

# **Sales Analysis and Interactive Dashboard Development using Microsoft Excel**

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**Role: Data Analyst (Beginner Level)**

**Tools Used: Microsoft Excel, Pivot Tables, Charts**

**Project Type: Exploratory Data Analysis (EDA) +  
Dashboard Design**

**Project Completed On: November 2025**

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- **Introduction:**

Sales analysis plays a crucial role in helping businesses understand their performance, customer behaviour, and market trends. With the increasing volume of data generated by modern businesses, it has become essential to convert raw information into meaningful insights that support strategic decision-making.

This project focuses on analysing sales data using Microsoft Excel to uncover patterns related to revenue, profit, product categories, customer contributions, and regional performance. By applying various Excel tools such as data cleaning techniques, pivot tables, pivot charts, slicers, and timelines, the dataset is transformed into an interactive and visually appealing dashboard.

The dashboard provides a comprehensive overview of key metrics, enabling users to quickly monitor sales growth, identify high-performing products, track customer numbers, and examine state-wise trends. Through this project, the goal is to develop strong analytical skills and demonstrate the ability to summarize complex datasets into clear, actionable insights that can guide business decisions.

- **Objective of the Project:**

The primary objective of this project is to analyse the company's sales data and convert it into meaningful business insights through a fully interactive dashboard built in Microsoft Excel. The project aims to:

- Understand overall sales performance across different years.
- Identify the top-performing product categories and sub-categories.
- Analyse profit trends over time to observe growth patterns.
- Examine geographic sales distribution using state-wise analysis.
- Evaluate customer behaviour by tracking high-value customers and customer count.
- Detect monthly sales trends and seasonal patterns.
- Transform raw data into a clean, structured, and analysis-ready format.
- Build a user-friendly dashboard using pivot tables, pivot charts, slicers, and timelines.

Overall, the objective is to support data-driven decision-making by providing a clear and concise view of sales performance, customer insights, and profit trends.

- **Dataset Description:**

The dataset used in this project contains detailed information related to customer orders, product sales, and business performance across multiple regions. After the data cleaning process, a total of **4,043 valid records** were retained for analysis. These records capture the essential factors needed to evaluate sales trends, profitability, and customer behaviour.

➤ **Key Attributes in the Dataset:**

- **Order ID:** A unique identifier assigned to each transaction.
- **Order Date:** The date on which the order was placed.
- **Customer Name:** Name of the customer associated with the order.
- **State / Region:** Geographic location of the customer, used to analyze regional sales distribution.
- **Product Category:** High-level classification of products (e.g., Technology, Furniture, Office Supplies).
- **Sub-Category:** More detailed classification within each product category (e.g., Chairs, Phones, Tables).
- **Sales:** Total revenue generated from each order.
- **Profit:** Net profit earned from the sale after deducting expenses.
- **Quantity:** Number of units sold per order.

➤ **Dataset Purpose:**

This dataset serves as the foundation for identifying sales patterns, profitability drivers, customer purchasing trends, and regional market performance. It enables the creation of pivot-based visualizations and dashboards to support efficient business decision-making.

● **Tools & Technologies Used:**

This project was developed entirely using **Microsoft Excel**, utilizing its data management and visualization capabilities to transform raw records into meaningful insights. The following tools and features were used:

**1. Microsoft Excel**

Primary software for data cleaning, analysis, and dashboard creation.

**2. Data Cleaning Tools**

- Remove Duplicates
- Handling blank or missing values
- Standardizing date formats
- Correcting inconsistent text entries
- Sorting and filtering for better organization

**3. Pivot Tables**

Used for summarizing and analysing large datasets, including:

- Sales by Category

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- Sales by State
- Profit Overview
- Customer Count
- Monthly Sales Trends

### 4. Pivot Charts

To create visual representations such as:

- Funnel Chart
- Line Chart
- Map Chart
- Bar/Column Charts
- Pie Chart

### 5. Slicers and Timeline

Added interactivity to the dashboard:

- Slicer for Category
- Slicer for State / Region
- Timeline for Order Date

### 6. Dashboard Design Tools

- Chart formatting
  - Layout alignment
  - Colour coordination
  - Text boxes and labels for clarity
- Data Cleaning Process:**

The raw dataset underwent several cleaning steps to prepare it for accurate analysis. A total of **4,043 clean records** were retained after processing.

#### Steps Performed:

##### 1. Removal of Duplicates

All duplicate entries were identified and removed to ensure data accuracy.

##### 2. Handling Missing and Blank Values

Missing fields such as dates, categories, and sales values were:

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- Corrected where possible
- Removed if incomplete

### 3. Standardizing Data Formats

- Dates converted into a uniform date format
- Text fields standardized (category names, customer names, state names)
- Numerical columns (Sales, Profit, Quantity) formatted properly

### 4. Filtering Out Invalid Records

Rows with incorrect or incomplete data were removed.

### 5. Creating New Structured Columns

Additional fields were created for better analysis:

- Month (extracted from Order Date)
- Year (extracted from Order Date)

The cleaned dataset was then used to build pivot tables and charts.

- **Data Analysis & Visualizations:**

Multiple pivot charts were created to understand sales performance from different perspectives.

#### 1. Sales by Category (Funnel Chart)

Shows the contribution of each product category to total sales.

