

# Create a Data Dashboard With KPIs, Charts, Filters & Insights Using Excel

In this project, an interactive data dashboard was created using Microsoft Excel to analyze key business performance metrics. The dataset was cleaned, structured, and transformed using Excel functions and PivotTables. The dashboard includes KPI cards, dynamic charts, and user-friendly filters that allow quick and meaningful exploration of the data. Visual elements such as bar charts, line charts, and slicers help users identify trends, compare performance, and make data-driven decisions. Key insights were extracted from the dashboard to summarize performance highlights and improvement opportunities.

## Dataset Used :

The dashboard was created using a Sales Data dataset. The dataset contains transactional sales information collected from a retail business. It includes key fields such as Order ID, Order Date, Customer Name, Region, Product Category, Sub-Category, Quantity, Unit Price, Sales, Profit, and Discount.

The dataset consists of approximately 8315 rows and 11 columns, providing enough detail to analyze sales trends, product performance, and regional insights. The data was sourced from Microsoft Excel and prepared through cleaning, formatting, and creation of additional calculated fields.

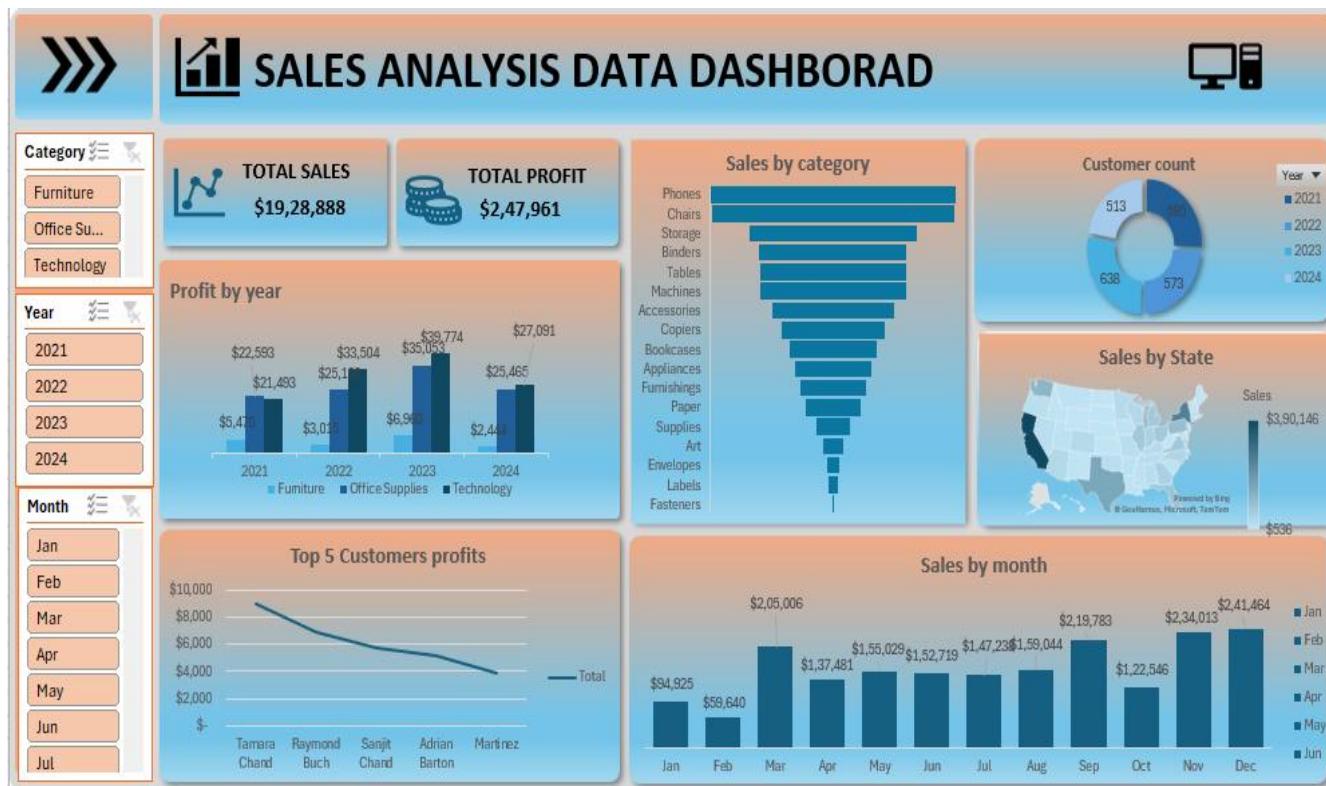
Source : [Sales and Profit Dashboard Data.xlsx](#)

