

# **TATA Data Visualisation: Empowering Business with Effective Insights**

## **Task 2: Choosing the Right Visuals**

### Task Overview

#### **What you'll learn**

- How to choose visuals to communicate information effectively

#### **What you'll do**

- Identify the visual which would explain the data and insights in the simplest possible manner

### **Here is the background information on your task**

You have been asked by the CEO and CMO to provide visuals on the metrics that they wish to analyse for the online retail store. You will gather the requirements and provide them with the type of visual that would be best suited to the scenario. The senior management wants to understand how their business is performing and what areas are the key strengths of the company. They are also focused on identifying opportunities that would lead to growth and generate more revenue in the future.

You will be provided multiple visualisation requests by the CEO and you would need to provide the visual which would explain the data and insights in the simplest possible manner. The visual should adequately convey the information that you are trying to present. This exercise is critical to the senior management as any incorrect representation can lead to a wrong message being conveyed, or a wrong decision taken by the management. Therefore, you would need to make sure that the correct visuals are used to represent each set of data.

## **Here is your task**

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.

You will be provided resources on how to select visuals based on the different scenarios; these are available in the resources below. These resources will help you get an idea on which visual to select for the given business scenario and will also guide you on how to choose the right chart or graph for your data. Each question will contain a unique scenario and you will be expected to answer the questions based on that scenario.

To complete this task, answer the multiple-choice quiz. Start the quiz by clicking 'Start your quiz' below. Please note there are 5 multiple choice questions to complete in this task. Please be patient as each question loads.

Q1/5: The CEO of the retail store is interested to view the time series of the revenue data for the entire year. 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. Which visual would most likely help the CEO analyse the data?

- 1) Bar chart
- 2) Line chart
- 3) Pie chart
- 4) Scatter plot

**Great Work!**

That's right! A line chart is used to represent repeated measurements taken over regular time intervals. Time is always displayed on the horizontal axis and values on the vertical axis. The line chart would enable the CEO to see important changes in the data, like seasonality or cyclic behaviour, which will provide a better understanding of the revenue and help forecast better.

Q2/5: The CMO is interested in viewing the top 10 countries which are generating the highest revenue. Additionally, as a subcomponent, they would also like to see which products are contributing to the total revenue being generated by each country. Which visual would enable the CMO to view the revenue for each country and the breakdown by products on a single chart?

- 1) Bar chart
- 2) Pie chart
- 3) Boxplot
- 4) Stacked bar chart

**Great Work!**

That's right! A stacked bar chart would be used here as the chart allows users to compare subcomponent pieces across different categories. The height or length of the bars will represent the total revenue generated by each country. Each bar will be divided into the products sold, where the major portion will be allocated to the products that are generating more revenue. This will allow the CMO to view the total revenue data as well as the revenue for each individual product.

Q3/5: The CEO of the online retail store wants to see how much average revenue is generated by each country. They are interested in viewing the following metrics on the visual: Minimum value First quartile value Median value Third quartile value Maximum value Which chart would you create to show the above metrics for the average revenue generated by each country?

- 1) Scatter plot
- 2) Histogram
- 3) Waterfall chart
- 4) Boxplot

**Great Work!**

That's right! The CEO's request would best be fulfilled using a box plot. The box plot would show the distribution of data based on a five number summary ("minimum", first quartile, median, third quartile, and "maximum"). Boxplots are used to graphically demonstrate the locality, spread and skewness groups of numerical data. Boxplots are used to graphically demonstrate the locality, spread and skewness groups of numerical data. By using the boxplot, we can easily spot outliers and the distribution of the plot.

Q4/5: The CMO of the online retail store wants to view the information on the top 10 customers by revenue. They are 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. Which visual would help the CMO understand the data on revenue generated by the top 10 customers?

- 1) Pie chart
- 2) Stacked bar chart
- 3) Column chart
- 4) Area chart

**Great Work!**

That's right! The CMO's request would best be fulfilled by using a column chart. Column charts are used to display comparisons between different items. Alternatively, you can view a comparison of items over time. In this case, the column chart would display the top 10 customers who are contributing the most to revenue. The first bar on the left would be the longest one and would display information for the customer who bought the most goods from the online store. The revenue contributed by each customer would gradually decline as the bars move to the right.

Q5/5: The CEO is looking to gain insights on the demand for their products. They want 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, they 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. Which chart would be most useful to provide the CEO information on the demand in each region?

- 1) Area chart
- 2) Scatter plot
- 3) Map chart
- 4) Pie chart

**Great Work!**

That's right! — A map chart would be the best option for visuals here as it will allow the CEO to view the demand information on a single view. The map chart will have all the countries on a single map and the demand will be displayed by highlighting the area of each country. Dark highlights would mean that the countries have high demand for products whereas the countries that are highlighted light colour are the ones that have low demand. Geographical data is best visualised using map charts as they are very easy to view and the underlying values are also easy to analyse.