



POWER QUERY VS POWER PIVOT VS VBA



Download in hi-res & watch the video here: bit.ly/pq-pp-vba-comp

#	Point of Comparison	Power Query	Power Pivot	VBA (Macros) / Office Scripts
1	What is it?	Data Janitor (ETL Expert) - Extracts data from various sources - Transforms it - Loads it → automatic updates	Data Brain (Analysis Expert) - Analyzes large datasets - Facilitate customized & smarter PivotTables	Excel robots (Customization Expert) Create user forms, buttons, functions and automations. Office Scripts works in Excel Online, VBA for desktop only.
2	Clean, transform, and combine data	Best tool for the job Combines data from various sources - Easy, user-friendly interface - Records steps for automating data cleaning & transformation	Not built for this - Power Pivot only analyzes data Data should be clean before it's loaded to the Power Pivot Data Model	Possible, but overly complicated - Compared to Power Query it's slow on large datasets No GUI for intuitive data transformation
3	Handle large datasets efficiently	Handles millions of rows - Use it for ETL of large data into the Data Model Not designed to perform the final analysis itself	Handles millions of rows Not limited by the number of rows in the Excel grid - Uses Power Query's cleaned data for analysis	Not designed for this - Likely to be very inefficient compared to Power Query and Pivot. - More complex and error-prone
4	Create relationships between tables	Not designed for this Can use it to "Merge" or "Append" tables, however this is not an ideal technique for large datasets	Core feature Define relationships between multiple tables. - Analyze data in multiple tables without merging; more flexible and efficient	Not designed for this - No Data Model concept Manually code inefficient lookups between tables - More complex and error-prone
5	Do calculations and KPIs	Not designed for this - Can create simple calculations - Not ideal for complex, dynamic measures like "Year-over-Year Growth" calculations	DAX makes this easy - DAX creates powerful, reusable measures that dynamically respond PivotTable filters - Excellent for time intelligence (YoY, YTD, MTD, etc.)	Possible, but overly complicated Calculations are static, written to a cell, and must be re-run via code to update. Lack the dynamic "context awareness" of DAX measures
6	Automate tasks like sending emails	Not possible It cannot control other applications like Outlook or create PDFs	Not possible It cannot control external applications or file creation processes	Made for this: Can control Outlook to create and send emails or create PDFs
7	Trigger actions with buttons/events	Not possible Data refresh is the only "action."	Not possible Data refresh is the only "action."	100% You can assign macros to buttons, shapes, or worksheet events
8	Create interactive dashboards	Only use to gather data Crucial for ETL, but it doesn't create the final charts or slicers.	Especially with DAX Powers the Pivot Charts and Slicers that make up the dashboard	Possible, but often not necessary Can add advanced interactivity, like buttons that change all charts at once in ways slicers cannot
9	Schedule or chain tasks together	Limited You can set a refresh schedule, but complex chaining is difficult	Limited Same as Power Query	Full control You can write a master macro that runs other macros and procedures in a specific sequence.

