clustering, and forecasting
- Apply predictive analytics and AI-powered insights to business problems
- Combine structured, semi-structured, and unstructured data to generate deeper insights
- Transform analytical findings into actionable business recommendations
- Present executive-level dashboards, reports, and data-driven recommendations confidently

## **Day-wise Module Coverage**

### **Day 1: Foundations of BI & Data Management**

#### **Module 1: Introduction to Business Intelligence (BI)**

- Overview of BI concepts, frameworks, methodologies
- Role of BI in modern decision-making
- BI architecture and analytical workflows
- Overview of BI tools (Power BI, Tableau)
- Relationship between BI, Data Analytics, AI, and Decision Intelligence

#### **Module 2: Working with Data and Visuals**

- Data sources and extraction techniques
- Data cleaning, validation, profiling
- Managing quality, consistency, accuracy, integrity
- Preparing datasets for analysis and reporting
- Selecting charts, graphs, and visuals
- Data storytelling techniques

- Creating dynamic dashboards with filters, slicers, drill-downs
- Developing KPI dashboards and management reports
- Dashboard design best practices

### **Module 3: SQL, Python & DAX for Business Intelligence**

- SQL for BI and analytics
- Querying, filtering, joining, aggregating datasets
- Preparing analytical datasets for Power BI
- Python for cleaning, transformation, validation
- Integrating SQL/Python workflows with BI
- Introduction to DAX in Power BI
- Creating measures and calculated columns
- Using SQL/Python to support DAX analytics
- Building business calculations with DAX

### **Day 2: Working with Data Governance and Compliance**

#### **Module 4: Data Governance Frameworks**

- Principles and components of governance
- Data quality management and policies
- Regulatory and compliance requirements
- Governance-driven data culture
- Ownership, accountability, access management
- Ensuring accuracy, consistency, integrity, reliability

#### **Module 5: Compliance Intelligence and Analytics**

- Fundamentals of compliance intelligence

- Monitoring compliance performance
- Detecting gaps, exceptions, anomalies
- Compliance dashboards and reporting
- Strengthening internal controls with analytics
- SQL/Python/BI tools for compliance analysis

## **Module 6: Risk Intelligence and Enterprise Decision-Making**

- Introduction to risk intelligence
- Identifying operational, financial, strategic risks
- Developing KRIs
- Visualizing and monitoring risks
- Integrating risk intelligence into planning
- Analytical models for risk-based decisions

### **Day 3: Putting Advanced Analytics to use**

## **Module 7: Advanced Data Analysis Techniques**

- Moving beyond descriptive analytics
- Statistical analysis and applications
- Regression for trend identification
- Clustering for segmentation
- Hidden pattern detection
- Python for advanced analysis
- Applying techniques to real datasets

## **Module 8: Time Series Analysis and Forecasting**

- Understanding time-series data

- Trend, seasonality, cyclical analysis
- Forecasting models and techniques
- Measuring and improving forecast accuracy
- Python for forecasting and time-series
- Integrating forecasts into Power BI

## **Module 9: Predictive Analytics for Strategic Forecasting**

- Fundamentals of predictive analytics
- Predictive modeling approaches
- Risk prediction and opportunity identification
- Scenario analysis and forecasting outcomes
- Strategic planning with predictive insights
- Translating predictive models into BI outputs

## **Module 10: AI-Powered Data Analytics, SQL, Python & DAX**

- AI in Business Intelligence
- AI-assisted analytics and automated insights
- SQL for advanced querying
- Python for automation and insight generation
- AI-enhanced DAX queries and calculations
- Natural language querying and reporting
- Integrating ML models with BI platforms
- Governance and ethical considerations

## **Day 4: Delivering Insights & Reports**

## **Module 11: Extracting Insights from Structured and Unstructured Data**

- Structured, semi-structured, unstructured data
- Techniques for diverse data sources
- Text analytics and sentiment analysis
- Combining sources for insights
- SQL for integration and analysis
- Python for advanced processing
- Unlocking deeper enterprise insights

## **Module 12: Business Insight Development and Data Storytelling**

- Converting findings into recommendations
- Building compelling narratives
- Aligning insights with objectives
- Measuring impact and value creation
- Communicating analytical outcomes
- Turning dashboards into strategic decisions

## **Module 13: Executive Reporting and Stakeholder Engagement**

- Best practices for executive reporting
- Customizing reports for stakeholders
- Collaboration and governance in reporting
- KPI frameworks and performance management
- Designing executive dashboards in Power BI
- Delivering impactful presentations
- Communicating technical insights to non-technical audiences

## **Day 5: Capstone Project**

- End-to-end BI project on real scenario
- Integration of all concepts (SQL, Python, DAX, AI, dashboards)
- Developing actionable recommendations
- Present dashboards and insights
- Communicate recommendations to decision-makers
- Justify conclusions with data evidence
- Demonstrate DAX calculations and KPI outputs
- Discuss implementation approaches
- Peer evaluation of projects
- Sharing best practices
- Lessons learned and key takeaways
- Opportunities for improvement
- Personal and organizational action plans
- Roadmap for BI initiatives
- Emerging trends in BI and AI
- Course evaluation and reflections