TATA VIRTUAL EXPERIENCE PROGRAM BY FORAGE

1. Introduction

This is a virtual internship program case study with the company, TATA. This program is hosted through the site Forage and enabled me to leverage my skills and tools as a Data Analyst in a real-world setting.

2. Internship Company

The virtual experience programme is provided by Tata iQ or Tata Insights and Quants. I discover how passionate, multidisciplinary experts utilise data visualisation technologies like Tableau and Power BI to take on some of the most difficult business problems and uncover fascinating insights buried in the mountains of produced data.

The programme demonstrates the kind of issues dealt with by Tata Insights and Quants every day and tries to imitate the difficulties an individual could have.

3. Scenario Company

An online retail store has hired you as a consultant to review their data and provide insights that would be valuable to the CEO and CMO of the business. The business has been performing well and the management wants to analyse what the major contributing factors are to the revenue so they can strategically plan for next year.

The leadership is interested in viewing the metrics from both an operations and marketing perspective. Management also intends to expand the business and is interested in seeking guidance into areas that are performing well so they can keep a clear focus on what's working. They would also like to view different metrics based on the demographic information that is available in the data.

A meeting with the CEO and CMO has been scheduled for next month and you need to draft the relevant analytics and insights that would help evaluate the current business performance and suggest metrics that would enable them to make the decision on expansion. Unstructured and requires extremely sophisticated and expensive technology to manage and maintain.

To start the project there are 4 tasks as below.

4. Tasks

4.1 Task 1: Framing the Business Scenario

Create a set of four questions that you anticipate each business leader will ask and want to know the answers to. Make sure you differentiate your questions, as both the CEO and CMO view business decisions through different lenses. Eight (8) questions in total (4 for the CEO and 4 for the CMO)

4.2 Task 2: Choosing the Right Visuals

In this task, you will be required to read the questions carefully and understand that business requirement. Once you have an idea of what is required from the perspective of the CEO and CMO, you will need to come up with the perfect visual which will illustrate what the senior managers are looking for in each scenario. Remember, data can be presented in multiple types of charts, but you are required to select the visual that would best display the information which is being presented.

4.3 Task 3: Creating Effective Visuals

Before you can begin the analysis, make sure that the data is cleaned properly. You have noticed that the data contains some returns to the store which are provided in negative quantities and there are unit prices which were input in error. You will need to perform the following steps to clean this data.

- Create a check that the quantity should not be below 1 unit.
- Create a check that the Unit price should not be below $0.

Question 1

The CEO of the retail store is interested to view the time series of the revenue data for the year 2011 only. He would like to view granular data by looking into revenue for each month.

Question 2

The CMO is interested in viewing the top 10 countries which are generating the highest revenue. Additionally, the CMO is also interested in viewing the quantity sold along with the revenue generated. The CMO does not want to have the United Kingdom in this visual.

Question 3

The CMO of the online retail store wants to view the information on the top 10 customers by revenue. He is interested in a visual that shows the greatest revenue generating customer at the start and gradually declines to the lower revenue generating customers.

Question 4

The CEO is looking to gain insights on the demand for their products. He wants to look at all countries and see which regions have the greatest demand for their products.

## 4.4 Task 4: Communicating Insights and Analysis

Question 1
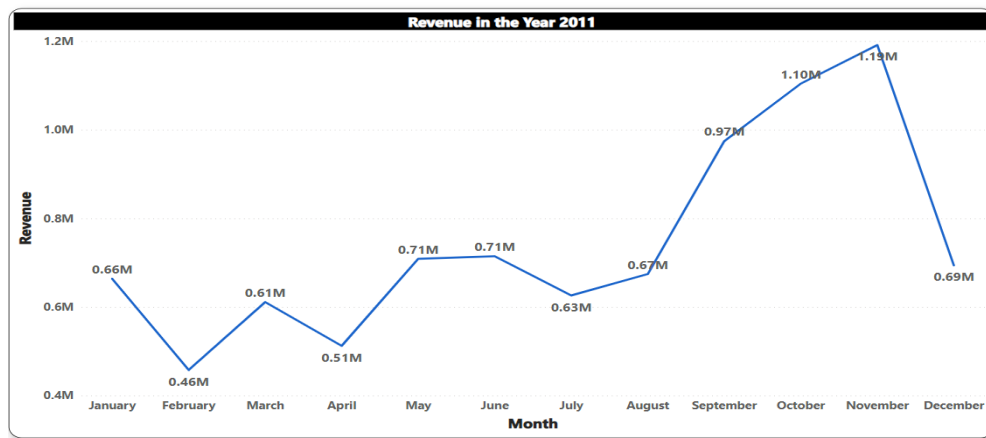
- The first 8 months had stable monthly revenues with minor fluctuations. The average revenue was $685,000.

- We had a significant increase in revenue from September with the revenue peaking at $1.15 Million in November and an average of 21.18% increase in revenue from August to November.