Column1	Customer Name	State	Category	Sub-Category	Product Name	Sales	Quantity	Profit	Month	Year
2	Darren Powers	Texas	Office Supplies	Paper	Message Book, Wirebound, Four 5 1/2" X 4" Forms/Pg., 200 Dupl. Sets/Book	16.45	2	5.55	Jan	2021
3	44200 Phyllina Ober	Illinois	Office Supplies	Labels	Avery 508	11.78	3	4.27	Jan	2021
4	44200 Phyllina Ober	Illinois	Office Supplies	Storage	SAFCO Boltless Steel Shelving	272.74	3	-64.77	Jan	2021
5	44200 Phyllina Ober	Illinois	Office Supplies	Binders	GBC Standard Plastic Binding Systems Combs	3.54	2	-5.49	Jan	2021
6	44201 Mick Brown	Pennsylvania	Office Supplies	Art	Avery Hi-Liter EverBold Pen Style Fluorescent Highlighters, 4/Pack	19.54	3	4.88	Jan	2021
7	44202 Lycoris Saunders	California	Office Supplies	Paper	Xerox 225	19.44	3	9.33	Jan	2021
8	44202 Jack O'Briant	Georgia	Office Supplies	Art	Dixon Prang Watercolor Pencils, 10-Color Set with Brush	12.78	3	5.24	Jan	2021
9	44202 Maria Etezadi	Kentucky	Furniture	Chairs	Global Deluxe High-Back Manager's Chair	2573.82	9	746.41	Jan	2021
10	44202 Maria Etezadi	Kentucky	Office Supplies	Binders	Ibico Hi-Tech Manual Binding System	609.98	2	274.49	Jan	2021
11	44202 Maria Etezadi	Kentucky	Office Supplies	Art	Rogers Handheld Barrel Pencil Sharpener	5.48	2	1.48	Jan	2021
12	44202 Maria Etezadi	Kentucky	Technology	Phones	GE 30524EE4	391.98	2	113.67	Jan	2021
13	44202 Maria Etezadi	Kentucky	Technology	Phones	Wireless Extenders zBoost YX545 SOHO Signal Booster	755.96	4	204.11	Jan	2021
14	44202 Maria Etezadi	Kentucky	Office Supplies	Fasteners	Alliance Super-Size Bands, Assorted Sizes	31.12	4	0.31	Jan	2021
15	44202 Maria Etezadi	Kentucky	Office Supplies	Paper	Southworth 25% Cotton Granite Paper & Envelopes	6.54	1	3.01	Jan	2021
16	44203 Vivek Sundaresam	Texas	Furniture	Furnishings	Howard Miller 14-1/2" Diameter Chrome Round Wall Clock	76.73	3	-53.71	Jan	2021
17	44203 Vivek Sundaresam	Texas	Office Supplies	Binders	Acco Four Pocket Poly Ring Binder with Label Holder, Smoke, 1"	10.43	7	-18.25	Jan	2021
18	44205 Melanie Seite	Texas	Office Supplies	Art	Newell 312	9.34	2	1.17	Jan	2021
19	44205 Melanie Seite	Texas	Technology	Accessories	Memorex Micro Travel Drive 8 GB	31.2	3	9.75	Jan	2021
20	44206 Anthony Jacobs	Virginia	Office Supplies	Labels	Avery 482	2.89	1	1.36	Jan	2021
21	44206 Anthony Jacobs	Virginia	Furniture	Furnishings	Howard Miller 11-1/2" Diameter Ridgewood Wall Clock	51.94	1	21.3	Jan	2021
22	44207 Seth Vernon	Delaware	Furniture	Furnishings	DAX Value U-Channel Document Frames, Easel Back	9.94	2	3.08	Jan	2021
23	44209 Chris Selesnick	Louisiana	Office Supplies	Envelopes	Staple envelope	11.36	2	5.34	Jan	2021
24	44209 Chris Selesnick	Louisiana	Office Supplies	Envelopes	Brown Kraft Recycled Envelopes	50.94	3	25.47	Jan	2021
25	44209 Chris Selesnick	Louisiana	Technology	Accessories	Plantronics S12 Corded Telephone Headset System	646.74	6	258.7	Jan	2021
26	44209 Chris Selesnick	Louisiana	Office Supplies	Binders	3-ring staple pack	5.64	3	2.71	Jan	2021
27	44209 Chris Selesnick	Louisiana	Office Supplies	Storage	Fellowes Stor/Drawer Steel Plus Storage Drawers	572.58	6	34.35	Jan	2021
28	44209 Natalie DeCherney	South Carolina	Furniture	Chairs	Global Highback Leather Tilter in Burgundy	545.94	6	87.35	Jan	2021
29	44209 Brian Dahlen	California	Office Supplies	Storage	Tennsco 6- and 18-Compartment Lockers	1325.85	5	238.65	Jan	2021
30	44209 Brian Dahlen	California	Furniture	Bookcases	O'Sullivan Elevations Bookcase, CherryFinish	334	3	3.93	Jan	2021

## Tool Used : Excel

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## Screenshot of the Dashboard :



## **KPI Tables :**

### **1. Total Sales**

Total revenue generated from all sales transactions in the selected period.

