



Project Title	<b>Financial Performance Dashboard</b>
Tools	Tableau Desktop
Domain	Business Analyst
Project Difficulties level	intermediate

Dataset : Dataset is available in the given link. You can download it at your convenience.

[Click here to download data set](#)

## **Finance Analytics Tableau Project**

### **Objective:**

The goal of this Tableau project is to analyze financial performance across different countries, products, and time periods, using key financial metrics such as sales, profit, cost of goods sold (COGS), and discounts.

### **Columns Provided:**

- Segment
- Country

- Product
- Discount Band
- Units Sold
- Manufacturing Price
- Sale Price
- Gross Sales
- Discounts
- Sales
- COGS (Cost of Goods Sold)
- Profit
- Date
- Month Number
- Month Name
- Year

## Steps and Tasks

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### Task 1: Data Import and Preparation

#### 1. Connect to Data:

- Open Tableau, click **Connect**, and import the dataset (CSV, Excel, or database).
- Ensure that the **Date**, **Month Number**, **Month Name**, and **Year** fields are correctly formatted as dates.

#### 2. Create Calculated Fields: We'll create some calculated fields for deeper analysis.

**Profit Margin:** To analyze profitability.

tableau

$\text{Profit Margin} = \text{SUM}([\text{Profit}]) / \text{SUM}([\text{Sales}])$

○

**Total Discounts:** To calculate the total discount given.

tableau

$\text{Total Discounts} = \text{SUM}([\text{Discounts}])$

○

**Total Revenue (Gross Sales):**

tableau

$\text{Total Revenue} = \text{SUM}([\text{Gross Sales}])$

○

**Cost-to-Sales Ratio (COGS to Sales):**

tableau

$\text{COGS to Sales} = \text{SUM}([\text{COGS}]) / \text{SUM}([\text{Sales}])$

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## Task 2: Visualizations

### a. Sales and Profit by Country (Bar Chart):

1. Drag **Country** to Columns.

2. Drag **Sales** to Rows.
3. **Color by Profit**: Drag **Profit** to the Color mark.
4. Use a **Bar Chart** to compare sales and profits across countries.
5. Add **filters** for **Segment** and **Product** to refine the analysis by these categories.

**b. Sales and Profit Trend Over Time (Line Graph):**

1. Drag **Year** to Columns.
2. Drag **Sales** and **Profit** to Rows.
3. Change the chart type to a **Line Graph**.
4. Add **Month Name** to the Columns for a more granular analysis.
5. **Color by Segment** to visualize trends for different business segments.

**c. Gross Sales vs Discounts (Scatter Plot):**

1. Drag **Gross Sales** to Columns.
2. Drag **Discounts** to Rows.
3. Change the chart to a **Scatter Plot**.
4. Use **Size** or **Color** to differentiate between **Product** or **Country**.
5. This allows you to see the relationship between discounts and gross sales.

**d. Sales by Product and Discount Band (Heat Map):**

1. Drag **Product** to Rows.
2. Drag **Discount Band** to Columns.
3. Drag **Sales** to **Color** and change the visualization to **Heat Map**.
4. This shows how different discount bands affect product sales.

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**Task 3: Filters and Interactivity**

### 1. Date Filter:

- Drag the **Date** field to the filter section.
- Provide a range slider so users can explore data from different periods.

### 2. Segment Filter:

- Drag **Segment** to the filter section to allow users to toggle between business segments (e.g., Consumer, Corporate, etc.).

### 3. Country Filter:

- Drag **Country** to Filters, and show the filter on the dashboard so users can focus on specific countries.

### 4. Profitability vs Discounts:

- Create an interactive filter to allow users to filter data by discount bands and analyze how they affect profitability.
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## Task 4: Dashboard Creation

### 1. Create a New Dashboard:

- Click the **Dashboard** tab and drag the different sheets you created onto the canvas.

### 2. Arrange Visualizations:

- Arrange the visualizations in a clean, understandable layout.
- For example:
  - Bar Chart (Sales and Profit by Country) on the top.
  - Line Graph (Sales Trend Over Time) below.
  - Scatter Plot (Gross Sales vs Discounts) on the side.

### 3. Interactive Filters:

- Add the **filters** (Date, Country, Segment, Discount Band) to the dashboard to allow dynamic exploration of data.

### 4. Title and Formatting:

- Give the dashboard a descriptive title like “**Financial Performance Dashboard**”.
  - Customize fonts, labels, and tooltips to improve readability and professionalism.
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## Task 5: Export and Sharing

### 1. Save the Tableau Workbook:

- Save your workbook as a `.twb` or `.twbx` file depending on your data source.

### 2. Publish to Tableau Public or Tableau Server:

- If you're using Tableau Public, you can publish the dashboard for public access.
  - If using Tableau Server, publish it to your company's server for internal use.
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## Sample Tableau Calculations

### Profit Margin Calculation:

tableau

```
IF SUM([Sales]) != 0 THEN SUM([Profit]) / SUM([Sales]) END
```

1.

