

Data-Driven Decision Making with Power BI and Microsoft Tools

Day 1 – Foundations of Data-Driven Decision Making and Data Preparation

Module 1: Introduction to Data-Driven Decision Making

- Understanding data-driven culture
- Types of business decisions
- Importance of KPIs and metrics
- Data lifecycle in modern organizations
- Challenges in data-driven initiatives
- Overview of Microsoft data ecosystem

Module 2: Understanding Data Sources

- Structured vs semi-structured vs unstructured data
- Enterprise data sources such as Excel, CSV, SQL, SharePoint, Dataverse, APIs, and cloud storage
- Connecting Power BI to various sources
- Connectivity Modes

Module 3: Data Cleaning and Transformation with Power Query

- Introduction to Power Query Editor
- ETL concepts in Power BI
- Removing duplicates and errors
- Handling null values
- Splitting and merging columns
- Appending and merging queries
- Reusable transformations and best practices

Module 4: Data Modeling Fundamentals

- Star schema vs Snowflake schema
- Fact and dimension tables
- Relationships and cardinality
- Cross-filter direction

Hands-On Labs

Day 2 – Data Analysis and Interactive Reporting with Power BI

Module 5: Introduction to DAX

- DAX fundamentals
- Row context vs filter context
- Calculated columns vs measures
- Common DAX functions
- Time intelligence functions
- Business KPI calculations

Module 6: Data Visualization Best Practices

- Choosing appropriate visuals
- Accessibility and storytelling
- Avoiding misleading visualizations

Module 7: Creating Power BI Reports

- Charts and visuals
- Slicers and filters
- Drill-through reports
- Bookmarks and buttons
- Conditional formatting
- Tooltips and report interactions

Module 8: Advanced Analytics in Power BI

- Forecasting and trend analysis
- Anomaly detection
- Key Influencers visual
- AI visuals in Power BI
- Natural language Q&A
- Using Copilot in Power BI

Hands-On Labs

Day 3 – Automation, Collaboration, and Enterprise Reporting

Module 9: Automating Business Processes with Power Automate

- Workflow automation concepts
- Triggers and actions
- Approval workflows
- Automated report notifications
- Data-driven alerts

Module 10: Collaboration with Microsoft Teams and SharePoint

- Sharing reports securely
- Embedding Power BI in Teams
- SharePoint integration
- Workspace management
- Governance and permissions

Module 11: Power BI Service and Cloud Deployment

- Publishing reports
- Workspaces and apps
- Scheduled refresh
- Dashboards in Power BI Service
- Usage metrics

Module 12: Governance, Security, and Compliance

- Row-level security
- Sensitivity labels
- Data privacy
- Governance best practices
- Responsible AI considerations

Hands-On Labs

Day 4 – Advanced Decision Intelligence, AI, and Capstone Project

Module 13: Introduction to Microsoft Fabric

- Fabric architecture
- OneLake overview
- Lakehouse concepts
- Fabric workloads
- Fabric and Power BI integration

Module 14: AI-Powered Decision Making with Microsoft Copilot

- AI-assisted analytics
- Copilot capabilities
- Natural language insights
- AI-generated summaries
- Prompt engineering basics

Module 15: Executive Dashboards and Business Storytelling

- Dashboard design for executives
- KPI scorecards

- Data storytelling techniques
- Actionable insights
- Presentation strategies