### **2. Total Profit**

Net profit earned after subtracting total cost from total sales.

### **3. Customer Count**

Number of unique customers who made purchases during the selected year.

### **4. Profit by Year**

Annual profit comparison across different years and product categories.

### **5. Sales by Category**

Total sales value contributed by each product category.

### **6. Top 5 Customer Profits**

The five customers generating the highest profit based on their purchases.

### **7. Sales by State**

Sales distribution across different states or regions.

### **8. Sales by Month**

Total sales recorded for each month of the selected year.

## Visualizations

### 1. KPI Cards (Total Sales & Total Profit)

- Display high-level business performance indicators.
- Provide quick insights into overall revenue and profitability.

### 2. Clustered Column Chart – Profit by Year

- Shows year-wise profit comparison.
- Breaks down profits across Furniture, Office Supplies, and Technology categories.
- Helps identify yearly trends and category-wise performance.

### 3. Funnel Chart – Sales by Category

- Displays sales distribution across different product categories.
- Helps identify top-selling and low-performing product segments.

### 4. Donut Chart – Customer Count by Year

- Represents customer count for each selected year.
- Helps visualize customer growth and engagement over time.

### 5. Filled Map Chart – Sales by State

- Displays regional sales distribution across states.
- Helps identify strong-performing and weak-performing regions.

### 6. Line Chart – Top 5 Customer Profits

- Shows profit contribution from the top five customers.
- Helps identify high-value customers.

### 7. Column Chart – Sales by Month

- Displays month-wise sales for the chosen year.
- Useful for identifying seasonality and monthly sales trends.

### 8. Filter/Slicer Panels – Category, Year, Month

- Allow users to interactively filter the dashboard.
- Enable dynamic analysis based on product category, year, or month.

## Filters Applied

### 1. Category Filter

Allows users to view data by product categories such as Furniture, Office Supplies, and Technology.

### 2. Year Filter

Enables selection of a specific year (2021, 2022, 2023, 2024) to analyse sales and profit trends over time.

### 3. Month Filter

Provides month-wise filtering (Jan-Dec) to examine seasonal or monthly performance.

## Insights Summary

1. Sales and profit have shown consistent growth year over year, with Technology products contributing the highest share of revenue.
2. Furniture category shows lower profitability compared to Technology and Office Supplies, indicating higher costs or lower margins.
3. Customer count has increased steadily, suggesting improved customer acquisition and retention.
4. Top 5 customers contribute a significant portion of total profit, highlighting the importance of high-value customer relationships.
5. Sales vary greatly by state, with certain regions outperforming others, pointing to strong and weak markets.
6. Monthly sales trends reveal seasonality, with noticeable spikes during certain months and dips in others.
7. Phones and Chairs are among the top-selling sub-categories, indicating strong demand in these product lines.
8. States with low sales can be targeted for marketing or sales expansion, offering opportunities for business growth.

## Dashboard File Link (Excel)

Link : [Sales data project ready.io.xlsx](#)

Google drive : [https://docs.google.com/spreadsheets/d/1i6\\_lJAxEwc8qN6yh-ZFtfbuZwIuC\\_I5Q/edit?usp=drive\\_link&ouid=117328973242191897160&rtpof=true&sd=true](https://docs.google.com/spreadsheets/d/1i6_lJAxEwc8qN6yh-ZFtfbuZwIuC_I5Q/edit?usp=drive_link&ouid=117328973242191897160&rtpof=true&sd=true)

## Challenges & Solutions

### 1. Data Cleaning Issues

*Challenge:* The raw sales dataset contained missing values, inconsistent date formats, and duplicate entries.

*Solution:* Cleaned the data using Excel functions, removed duplicates, standardized formats, and filled or corrected missing data to ensure accuracy.

### 2. Creating Accurate KPIs

*Challenge:* Difficulty in calculating metrics like total profit and customer count due to scattered data.

*Solution:* Used PivotTables and calculated fields to automate KPI calculations and maintain accuracy across filters.

### 3. Designing a Clear Dashboard Layout

*Challenge:* Placing multiple charts, KPIs, and filters without cluttering the dashboard.

*Solution:* Organized visuals using a structured grid layout, grouped related metrics, and ensured clear spacing for readability.

### 4. Applying Interactive Filters

*Challenge:* Ensuring filters (Year, Month, Category) affected all visuals correctly.

*Solution:* Connected slicers to relevant PivotTables and verified interactivity to maintain a dynamic user experience.

### 5. Handling Large Dataset Performance

*Challenge:* Dashboard slows down when working with many records and PivotTables.

*Solution:* Optimized file by removing unnecessary columns, converting data to Excel Tables, and reducing heavy formulas.

### 6. Creating Meaningful Visualizations

*Challenge:* Selecting charts that best explain the insights.

*Solution:* Used appropriate chart types—line charts for trends, column charts for comparisons, funnel charts for distribution—to improve interpretation.