### Cost-to-Sales Ratio:

tableau

```
IF SUM([Sales]) != 0 THEN SUM([COGS]) / SUM([Sales]) END
```

2.

## Revenue Calculation:

tableau

Total Revenue = SUM([Gross Sales])

3.

## Discount Impact:

tableau

Discount Impact = SUM([Discounts]) / SUM([Gross Sales])

4.

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## Final Output:

By the end of this project, you'll have:

- **Bar Charts** showing the financial performance of different countries.
- **Line Graphs** visualizing the trend in sales and profit over time.
- **Heat Maps** to understand the impact of discount bands on sales.
- **Scatter Plots** to see the relationship between gross sales and discounts.

These visualizations will provide comprehensive insights into financial performance and profitability across different segments, countries, and time periods.

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This is a flexible project structure that can be adjusted according to the specific needs of the dataset and business requirements. You can modify the columns and add more complex calculated fields for deeper financial analysis.

Example: You can get the basic idea how you can create a project from here

## Comprehensive Project Outline for a Financial Performance Dashboard in Tableau

### 1. Data Preparation & Setup

- **Objective:** Import and understand the dataset.
- **Task:** Connect to the dataset, ensure all columns are in appropriate data types, and correct any anomalies.
- **Steps:**
  1. Import the dataset into Tableau.
  2. Inspect each column and ensure correct data types (dates, numerical values, categorical data).
  3. Identify missing values and handle them (e.g., imputation, exclusion).
  4. Perform initial inspection and understand unique values in categorical columns (e.g., Segment, Country).

### 2. Exploratory Data Analysis (EDA)

- **Purpose:** Generate insights, understand relationships, and prepare the data for calculated fields and KPIs.
- **Key EDA Operations** (20 operations with code snippets):
  1. **Sales Distribution by Segment:** Aggregate and visualize sales for each segment.
  2. **Sales Trends over Time:** Plot sales trends by month and year.
  3. **Profit Margins by Product:** Visualize which products yield the highest profit margins.



4. **Country-wise Sales Distribution:** Analyze sales concentration in different countries.
5. **Discount Band Effects on Sales:** Observe how discount levels affect sales.
6. **Sales Distribution by Month:** Analyze which months have peak sales.
7. **Top Products by Units Sold.**
8. **COGS vs. Sales:** Identify cost-heavy products and regions.
9. **Profit by Segment and Product:** Comparison analysis.
10. **Discount Patterns** by month or product category.
11. **Year-over-Year Sales Growth.**
12. **Seasonal Sales Trends.**
13. **Distribution of Gross Sales by Country.**
14. **Discount Band Analysis:** Evaluate the effectiveness of discounting strategies.
15. **Customer Segmentation Analysis.**
16. **Monthly Average Sales.**
17. **Gross Sales Variance** between countries.
18. **Distribution of Profit Margins by Product.**
19. **COGS Distribution by Segment and Product.**
20. **Country Contribution to Gross Sales.**

### 3. Calculated Fields (20 Calculations)

- **Purpose:** Generate specific fields to drive KPI insights and analytical depth.
- **Examples:**
  1. **Net Sales:**  $\text{Gross Sales} - \text{Discounts}$ .
  2. **Profit Margin (%):**  $(\text{Profit} / \text{Sales}) * 100$ .
  3. **Total Cost:**  $\text{COGS} + \text{Discounts}$ .
  4. **Year-over-Year Growth:**  $(\text{Sales} - \text{LOOKUP}(\text{Sales}, -1)) / \text{LOOKUP}(\text{Sales}, -1)$ .

5. **Units Sold per Country:** {FIXED [Country] : SUM([Units Sold])}.
6. **Sales Variance:** Sales - LOOKUP(Sales, -1).
7. **Discount Percentage:** [Discounts] / [Gross Sales].
8. **Average Manufacturing Price per Unit.**
9. **Cumulative Sales by Month:** RUNNING\_SUM([Sales]).
10. **Monthly Sales Target:** Create a static or dynamic target.
11. **Sales Performance Ratio:** [Sales] / [Target Sales].
12. **Discount Impact:** Calculated by comparing Gross Sales to Net Sales.
13. **COGS Percentage:** (COGS / Gross Sales) \* 100.
14. **Revenue per Product.**
15. **Year-over-Year Growth by Segment.**
16. **Profit per Segment:** {FIXED [Segment] : SUM([Profit])}.
17. **Discounted Units Percentage.**
18. **Average Units Sold per Segment.**
19. **Top 3 Products by Profit.**
20. **Sales Ratio by Product.**

