

Tata Virtual Internship The Forage

1. Introduction

This is a virtual internship case study with the company, Tata. This program is hosted with the platform Forage and I was able to leverage my data analysis skills and tools in a professional setting with a real-world problem.

2. Internship Company

Tata is a multinational conglomerate based in India, founded in 1868. It is one of the largest and most diversified companies in India, with operations in over 100 countries, and a wide range of businesses including automotive, consumer products, engineering, energy, materials, services, and technology. The company is known for its strong commitment to corporate social responsibility and sustainability and has a reputation of being one of India's most respected and trusted companies.

3. Dataset Summary

The client provided one dataset, Online Retail.

The dataset has 9 columns namely,

1. Invoice No
2. Stock Code
3. Description
4. Quantity
5. Invoice Date
6. Unit Price
7. CustomerID
8. Country
9. Revenue

The Invoice No column has the invoice number of each purchase made by customers. Stock Code has the products stock code. Description has the products description and information. Invoice Date has dates from when the purchase happened. Unit Price has the price of the product. CustomerID tells us who purchased the product in numerical form. Country is where the customer resides in. We multiplied Unit Price and Quantity to make the column Revenue to show insights for the client.

4. Data Preparation

Before we begin the analysis, we must make sure the data is clean and without errors. We used Excel to clean the dataset with the following steps:

1. Removed Rows in the Quantity column showing negative numbers or below 1

2. Removed Rows in the Unit Price column that are below \$0
3. Removed Rows with blanks
4. Added Revenue Column from multiplying Unit Price with Quantity

5. Tasks

5.1 Task 1: Framing the Business Scenario

We are tasked with anticipating the business task that the client might ask. We need to draft questions that we think will be important and relevant to the CEO and CMO. The deliverables are 4 relevant questions each to the CEO and CMO that wants to know the answers to with regards to the dataset provided.

Here are the questions I anticipated:

CEO:

1. Which region is generating the highest revenue, and which region is generating the lowest?
2. Which months generated the most revenue? Is there a seasonality in sales?
3. Who are the top customers and how much do they contribute to the total revenue? Is the business dependent on these customers or is the customer base diversified?
4. What is the monthly trend of revenue, which months have faced the biggest increase or decrease?

CMO:

1. What is the percentage of customers who are repeating their orders? Are they ordering the same products or different?
2. For the repeat customers, how long does it take for them to place the next order after being delivered the previous one?
3. What revenue is being generated from the customers who have ordered more than once?
4. Who are the customers that have repeated the most? How much are they contributing to revenue?

5.2 Task 2: Choosing the Right Visuals

With this task, we are tested about what different charts and visuals can be appropriate for different kinds of scenarios. There is a quiz needed to be completed in this task to proceed.

5.3 Task 3: Creating Effective Visuals

In this task, the client provided us with the business tasks they need for analysis. Here are the charts and visualization I created with each business task:

The CEO wants to view granular data of revenue of each month. The CEO is interested in viewing the seasonal trends and wants to dig deeper into why these trends occur. This analysis will be helpful for the CEO to forecast for the next year.

5.4 Task 4: Communicating Insights and Analysis

We are tasked with creating a presentation that communicates the insights and findings of the analysis. Everything done from start to finish is summarized and added to present to the client.

Recommendations:

1. There is incomplete data in December but it shows a promising month since the –Ber months we can see a steady uptrend of revenue.
2. Ireland and the surrounding areas have generated great revenue and the company has a significant customer base that we can tap into for expansion opportunities.
3. The top customers have an average revenue starting with \$77,183 then \$56,157 then drastically falls from \$13,000 to \$2,000 range.
4. Data such as profit can be used in future analysis to evaluate more of the business performance

Project Link:

https://drive.google.com/drive/folders/1ef7l08Soz8dqBGkNCkvbsM5P9HAdcgOR?usp=share_link

Power bi Link:

1. Visual Link: <https://app.powerbi.com/groups/me/reports/ebd9f30b-480e-4153-aa05-0f87ff66ece4/ReportSection>