



**Data
Visualization:
Empowering
Business with
Effective
Insights**

Description : -

- The CEO and CMO have recently met to finalize the requirements and would like you to provide them with some analysis and visuals that would help answer their questions. Both, the executives are interested in viewing and understanding how they can use the data to make more meaningful decisions. You would need to provide insights which they can use to create the expansion strategy. The executives want to analyze the trends and the breakdown by different categories so that they have clarity on how the revenue is being generated and what are the main factors affecting the online store.



Data Cleaning

(Use Power BI – Power Query)

Data Profiling

- No. of Columns - 8
- No. of Rows – 5,41,909
- No. of null values – 1,36,534
- De-continues Values
- Invalid Data Types

Column Settings

- Change invoice ; stock code ; customer ID columns values to String.
- Split invoice No(s) |85123A| as |85123| |A|.
- Split invoice date column (01-12-2010 08:26:00) as |01-12-2010| |08:26:00|.

Table Setting

- Delete duplicates value's rows.
- Delete unrequired columns.
- Filtered columns for invalid values.

Company's CMO & CEO s Questions

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. 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.



Insights - 1



Tata Consultancy Service

Select Country

All

Country

1/5/2011

12/9/2011

Overview

Revenue Analysis

Customer Analysis

Geography Analysis

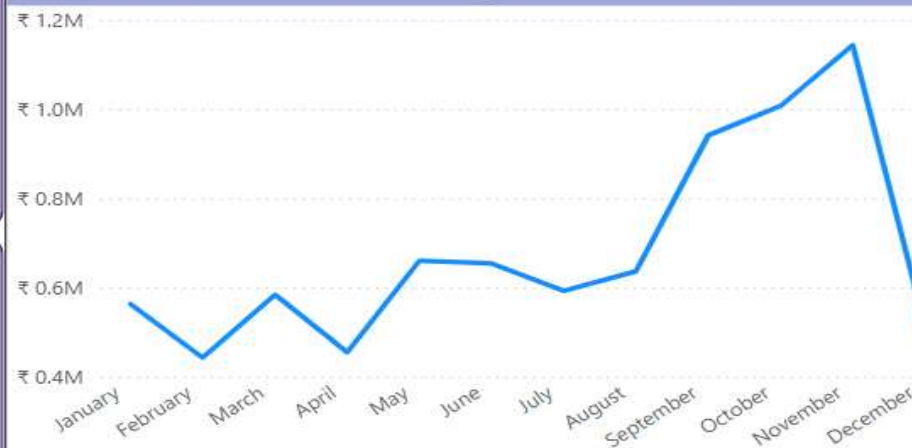
Total Sales By Month



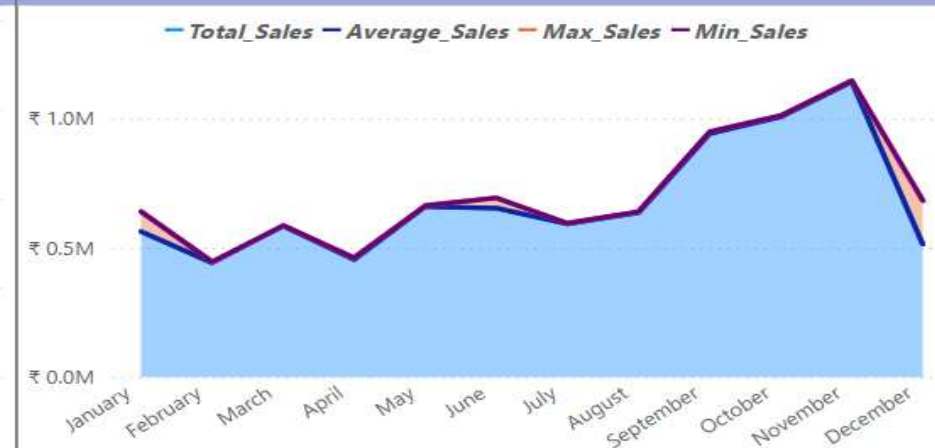
Average Sales by Month



Sales Movement by each Month 2011



2012 Sales Prediction



Company's CMO & CEO s Questions

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.



Insights - 2



Tata Consultancy Service

Select Country

All

Country

1/6/2011

12/8/2011

Overview

Monthly_Revenue

January

₹ 122,107.58

February

₹ 87,980.03

March

₹ 118,356.73

April

₹ 48,786.33

May

₹ 117,861.4

June

₹ 130,762.46

July

₹ 108,830.69

August

₹ 141,770.13

September

₹ 150,070.01

October

Top 10 Revenue Generted Counties

Country	Quantity	Total_Revenue
Netherlands	194025	₹ 275,134.86
EIRE	135128	₹ 253,074.24
Germany	111276	₹ 192,137.41
France	105660	₹ 175,307.63
Australia	83741	₹ 137,138.46
Sweden	32083	₹ 32,994.53
Switzerland	29269	₹ 51,217.03
Spain	26873	₹ 54,002.83
Japan	21923	₹ 29,711.3
Belgium	21220	₹ 35,327.43
Total	761198	₹ 1,236,045.72