#### 4. Key Performance Indicators (KPIs) (20 KPIs)

- **Purpose:** Measure and benchmark financial performance metrics.
- **Examples:**
  1. **Total Revenue:** SUM([Sales]).
  2. **Total Units Sold.**
  3. **Total Discounts.**
  4. **Total COGS.**
  5. **Total Profit.**
  6. **Profit Margin.**
  7. **Average Monthly Sales.**

8. **Year-over-Year Sales Growth.**
9. **Revenue by Product.**
10. **Profit by Country.**
11. **Gross Margin (%).**
12. **Discount Percentage.**
13. **Customer Segment Contribution to Revenue.**
14. **Top 5 Products by Revenue.**
15. **Average Manufacturing Price per Unit.**
16. **Sales Target Achievement Rate.**
17. **Country-wise Profitability.**
18. **Sales Distribution by Segment.**
19. **Revenue per Unit Sold.**
20. **Discount Effectiveness.**

## **5. Data Visualization (20 visualizations)**

- **Examples:**

1. **Line Chart** for Sales Trends over Time.
2. **Bar Chart** for Sales by Segment.
3. **Pie Chart** for Profit by Product.
4. **Heat Map** to show Sales Performance by Country and Segment.
5. **Scatter Plot** for Discount vs. Profit.
6. **Map Visualization** for Country-wise Revenue.
7. **Box Plot** for Distribution of Manufacturing Price.
8. **Histogram** for Sales Distribution.
9. **Stacked Bar Chart** for Gross Sales, Discounts, and Net Sales.
10. **Area Chart** for Cumulative Sales.
11. **Dual Axis Chart** for Sales and Profit Comparison.
12. **Tree Map** for Product Sales Distribution.
13. **Funnel Chart** for Segment Sales.
14. **Waterfall Chart** for Profit Breakdown.

15. **Bullet Chart** for Sales vs Target.
16. **Gantt Chart** for sales cycles.
17. **Treemap** for Product Profit Contribution.
18. **Box and Whisker Plot** for Price Distribution.
19. **Gauge Chart** for KPI Goal Achievement.
20. **Interactive Filter Panel** for Country/Segment Analysis.

## 6. Dashboard Creation

- **Design and Layout:**

- Overall Summary: Overview of Total Sales, Profit, and COGS.
- Sales by Segment/Product.
- Profitability by Country and Segment.
- Discount Analysis.
- Year-over-Year Growth and Sales Trends.

- **Features:**

- Filters for Year, Segment, Country, Product.
- KPI Cards with dynamic highlights for Top KPIs.
- Interactive elements like hover-over details and filter interactions.
- Parameter controls to adjust KPI views and metrics.

## 7. Performance Optimization Tips:

- Reduce data processing time by aggregating data beforehand.
- Use extracts for large datasets.
- Implement filters effectively to reduce computation loads.
- Limit the number of quick filters and optimize calculated fields.

[Sample report](#)

# Finance Report Dashboard

Hello Everyone,

I made this Finance Dashboard in Power BI with the Finance Excel Workbook provided by Microsoft on their Website.

## Problem Statement

- The goal of this Power BI Dashboard Project is to analyze the financial performance of a company using the provided Microsoft Sample Data.
- To create a visually appealing dashboard that provides an overview of the company's financial metrics enabling stakeholders to make informed business decisions.

## Sections in the Report

Report has Multiple Section's from where you can manage the Data, Like :

- Report Data can be sliced by Segments, Country and Year to show Particular Data.
- It has cards showing Total Units Sold, Total Gross Sale and Total Profit.
- It has a Clustered Bar Chart with Year on X-Axis and Profit on Y-Axis showing Profit Quarterly.
- And Lastly, It has a Area Chart showing Months on X-Axis and Profit on Y-Axis showing profit Monthly.
- I have also included a Reset Button at the Top to clear all Slicer's.
- To use it hold CTRL and then click it to reset the Slicer's.

## Getting Started

- Clone the repository to your local machine using the following command :  
git clone <https://github.com/TheMrityunjayPathak/FinanceReportDashboard.git>



# FINANCE REPORT



SEGMENT

All

COUNTRY

All

YEAR

All



TOTAL UNITS SOLD



1.13M

TOTAL GROSS SALE



127.93M

TOTAL PROFIT



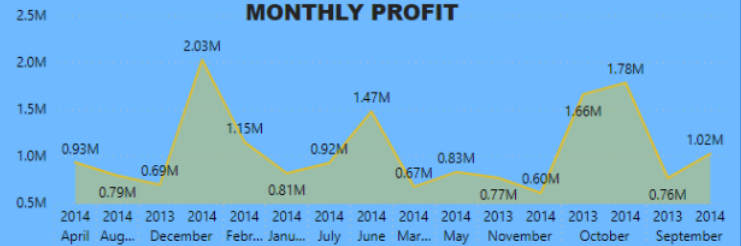
16.89M



QUARTERLY PROFIT



MONTHLY PROFIT



[Reference link](#)