TCS Data Visualisation Project Report

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Program: Tata Group – Data Visualisation Virtual Experience (The Forage)

Software Used: Microsoft Power BI Desktop

Date: [11/06/2025]

This report has been created as part of the **Tata Group Data Visualisation Virtual Experience Program** offered by **The Forage**. The goal of this task was to practice business intelligence skills by using **realistic corporate data** and transforming it into meaningful insights using visual tools. The project simulates a scenario at **Tata Consultancy Services (TCS)**, where interns are expected to analyze company data and present key findings to senior decision-makers. This report outlines the process followed, tools used, and insights generated based on the data provided in the exercise.

For this project, I was given a dataset consisting of **sales revenue, sales quantity, and customer transactions** across various countries and months. My task was to analyze this dataset and create effective, clean, and easily understandable visuals using **Power BI Desktop**, a powerful business analytics tool. The focus was to **summarize performance trends** in the form of clear dashboards and provide an explanation that would be understandable even to non-technical stakeholders. After preparing the visuals, I interpreted each one and compiled all insights into this detailed report.

Sum of Revenue by Month
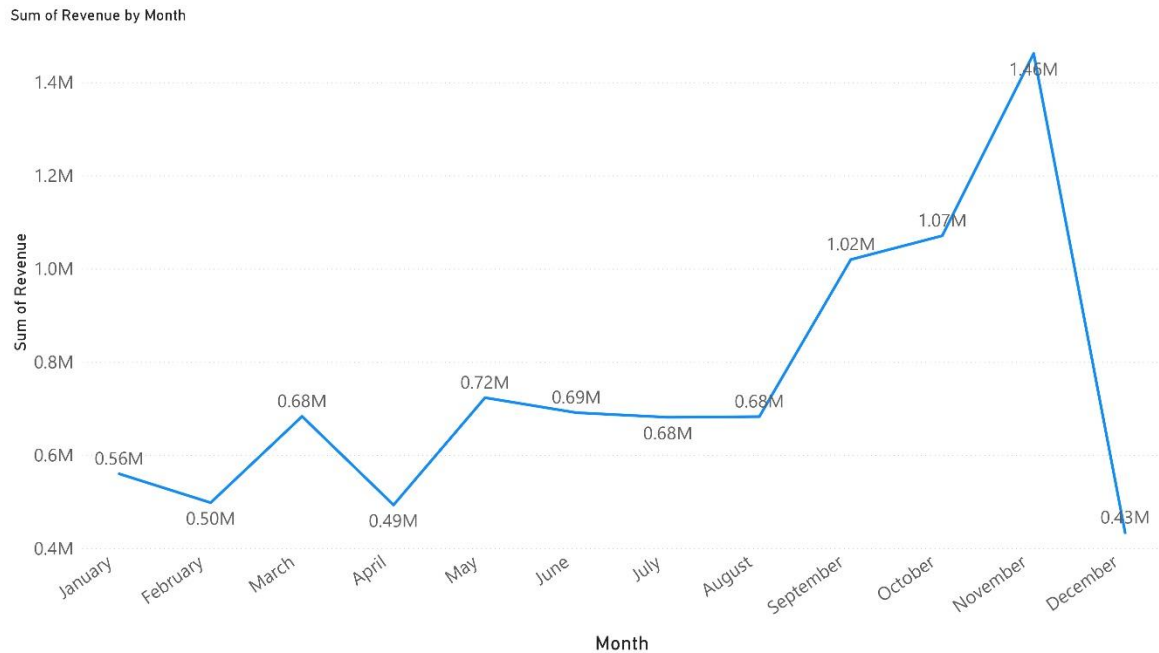
Monthly Revenue Analysis

The first page displays a bar graph showing the **monthly revenue figures** across the year. The analysis reveals **March** as the highest revenue-generating month, reaching **1.46 million**, followed by **December** with **1.07 million**, and **October** with **1.02 million**. The **lowest revenue** was observed in **February**, amounting to just **0.43 million**. A sharp spike in revenue during March may suggest seasonal demand, promotions, or a major project completion. The consistent mid-range performance in months like **April, June, July, and November** indicates steady sales, whereas dips in **February, May, and August** suggest areas to investigate for performance improvement.
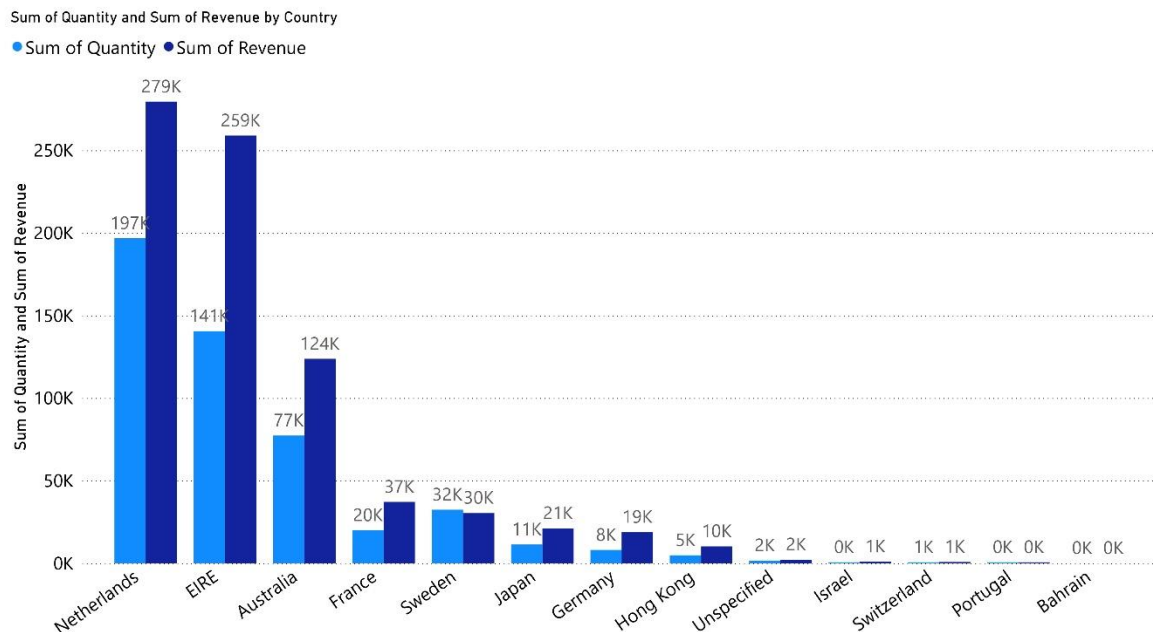
Country-wise Revenue and Quantity

