
Excel Power Query and Data Modelling for Executive Reporting Course

5 – 9 April 2027
Cape town





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Ref: 39_11816 **Date:** 5 – 9 April 2027 **Location:** Cape town **Fees:** 4800 GBP

Programme Summary

Excel Power Query and data modelling for executive reporting is a one-week training course for managers at advanced level, culminating in a rebuilt, refreshable management reporting pack for their own function. Many monthly packs still depend on copied exports, manual lookups and fragile formulas. The programme replaces that routine with repeatable query steps, a related data model, tested DAX measures and controlled dashboards. Mars Training Centre UK delivers this programme in Excel Power Query and data modelling for executive reporting.

The Business Case

A pack assembled by hand risks a broken link, a duplicated row or a figure that no longer matches the ledger at every refresh, so senior decisions wait for reconciliation instead of analysis. Managers who automate preparation, model the data once and document their controls shorten the reporting cycle and return analyst time to commentary.

- Reporting Cycle Time: Falls when imports, cleansing and refreshes are scripted rather than repeated by hand.
- Error and Restatement Risk: Reduces through validation rules and reconciliation checks.
- Decision Readiness: Improves when executives filter one trusted model without requesting new extracts.

Principles and Evidence Base

- Dimensional Modelling Star Schema: Organises fact and dimension tables so relationships and measures behave predictably in Sessions 2 and 3.
- Separation of Inputs, Calculations and Outputs: Guides workbook structure, documentation and review in Sessions 4 and 5.
- The FAST Standard: Informs layout discipline, consistent formulas and readable calculation flow in Session 4.
- Extract, Transform and Load Principles: Frame repeatable Get and Transform steps in Session 1.

Intended Participants

- Managers accountable for producing monthly or quarterly management packs for executive committees.
- Finance and performance leads who consolidate data from several systems into Excel before analysis.
- Operations managers who track output, cost and service indicators across sites or units.
- Team leaders who review and sign off workbooks built by others.



The programme serves finance, operations, supply chain and public service functions.

Learning Outcomes

1. Participants will be able to construct repeatable Power Query routines that import, cleanse and combine data from multiple sources.
2. Participants will be able to design a related data model using fact and dimension tables.
3. Participants will be able to formulate DAX measures, including time-intelligence comparisons, for management indicators.
4. Participants will be able to apply dynamic array functions to build flexible lookups and summaries.
5. Participants will be able to diagnose workbook risks and implement validation, reconciliation and protection controls.
6. Participants will be able to assemble an interactive executive dashboard that refreshes from a single trusted model.

Programme Structure

Day 1: Power Query Foundations for Reporting Data

How can raw exports become a clean, repeatable data source?

- Get and Transform Connections to Files, Folders and Databases
- Cleansing Steps: Data Types, Trimming, Splitting and Replacing Values
- Unpivoting Cross-Tab Reports Into Analysis-Ready Tables
- Appending Monthly Files and Merging Reference Lists
- Query Parameters, Step Naming and Refresh Behaviour

Day 2: Data Modelling With the Excel Data Model

How should tables be related so that every figure reconciles?

- Star Schema Design: Fact and Dimension Tables
- Relationships, Cardinality and Filter Direction
- Date Tables and Fiscal Calendars
- Power Pivot Model Management and Hierarchies
- Model Reconciliation Against Source Totals

Day 3: DAX Measures for Management Indicators

How are indicators calculated once and reused across every report?

- Calculated Columns Versus Measures
- CALCULATE and Filter Context
- Time Intelligence: Year-to-Date, Prior Period and Rolling Averages
- Variance, Ratio and Budget-Versus-Actual Measures
- PivotTables and Slicers Driven by the Data Model



Day 4: Formulas, Controls and Workbook Assurance

How is a reporting workbook made flexible yet safe to hand over?

- Dynamic Arrays: FILTER, SORT, UNIQUE and XLOOKUP
- LET and LAMBDA for Readable, Reusable Logic
- Data Validation Rules and Input Protection
- Reconciliation Checks and Error Flags
- Workbook Documentation and Peer Review Protocol

Day 5: Applying Power Query and Data Modelling to Executive Reporting

How do the techniques combine into a pack that leaders can rely on?

- Executive Dashboard Layout and Chart Selection
- Rebuilding a Participant Report on the Query and Model Layers
- Applying Controls and Reconciliations to the Rebuilt Pack
- Peer Audit of Dashboards Against Good Practice Principles
- Refreshable Management Reporting Pack Presentation

Methodology

The programme is run as a data workshop at the keyboard. Participants work on anonymised datasets from retail, manufacturing and public service cases, then repeat each technique on a structure resembling their own reports. Facilitators review query steps, model diagrams and measures with each participant.

- Suggested activity: Combining twelve monthly regional exports into one refreshable query.
- Suggested activity: Repairing a model in which revenue double-counts because of a misdirected relationship.
- Suggested activity: Peer auditing a colleague's dashboard.

Capstone Output

Each participant completes a refreshable management reporting pack. It contains documented Power Query steps, a related data model with a date table, tested DAX measures, reconciliation controls and a one-page executive dashboard. It replaces a manual monthly report and becomes the template for further packs.

Frequently Asked Questions

Is Excel Power Query and data modelling suitable for managers without programming experience?

Yes. It suits managers who already use PivotTables and standard formulas confidently. It assumes no programming background; Power Query and DAX are introduced from first principles.



Which principles underpin Excel Power Query and data modelling in this programme?

It rests on dimensional modelling with star schemas, extract, transform and load principles, the separation of inputs, calculations and outputs, and the FAST Standard for workbook structure.

How is the Excel data modelling reporting pack used at work?

You use it to replace a manual monthly report. Its queries refresh new data, its measures keep figures consistent and its controls give reviewers an audit trail.

How does Excel Power Query and data modelling differ from a general data analysis course?

It concentrates on building reliable reporting workbooks in Excel, from preparation to dashboard, rather than on statistical methods or separate visualisation tools.