Total_Revenue

₹ 1.24M

Total_Quantity

761K

Monthly_Quantity

January

70553

February

52080

March

71953

April

31634

May

71583

June

82456

July

65622

August

87851

September

89960

October

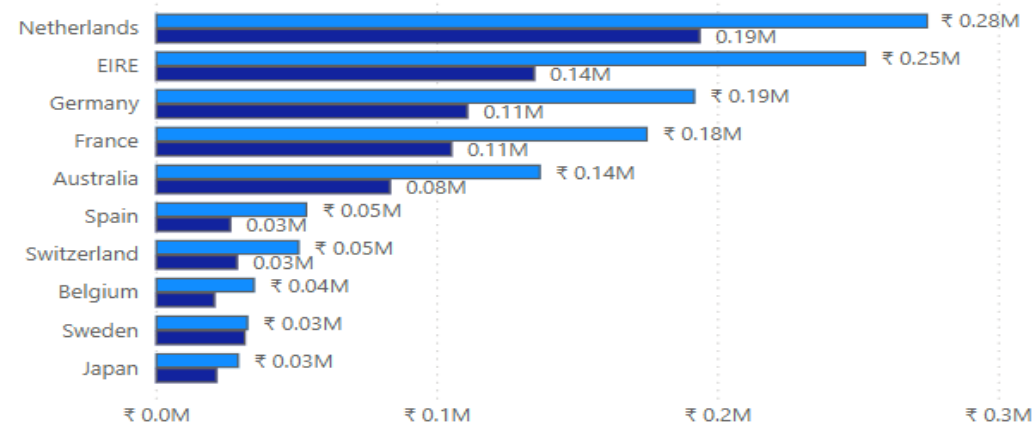
Revenue Anlaysis

Cutomer Analysis

Geography Anlaysis

Total Sales & Quantity sold

● Revenue ● Quantity



Company's CMO & CEO s Questions

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. The CMO wants to target the higher revenue generating customers and ensure that they remain satisfied with their products.



Insights - 3



Tata Consultancy Service

Overview

Revenue Analysis

Customer Analysis

Geography Analysis

Top 10 Customer

CustomerID	Pur_Amt	Product_Count
14646	₹ 270,561.14	1995
18102	₹ 231,822.69	413
17450	₹ 192,361.95	333
16446	₹ 168,472.5	3
14911	₹ 132,598.89	5378
12415	₹ 124,564.53	715
14156	₹ 116,887.88	1392

Revenue Generated (%)

₹ 1,463,969

No. of Products

16,216

List of Ordered Products

10133	COLOURING PENCILS BR...
10135	COLOURING PENCILS BR...
11001	ASSTD DESIGN RACING C...
15036	ASSORTED COLOURS SIL...
15044	PINK PAPER PARASOL
15044	RED PAPER PARASOL
15056	EDWARDIAN PARASOL B...
15056	EDWARDIAN PARASOL N...
15056	EDWARDIAN PARASOL PI...
15058	ICE CREAM DESIGN CAR

