Excel Dashboard — Step-by-Step Construction Guide

This guide provides instructions for building six genuine PivotTables, PivotCharts, four slicers, a Timeline, and filter-connected KPI cards in a supported Excel desktop application. The supplied finished workbook is a separately verified formula-dropdown demonstration: it does NOT contain those native objects.

Verified fictional dataset at a glance

180 original sessions, 172 accepted sessions, 114 completed, 66.28% completion, 7,155 measured minutes, mean duration 42.84 minutes across 167 measured sessions. Eight records were excluded for documented defects.

Desktop Excel construction procedure

1. Define audience and questions

Decide who will use the dashboard. Our fictional project communicates completed events, usage by subject, monthly activity and selection differences. It does not measure educational success.

2. Sketch the dashboard wireframe

Place the title first, five KPI cards next, filters below, then five charts and a data-definition footer. Avoid decorative elements that hide actual evidence.

3. Inspect source data

Raw_Data contains 180 entries. Check unique SessionID values, ResourceID matches, actual dates and the MinutesSpent field. Do not treat every raw row as usable.

4. Clean without damaging original data

Exclude exactly eight rows: two duplicate IDs, two invalid dates, two invalid negative durations and two unknown resources. Retain five missing durations; normalize case and spaces. Clean_Data preserves 172 valid sessions.

5. Create tblDashboardData

In desktop Excel, select Dashboard_Data and use Insert > Table. Ensure the header row is selected; use Table Design > Table Name to confirm tblDashboardData.

6. Define the five KPI formulas

Valid sessions: 172. Completed: 114. Rate: 114/172=66.28%. Total measured minutes: 7155. Mean of 167 measured sessions: 7155/167=42.84. All figures refer to the accepted subset.

7. Insert six genuine PivotTables

Select tblDashboardData, Insert > PivotTable. Make Subject/Count SessionID, MonthKey/Count SessionID, StudyLevel/Sum MinutesSpent, ResourceType/Count SessionID, Completed/Count SessionID, and a KPI-support PivotTable.

8. Add five genuine PivotCharts

Select each PivotTable then Insert > PivotChart. Horizontal bar for Subject; line chart for months; column for study levels; bar for resource types and completion. Charts should derive from the pivot, not a pasted screenshot.

9. Build accessible KPI cards

Link cell or shape text to verified PivotTable output or GETPIVOTDATA. Do not type numbers into shapes and claim they will respond to filters.

10. Insert four slicers

In supported desktop Excel, choose a PivotTable, PivotTable Analyze > Insert Slicer. Select Subject, Region, StudyLevel and ResourceType. Style and arrange them.

11. Connect slicers via Report Connections

Select each slicer and use Slicer > Report Connections. Connect to all six compatible PivotTables. If a PivotTable is missing, examine its source or cache; never claim it is connected.

12. Add the SessionDate Timeline

SessionDate must contain actual Excel dates, not month text. With a PivotTable selected, use PivotTable Analyze > Insert Timeline, select SessionDate, then connect the timeline to compatible PivotTables.

13. Test filtering scenarios

Select Biology (19 sessions, 9 completed, 715 minutes), North Coast (45, 35, 1780), and March 2026 (30, 23, 1265). The formula-driven example has working dropdowns; native slicers need manual desktop creation and testing.

14. Format for clarity

Use dark text on light surfaces, readable axis labels, measured units and honest zero-based comparisons. Remove unnecessary gridlines from Dashboard but keep them for analytical sheets.

15. Show source definitions

Label all records as fictional. State accepted row criteria, duration coverage (167/172) and completion definition; do not misrepresent the current date as proof of refresh.

16. Refresh correctly

Add one valid record to tblDashboardData; for genuine PivotTables use Data > Refresh All. Check each chart and KPI then remove the test row to restore the published baseline.

17. Independently validate totals

Count all accepted rows, completed flags, nonmissing minutes and each mutually exclusive grouping. Subject and month counts must both sum to 172; all minutes must sum to 7155.

18. Test all interactions

Select every slicer value, combined filters, Timeline month ranges, clearing filters and empty groups. Save and reopen in desktop Excel to confirm genuine object persistence.

19. Export and present findings

Save the interactive .xlsx. A PDF or screenshot is static, not an Excel slicer. Give three findings with numeric evidence and limitations. Never confuse resource use with learning quality.

Official Microsoft references

https://support.microsoft.com/en-us/excel/create-and-share-a-dashboard-with-excel-and-microsoft-groups

https://support.microsoft.com/en-us/excel/get-started/create-a-pivottable-to-analyze-worksheet-data

https://support.microsoft.com/en-us/excel/get-started/use-slicers-to-filter-data

https://support.microsoft.com/en-us/excel/create-a-pivottable-timeline-to-filter-dates