This page provides a combined visualization of **total quantity sold and revenue generated per country**. The **Netherlands** leads with the highest values in both quantity (**197K units**) and revenue (**279K**), followed by **EIRE (Ireland)** with **141K units** and **259K revenue**, and **Australia** with **77K units** and **124K revenue**. Countries like **France, Sweden, and Japan** reflect moderate performance. On the lower end, **countries such as Bahrain, Portugal, Switzerland, and Israel** show negligible contributions. This suggests a strong market presence in Western Europe and Oceania, while Asia and Middle Eastern countries might need targeted strategies to boost performance.

Sum of Revenue by CustomerID
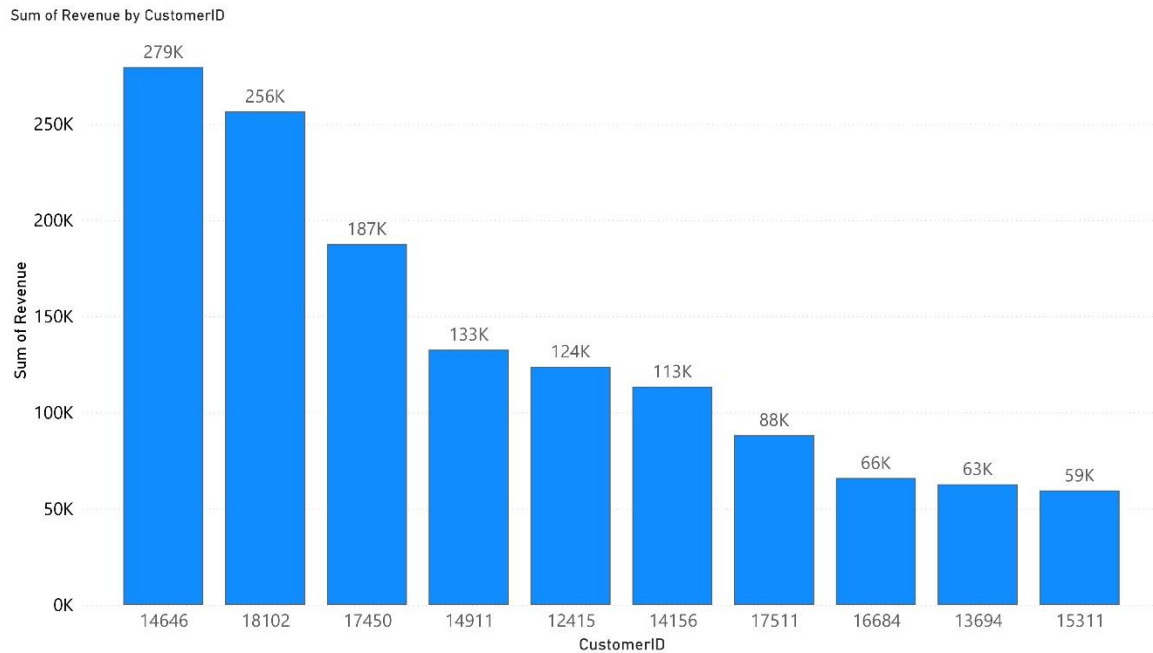
Customer-wise Revenue

This graph represents **revenue distribution among individual customers**. The top contributor is **Customer ID 14646**, generating **279K in revenue**, followed closely by **18102 with 256K**, and **17450 with 187K**. Other customers such as **14911 and 12415** also have significant revenue figures. The distribution highlights a **concentration of revenue among a few key customers**, which implies dependency on major accounts. Diversification or expansion of the customer base could help mitigate risk and ensure stable revenue streams.

Sum of Quantity by Country

Geographic Quantity Distribution

The page utilizes a **geographic heatmap** to visualize the total quantity sold across various countries. As observed earlier, **Netherlands and Ireland** again stand out as the top performing regions in terms of quantity. Countries like **Germany, France, and Australia** follow behind. The map further highlights several countries with minimal sales, including **Brazil, RSA (South Africa), Bahrain**, and various others in Asia and the Americas. This data reinforces the need to explore **market penetration strategies** in underperforming regions and to understand **regional demand patterns**,

Conclusion

This report effectively visualizes and interprets the sales and customer data using **Power BI**. By analyzing trends over time, across countries, and by customer segments, we gain a 360-degree understanding of the business landscape. The visuals clearly identify which months, regions, and clients are driving performance, and where strategic improvements are needed. The experience of working on this project has enhanced practical knowledge in data visualization, dashboard design, and business communication. These insights can be used by management for **better decision-making, planning, and performance improvement initiatives** across the company.