Power BI Practice Dataset PDF

This page describes a made-up retail dataset for Power BI practice: a Sales fact table with Customers, Products and Date dimensions, with field lists and sample rows. It then gives ten tasks, from loading and modelling to DAX measures, visuals and a final dashboard, so you can practise without using any real company data.

Key takeaways

- The dataset has one fact table and three dimension tables arranged as a star schema.
- All values are made up and are for practice only.
- Ten tasks move from loading data to a finished dashboard.
- Each task has a check so you can test your own answer.
- You can create the files yourself in Excel or from CSV.

What is Power BI practice dataset?

A Power BI practice dataset is a safe, usually made-up set of related tables that learners use to practise loading, modelling, writing measures and building reports without risk to real data.

What is in the dataset?

The dataset is made up for learning and does not represent any real company. It has four tables arranged as a star schema: **Sales** (fact), **Customers**, **Products** and **Date** (dimensions). Create the tables in an Excel workbook or as four CSV files. Use 500 to 2,000 sales rows so that visuals have enough data.

What are the table fields?

Table	Fields
Sales	OrderID, OrderDate, CustomerID, ProductID, Quantity, UnitPrice, Discount, Region
Customers	CustomerID, CustomerName, City, Segment, SignupDate
Products	ProductID, ProductName, Category, SubCategory, Cost
Date	Date, Year, Quarter, MonthNumber, MonthName, Weekday

Make the Date table continuous from the first to the last order date. Add a few messy values on purpose, such as a blank City and a duplicated product name, to practise cleaning.

What do sample rows look like?

OrderID	OrderDate	CustomerID	ProductID	Quantity	UnitPrice	Discount	Region
1001	2026-01-05	C01	P03	2	450	0.05	North
1002	2026-01-06	C02	P01	1	1200	0	West
1003	2026-01-06	C01	P02	4	150	0.10	North

Generate more rows with a formula or a short script, using random but sensible values.

What are the ten tasks?

Task 1: load and clean. Import all tables, set data types and remove duplicates with Power Query. *Check:* no blank key columns.

Task 2: build the model. Create one-to-many relationships from each dimension to Sales. *Check:* Sales appears in the centre of the diagram.

Task 3: mark the date table. Mark Date as the date table. *Check:* time intelligence functions work.

Task 4: basic measures. Write Total Sales, Total Quantity, Orders and Average Order Value. *Check:* Total Sales equals the sum of Quantity times UnitPrice less discount.

Task 5: profit. Add a Profit measure using product cost. *Check:* profit is lower than sales for every product.

Task 6: time intelligence. Create Sales YTD and Sales Last Year, and a Growth % measure. *Check:* the first year shows blank last-year values.

Task 7: ranking. Show top five products by sales with a bar chart and a TOPN or visual filter. *Check:* exactly five bars.

Task 8: share of total. Create a measure for each region's share of sales. *Check:* shares add up to 100 percent.

Task 9: interactivity. Add slicers for Year and Category and a drill-through page for Customer. *Check:* all visuals respond to the slicers.

Task 10: dashboard. Build a one-page dashboard with four cards, two charts and two slicers, aligned on a grid, with a clear title and a note on data source. *Check:* a colleague can tell the main message in thirty seconds.

How do I check my DAX?

Compare a measure result with a manual PivotTable in Excel for one month or one product. If the two values match, your measure and model are probably right.

What mistakes should I avoid?

Skipping the date table, leaving relationships in both directions without need, using columns where measures are needed and loading unused columns. Name your measures clearly and put them in

one table.

How can I generate the sample data quickly?

In Excel, create the Product and Customer lists by hand with ten to twenty rows each. For Sales, use RANDBETWEEN for quantities and a lookup for prices, then copy the formulas down and paste as values so the numbers stay fixed. Dates can come from a start date plus a random number of days. Save the workbook and keep a copy of the original in case you need to start again.

How do I make the practice more realistic?

Add messy details: a few missing cities, inconsistent category names such as "Electronics" and "electronics", dates stored as text in one file and a duplicate order row. Then add a second source, such as a CSV of targets by region, and merge it in Power Query. These small problems mirror what you meet in real work.

How do I turn the practice into a portfolio piece?

Finish the dashboard, export it as a PDF or screenshot, write a half-page note on the questions it answers and list the DAX measures you wrote. State clearly that the data is made up. Publish the files without any private information and be ready to explain your model in an interview.

What should I avoid when building the model?

Avoid joining tables on text names when IDs exist, avoid creating many-to-many relationships, and avoid hiding data problems with filters in visuals instead of fixing them in Power Query. Fix issues at the earliest step so that every report page benefits.

Frequently asked questions

What is a Power BI practice dataset?

It is a safe, usually made-up set of related tables for practising loading, modelling, DAX and report building.

Is the dataset real company data?

No. All values are made up and meant for practice only, so you can share your work without exposing real data.

What model does the dataset use?

A star schema with a Sales fact table and Customers, Products and Date dimension tables.

How do I check my DAX results?

Compare a measure with a manual PivotTable in Excel for one month or product. Matching values suggest your measure is right.

How many rows should I create?

Between 500 and 2,000 sales rows is enough for meaningful visuals while staying easy to handle.

Sources and further reading

- Microsoft Power BI documentation
- DAX reference

About this PDF

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