

# **Transforming Financial Data into Actionable Insights using Microsoft Power BI**

**Duration: 5 days (8 hours per day)**

## **Day 1 – Introduction to Data Visualization & Power BI Basics**

### **Module 1: Understanding Data Visualization (2 hours)**

- What is Data Visualization?
- Importance for Finance Professionals
- Types of Charts & Graphs (Bar, Line, Pie, Waterfall, etc.)
- Understanding KPIs and Financial Metrics
- Best Practices in Financial Data Visualization

### **Module 2: Getting Started with Power BI (3 hours)**

- What is Power BI? Components and Architecture
- Installing Power BI Desktop
- Understanding Power BI Interface
- Connecting to Different Data Sources (Excel, CSV, SQL)
- Data Loading, Refreshing, and Auto Updates

### **Module 3: Basic Data Cleaning with Power Query (3 hours)**

- Introduction to Power Query Editor
  - Removing Duplicates, Filtering Rows, Splitting Columns
  - Merging and Appending Data Tables
  - Changing Data Types
  - Practical Finance Example: Cleaning a Profit & Loss Statement
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## **Day 2 – Data Modeling and DAX Fundamentals**

### **Module 4: Data Modeling Concepts (3 hours)**

- Understanding Relationships: One-to-Many, Many-to-One
- Primary & Foreign Keys in Finance Data
- Building a Star Schema for Financial Reports
- Creating Calendar Tables for Date Intelligence
- Model Optimization Tips

### **Module 5: Introduction to DAX (3 hours)**

- What is DAX (Data Analysis Expressions)?
- Difference Between Calculated Columns & Measures
- Basic DAX Functions:
  - SUM(), AVERAGE(), COUNT(), DISTINCTCOUNT()
  - Financial Measures: Gross Profit, Net Profit, Profit Margin

### **Module 6: Practical Finance Use Cases (2 hours)**

- Creating KPIs for Finance:
    - Revenue Growth %, Expense Ratio, EBITDA, ROI
  - Case Study: Budget vs. Actual Analysis
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## **Day 3 – Visualization Techniques for Finance Dashboards**

### **Module 7: Building Basic Visuals (3 hours)**

- Bar, Column, Line, Area, and Combo Charts
- Pie, Donut, and Tree Maps
- Tables, Matrices, and Conditional Formatting

## **Module 8: Advanced Visuals for Finance (3 hours)**

- Waterfall Charts for Financial Statements
- Gauge & Card Visuals for KPIs
- Funnel, Scatter, and Decomposition Tree
- Drill-Through and Hierarchy in Visuals

## **Module 9: Dashboard Layout and Design (2 hours)**

- Financial Dashboard Design Principles
  - Using Themes and Color Psychology for Finance
  - Aligning Dashboards with Stakeholder Needs
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## **Day 4 – Advanced DAX, Time Intelligence & Interactivity**

### **Module 10: Time Intelligence Functions (3 hours)**

- DATEADD, SAMEPERIODLASTYEAR, TOTALYTD, TOTALQTD
- YoY, MoM, QoQ Comparisons
- Cumulative Calculations (Running Totals)
- Building a Dynamic Financial Calendar

### **Module 11: Advanced DAX for Finance Analysis (3 hours)**

- SWITCH, IF, CALCULATE, FILTER, ALL, VALUES
- Dynamic Measures and Scenarios
- Example: Forecast vs Actual Revenue by Month

### **Module 12: Adding Interactivity (2 hours)**

- Using Slicers, Filters, and Buttons
- Creating Drill-Through Pages

- Syncing Slicers and Dynamic Navigation
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## **Day 5 – Publishing, Automation & Project Work**

### **Module 13: Power BI Service & Sharing Reports (2 hours)**

- What is Power BI Service?
- Publishing Reports Online
- Workspaces, Apps, and Dashboards
- Sharing, Collaboration, and Security Options

### **Module 14: Automating Data Refresh & Power BI Gateway (2 hours)**

- Scheduled Refresh
- Data Gateway Setup for On-Premise Data
- Power BI Alerts and Subscriptions
- Managing Access Control

### **Module 15: Capstone Project (4 hours)**

#### **Finance Dashboard Project:**

- Import and Clean a Finance Dataset
- Build Data Model & Apply DAX Measures
- Create an Interactive Dashboard showing:
  - Revenue vs Expense Trend
  - Profit Margin
  - Budget vs Actual
  - Top Customers & Products
- Present and Publish Final Dashboard

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## **Deliverables**

- 1 Full Power BI Dashboard Project
- Practice Datasets (Sales, Budget, Expense, P&L)
- Step-by-Step Lab Workbook
- Assessment Quiz and Review Session