Country

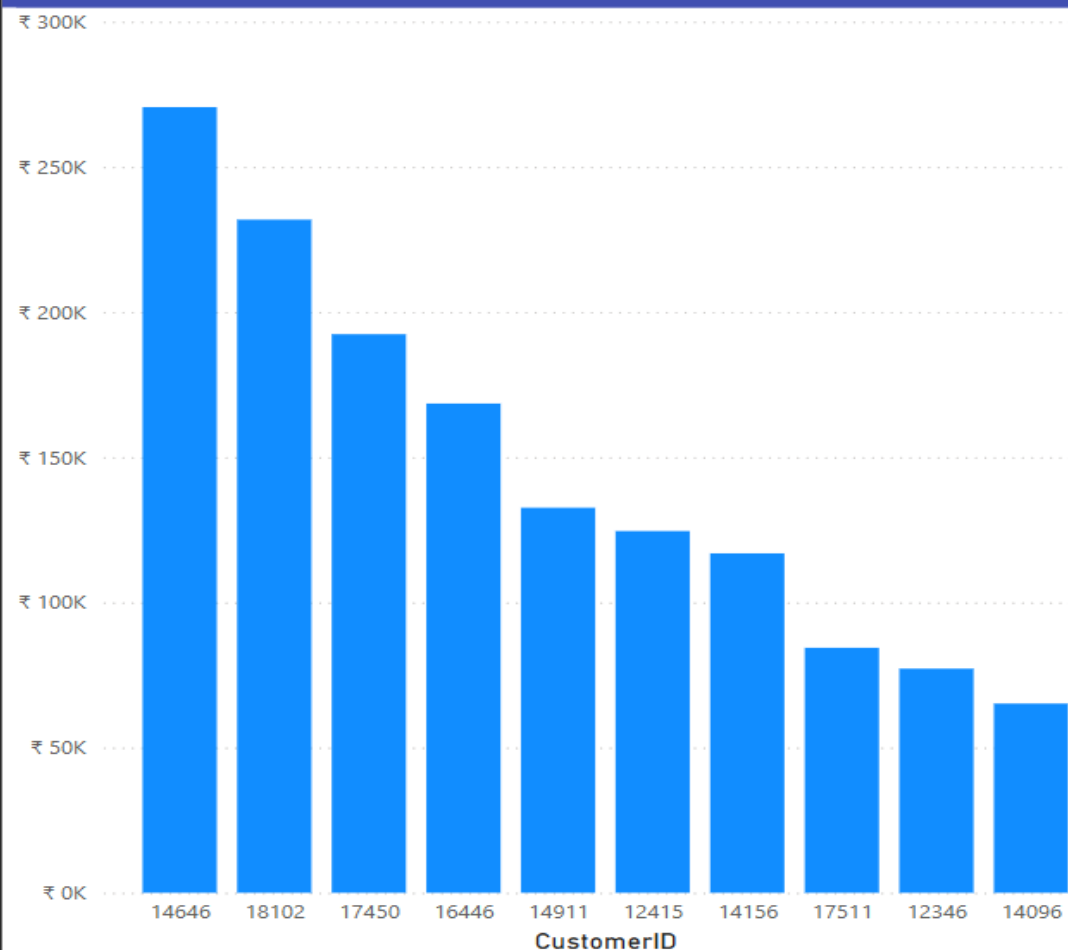
All

Country

1/5/2011

12/9/2011

Top 10 Customer By Revenue



Company's CMO & CEO s Questions

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. Once the CEO gets an idea of the regions that have high demand, he will initiate an expansion strategy which will allow the company to target these areas and generate more business from these regions. He wants to view the entire data on a single view without the need to scroll or hover over the data points to identify the demand. There is no need to show data for the United Kingdom as the CEO is more interested in viewing the countries that have expansion opportunities.



Insights - 4



Tata Consultancy Service

Select Country

All

Country

1/6/2011

12/8/2011

Overview

Revenue Anlaysis

Cutomer Analysis

Geography Anlaysis

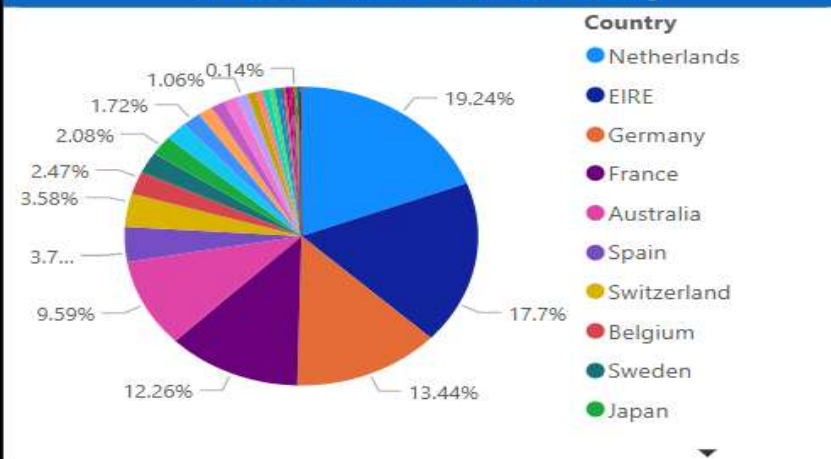
Products Demand in Each Country



Quintity Details Country-wise

Country	No. of items	Quantity_Demand
Germany	47	8158
France	51	7604
EIRE	60	6892
Spain	34	2344
Netherlands	59	2256
Belgium	31	1845
Switzerland	35	1763
Portugal	28	1306
Australia	53	1152
Norway	29	902
Channel Islands	23	729
Italy	23	703

Products Demand in Each Country



Insights key points

- At ₹ 1,142,868.09, November had the highest Sum of Total Amount and was 158.28% higher than February, which had the lowest Sum of Total Amount at ₹ 442,491.09.
- November accounted for 13.95% of Sum of Total Amount.
- Across all 12 Month, Sum of Total Amount ranged from ₹ 442,491.09 to ₹ 1,142,868.09.
- Top 10 Countries generating highest revenue are as per quantity demand

Country name	Quantity	Revenue
Netherlands	194025	\$ 275,134.86
EIRE	135128	\$ 253,074.24
Germany	111276	\$ 192,137.41
France	105660	\$ 175,307.63
Australia	83741	\$ 137,138.46
Spain	26873	\$ 54,002.83
Switzerland	29269	\$ 51,217.03
Belgium	21220	\$ 35,327.43
Sweden	32083	\$ 32,994.53
Japan	21923	\$ 29,711.3



THANK YOU

Created by – Tarun

Power BI Dashboard Link :- [Link](#)