

Helpful Links:

- **A Comprehensive Guide to the Grammar of Graphics**

Click to view website →

<https://towardsdatascience.com/a-comprehensive-guide-to-the-grammar-of-graphics-for-effective-visualization-of-multi-dimensional-1f92b4ed4149>

- **How to Choose the Right Chart for Data Visualisation**

Click to view website →

<https://www.analyticsvidhya.com/blog/2021/09/how-to-choose-the-right-chart-for-data-visualization/>

- **How to Choose the Right Chart for Your Data**

Click to view website →

<https://infogram.com/page/choose-the-right-chart-data-visualization>

- **Additional Resources:**

- **Ultimate Guide to Choosing the Right Visual**

Click to view website →

<https://towardsdatascience.com/ultimate-guide-to-choosing-the-right-visual-2a77aa8eec08>

- **How to Choose the Right Data Visualisation**

Click to view website →

<https://chartio.com/learn/charts/how-to-choose-data-visualization/>

- **Which Type of Chart or Graph is Right for You?**

Click to view website →

<https://www.tableau.com/learn/whitepapers/which-chart-or-graph-is-right-for-you>

Q1. 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?

Ans: Line Chart

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. 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?

Ans : Stacked Bar Chart

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. 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?

Ans: Box Plot

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. 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?

Ans : Column Chart

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. 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?

Ans: Map Chart

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.