- The revenue trend from August to December demonstrates how seasonality affects retail store sales.

Question 2
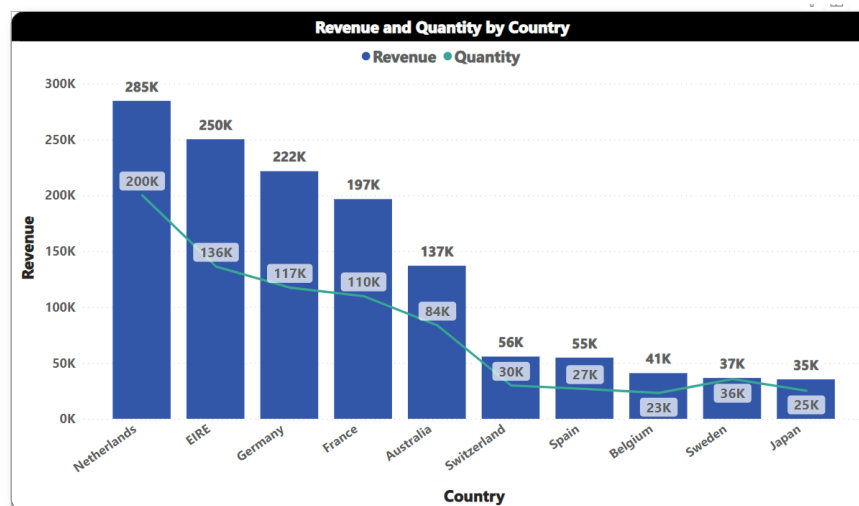
- This chart represents the top 10 countries in the revenue and the quantities bought in these countries except The United Kingdom.

- There is no major difference between the revenue and the quantity of goods sold in these countries, showing a high purchasing power in these countries.

- These countries represent regions with the highest potential to generate more revenue that management needs to focus more on in terms of marketing strategies.

Question 3
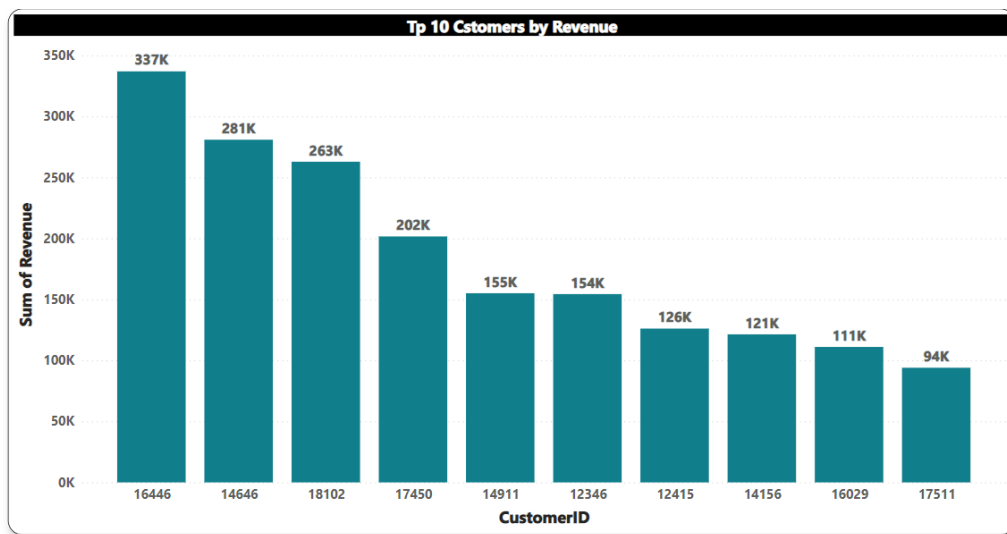
- These charts show that there is no major difference between the top 10 customers in terms of revenue generated.

- The average difference is revenue between the top 10 customers in 15.8%.

- The company can aim to strengthen the relationship with these customers to increase customer loyalty and retention and ultimately drive more sales an revenue for the company.

Question 4

- The map chart concludes by comparing the places that have produced the greatest revenue to those that have not.

- The map also reveals that most sales occur only in the European zone, with a small number in American region.

- Along with Russia, there is no market for the items in Africa or Asia.

- The company can concentrate on the European market more and dive deeper into countries in the region to come up with strategies that will maximize sales from each country in the region alongside Australia and Japan

5. Summary and Recommendations

- The company should come up with strategies that aim at stocking and advertising seasonal products to maximize sales when the demand for these goods goes up.
- The company should do a deeper analysis of products that are usually in high demand during low sales months to come up with strategies for marketing these products.
- A deeper dive into the type of products and the revenue generated from these products for each region would be key in guiding region-specific marketing strategies.
- The company should consider incentivizing top revenue generating customers to strengthen the relationship with these customers.
- The European market has more potential for growth and the company should aim at strategies that will increase its market positioning in the region.