

Excel and Power BI for Data Analysis and Dashboards

From data preparation to an interactive report

FA-0611 · 3 days

Data & Analytics

Prepare, model and visualise business data with Excel and Power BI in a guided three-day reporting workshop.

Introduction

This three-day workshop follows a practical data-analysis workflow from spreadsheet preparation to an interactive Power BI report. Participants practise Excel functions and pivot tables, use Power Query to clean data, build a small reporting model and create selected DAX measures.

The final exercise uses a prepared, non-confidential business dataset. Publishing and dashboard sharing are practised in a suitable training workspace where accounts, licences and permissions are available; the emphasis is on a coherent introductory project rather than mastery of every feature or production deployment.

Learning outcomes

The course teaches participants to:

- Clean and validate spreadsheet data using Excel functions and Power Query.
- Summarise data with pivot tables, charts and selected Excel data-model features.
- Build a small star-schema reporting model and distinguish calculated columns from measures.
- Write introductory DAX aggregations and selected time-intelligence calculations.
- Create usable interactive reports and distinguish reports from Power BI service dashboards.
- Explain publishing, refresh, access and sharing requirements for a training report.
- Select meaningful KPIs and communicate the limitations of the underlying data.

Prerequisites

- Basic familiarity with computers and spreadsheets.

A supported Windows computer with a current supported Excel edition, preferably Microsoft 365, and the latest 64-bit Power BI Desktop. Check Excel edition support for Power Pivot and the features used in the workshop.

Power BI service exercises require a suitable organisational training account, workspace permissions and any applicable sharing licence or capacity. Prepared demonstrations can be used where publishing access is unavailable.

- Curiosity about business data problems and analytical dashboards.

Training outline

1. Day 1 – Excel Analysis and Data Preparation

Excel Foundations for Data Analysis

Excel interface & navigation

- Ribbon, Quick Access, worksheets, navigation shortcuts

Data entry standards

- Formatting, data types, data validation

Key formulas & functions

- SUM, AVERAGE, COUNT, IF, AND/OR, LOOKUP functions

Advanced Excel Techniques

Data cleanup & preparation

- Text functions, Flash Fill, Remove Duplicates
- Logical and error-handling functions

Pivot Tables & Pivot Charts

- Grouping, slicers, filters, calculated fields

Excel dashboards

- Designing effective visuals, layout best practices

Introduction to Power Pivot

- Create a small Excel data model with relationships where the installed edition supports Power Pivot.

Data Import & Transformation

Introduction to Power Query

- Connect to Excel, CSV, and other sources
- Data profiling & transformation steps

ETL basics

- Cleaning, filtering, unpivoting, merging tables

2. Day 2 — Power BI Modelling, DAX and Visualisation

Data Modeling in Power BI

Power BI data model fundamentals

- Tables, relationships, cardinality

Creating robust models

- Star schema concepts
- Discuss model size, appropriate granularity and efficient data types using a manageable training dataset.

Calculated columns vs Measures

- Logic and performance

DAX (Data Analysis Expressions)

DAX fundamentals

- Syntax and common functions
- Aggregations (SUM, AVERAGE, COUNT)

Analytical DAX

- CALCULATE, FILTER and selected YTD/QTD measures using an appropriate date table.
- Performance considerations

Analytical Visualizations

Chart types & best practices

- Bar, line, area, KPI cards, gauges

Interactive elements

- Slicers, filters, drill-throughs, bookmarks

Custom visuals

- Review selected approved custom visuals, compatibility and data-governance considerations.

3. Day 3 – Reporting, Sharing and Guided Project

Dashboard Construction

Report layout design

- Storyboarding for business goals

Interactivity & usability

- Cross-filtering and navigation; adapt the report layout for usability.

Mobile optimization

- Design and review a mobile report layout.

Publishing & Sharing

Power BI Service basics

- Workspaces, semantic models, reports and service dashboards; distinguish their purposes.

Data refresh & scheduling

- Refresh configuration, source credentials, gateway requirements where applicable, and data governance.

Collaborative workflows

- Review authorised sharing through apps or Teams and embedding options; licences, permissions and tenant settings affect availability. Do not expose private data through public embedding.

Decision-Ready Insight Delivery

Selecting KPIs

- Aligning visual outputs to stakeholder decisions

Reporting automation

- Demonstrate a small repeatable Excel-to-Power BI reporting workflow, including refresh limitations.

Final project: Integrated dashboard

- Prepared, anonymised or synthetic business dataset with documented assumptions.
- Clean, model and visualise the data; publish to a training workspace and create a service dashboard where access allows.