Case Study Competition – Preliminary Round

Track	*Data Visualization*
College/University	*University of Calcutta*
Software/tool used	*Power BI*

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What is your data speaking?

- This dataset is a warehouse dataset of a company. There are two sheets in this dataset.

- The first sheet named "List of Orders" is clearly showing the orders that have been placed by various customers of different cities, states, and regions from different countries.

  - The first column of this dataset is showing the Order ID.

  - The second column is about the date of the order which varies from 1st January 2017 to 31st December 2020.

  - The third column is of the Customer Names who have ordered something.

  - The fourth, fifth, sixth, and seventh columns are showing from which cities, states, regions, and countries the orders have been placed.

  - The eighth column is showing the segment of the ordered materials.

- The ninth and tenth columns are about the shipping dates and modes of the orders. The date of shipping varies from 5th January 2017 to 5th January 2021.

- Now we will talk about the second sheet of this dataset named "Order Breakdown".

- It is all about the sales, discounts, and profits of various categories of orders.

  - Here, the first column is showing the Order ID like the previous sheet.

  - Second column is representing the Name of the Products that have been ordered.

  - The third, fourth, and fifth columns are representing the Discounts, Selling Price, and Profits of the corresponding orders.

  - The sixth column is illustrating the no. of ordered quantity of each material.

  - The seventh and eighth column is for Category and Sub-Category of the ordered material of each row.

  - The ninth column is telling the ordered material is successfully sold or returned by the customers.

  - In the last column, the Customer Name who has ordered the material is stated clearly.

Why you chose the visualizations you provided?

- **Clustered bar chart** – The "Sales by Sub-Category" bar diagram shows the top sales sub-category of products in descending order. As it tells that "Bookcases" is the sub-category which has the highest sales over the period in all regions.

- **Line and clustered column chart** – The "Sales and Profit by Year and Quarter" combo line and column chart shows the sales data over the period from 2017 to 2020 along with the corresponding profit trend. Note that, in the 3rd quarter of 2018, the sales were comparatively low, but the profit was the highest of all time.

- **Map** – The "Sales, Profit and Quantity by Country" bubble map shows the intensity of sales across the countries. The darker the bubble, the more the sales. For instance, France has the highest sales record over the period.

- **Treemap** – The "%GT Sales by Ship Mode" treemap shows the percentage of sales shipped by which mode, like 60.15% of sales were done by Economy mode and 20.61% of the total sales were done by Economy Plus mode.

- **Pie chart** – The "Sales and Profit by Region" pie chart shows the percentage and amount of sales executed in three regions, i.e., North, South, and Central. For instance, 56.01% of sales were done in the Central region with over $1.3 million in sales amount.

- **Table** – The table shows the name of customers names with their corresponding sales amount in descending order and that showcases that Angie Massengill has the most sales of $16,146. So, Angie is the most valued customer for the company over this period.

- **Slicer** – There are two slicers, viz., Order Date slicer and Ship Date slicer. They both can be used simultaneously or independently to show all the diagrams accordingly. We change the order dates and get the visuals to understand what happened in that period as well as for the ship dates.

- **Card** – The four cards of Total Sales, Total Profit, Total Quantity, and Total Orders show the according numbers over the whole period from 2017 to 2020. For instance, over $2.3 million of sales was executed throughout the time with over $283K of profit for selling over 30K quantity of products with over 4K number of orders across all the countries.

Explanation/Understanding

- The top 3 sub-categories of products over the whole period with the highest sales are –

  1. Bookcases with $294k sales

  2. Copiers with $290k sales

  3. Phones with $283k sales

- 3rd quarter of 2018 proved to be the most profitable quarter of all time

- Central region has 56.01% of total sales over the period

- Angie Massengill proved to be the most valued customer with a sales amount of over $16K

- Over 30k quantity of products have been sold throughout 3 years across the countries

- There have been over 4k times of orders executed including the returned ones

- Economy mode of shipping has 60.15% of contribution towards the total sales

- The top 3 countries with the most sales are –

  1. France with $609k sales

  2. Germany with $488k sales

  3. United Kingdom with $420k sales

- According to the latest sales record for the month of December 2020 –

  - Copiers have the highest sales of $36k

  - Lara Giles proved to be the most valued customer with $7251 in sales

  - Economy mode of shipping contributes 59.84% towards the total sales

  - Summary (For the month of December 2020):

    ❖ Total sales: $273k

    ❖ Total profit: $34k

    ❖ Total quantity: 3556

    ❖ Total orders: 486