- Phones, Chairs, and Tables generated the highest sales.

#### Sales by Category:



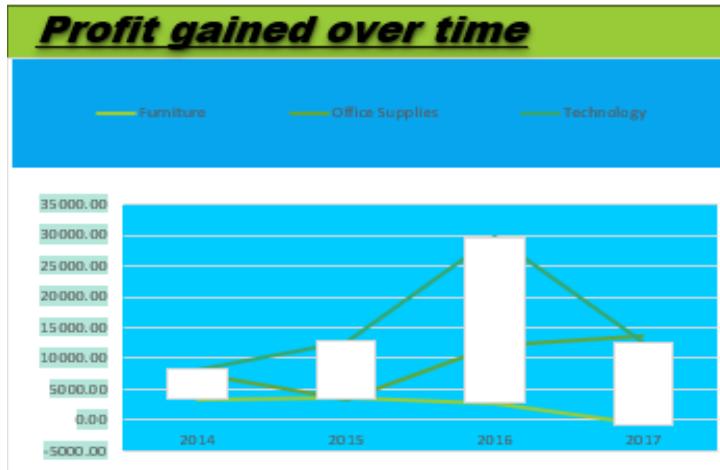
#### 2. Profit Gained Over Time (Line Chart)

Displays profit trend from 2014–2017.

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- The Technology category shows consistent profit growth.

## Profit Gained Over Time:

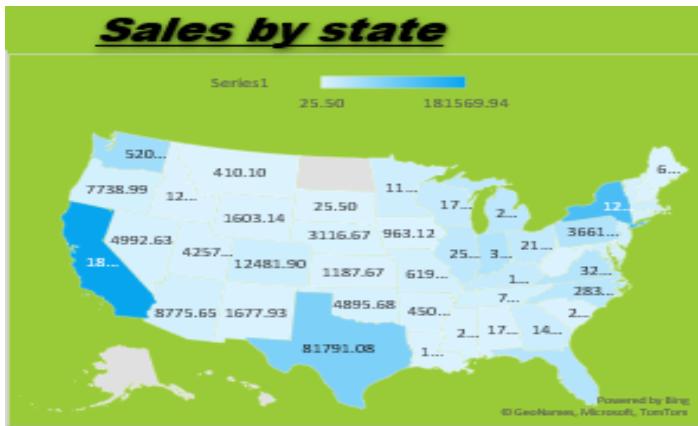


### 3. Sales by State (Map Chart)

## Geographical visualization of sales across the United States.

- Highlights the most active regions in terms of revenue.

## Sales by State:



#### 4. Customer Count by Year (Bar Chart)

Analyses the number of customers over different years.

- Customer base increased steadily.

## **Customer Count:**

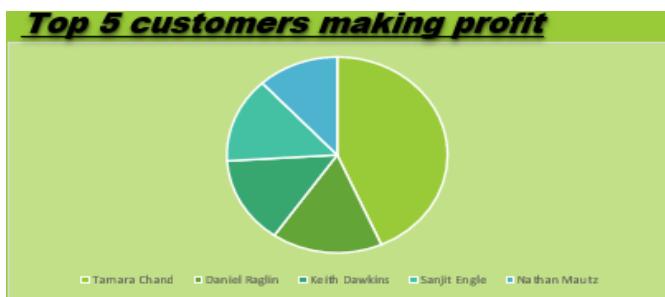


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### 5. Top 5 Customers (Pie Chart)

Shows the customers who contributed the highest profit.

#### Top 5 Customers:



### 6. Monthly Sales Trend (Line Chart)

Displays month-wise sales across all years.

- Sales peak during the last quarter (October–December).

#### Monthly Sales Trend:



- Dashboard Overview:

The final dashboard provides a complete, interactive view of the company's sales performance. It contains:

#### Final Sales Dashboard:



## Key Dashboard Components

- Funnel Chart (Category-wise Sales)
- Line Chart (Profit Over Time)
- Map Chart (Sales by State)
- Yearly Customer Count
- Top 5 Customers
- Monthly Sales Trend

## Interactive Elements

- Slicer for Category
- Slicer for State
- Timeline for filtering based on Order Date

## Purpose of the Dashboard

The dashboard enables users to:

- Quickly monitor overall sales performance
- Drill down into categories or regions
- Compare trends across years
- Identify top customers and peak months
- **Insights & Findings:**

Based on the analysis, the following insights were identified:

- **Phones and Chairs** are the highest revenue-generating categories.
- Overall profit shows an **upward trend from 2014 to 2017**.
- Sales show a clear **seasonal increase during the last quarter** of each year.
- State-wise analysis shows that **certain regions contribute significantly more to total sales**.
- The **top 5 customers contribute a major portion of total profit**, indicating high-value clients.
- Monthly sales trends help identify periods of strong and weak demand.
- Customer count shows **steady annual growth**, reflecting increased market reach.

- **Conclusion:**

This project effectively demonstrates how Excel can be used to convert raw data into actionable business insights. Through data cleaning, pivot analysis, and dashboard visualization, the company's sales performance across categories, customers, and regions becomes clear and easy to interpret. The interactive dashboard enables decision-makers to explore trends, identify opportunities, and monitor performance efficiently.