**Economic Sales Data Analysis**

PREPARED BY

**Bhupesh Dhiman**

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**OVERVIEW**

The retail industry is constantly evolving, and XYZ company is at the forefront of this evolution. With operations spanning across the United States, United Kingdom, Germany, and France, XYZ company has a significant presence in key markets.

The primary objective of this data analysis project is to offer valuable insights derived from a thorough examination of XYZ company's economic sales data. By delving into various aspects of sales transactions, including product categories, customer demographics, allowing the potential for analysis at multiple levels, including by product, customer, and location, the aim is to equip XYZ company stakeholders with actionable insights to enhance decision-making processes.

This exploratory data analysis report is to provide the findings that Bhupesh Dhiman conducted on doing a comprehensive analysis of the XYZ company by comparing over 34k unique sales transactions. Through descriptive analysis and visualization techniques, the report seeks to uncover patterns, trends, and opportunities that can inform strategic initiatives across different facets of the business.

From identifying top-selling products to understanding customer behavior and regional dynamics, the analysis aims to offer valuable guidance for content creators, marketers, and decision-makers within XYZ company.

Overall, this data analysis project serves as a valuable resource for XYZ company stakeholders, enabling them to make informed decisions, optimize strategies, and drive business growth in the competitive retail landscape.

**METHODOLOGY**

The researcher conducted a **descriptive analysis** on a dataset obtained from Kaggle and using Microsoft Excel, MySQL, Tableau. Upon completion of the analysis, the researcher explored the data and started generating meaning to the data.

**ANALYSIS**

The Economic Sales dataset, comprising 34,867 unique entries, underwent a comprehensive analysis employing Pivot Tables in Excel, SQL queries, advanced Excel functions such as Goal Seek, and visualization tools like Tableau. This integrated approach facilitated the exploration of sales trends, customer behavior, and profit margins, empowering informed decision-making and strategic planning.

**Result 1:**

Based on the given dataset, the researcher found that United States with over $10 Million leads the ranking of country with most sales followed by United Kingdom, Germany and France.

The result was obtained using MySQL Select statement and was visualized using Tableau. Below mentioned is the query used to retrieve the result:

A close-up of a white background

Description automatically generated

Below is a chart representing the data.

A graph of sales

Description automatically generated

**Result 2:**

Upon analyzing the data, the researcher discovered that the month of June has the highest average of sales followed by May and the sales dropped significantly in the month of July.

The result was obtained using MySQL Select statement and was visualized using Tableau. Below mentioned is the query used to retrieve the result:

**A screenshot of a computer

Description automatically generated**

Following is the data visualization obtained using Tableau:

A graph of blue and green bars

Description automatically generated

**Result 3:**

Although United States leads the sales figures for any country but on analyzing the dataset, the researcher found that Germany leads the country with most average sales followed by France, UK and US.

This result was obtained using SQL queries mentioned below:

**A close up of text

Description automatically generated**

Following is the visualization with countries having most sales in descending order:

A graph of sales

Description automatically generated

**Result 4:**

Despite fluctuations with losses and profits in the sales, after conducting the analysis, the researcher found that June, 2016 and January, 2015 was the months with most and least sales. Following are the queries to retrieve the information:

**A close-up of a computer screen

Description automatically generated**

**A close up of a calendar

Description automatically generated**

**A close up of text

Description automatically generated**

**A close-up of a calendar

Description automatically generated**

**Result 5**

It has also been observed that customers from the age group of 26-40 are the ones ordering the most with the 31-35 being the age group shopping the most. It could be supported by the fact that this age group includes young working professionals who like to shop quite often.

It has also been observed that males shop more than females with numbers as 51.07% and 48.93% respectively and after conducting the analysis, it has been found that Bikes is the preferable product category followed by accessories and clothing with the numbers being maximum for United States.

Please find the visualization of the result for better understanding:

**Result 6**

After conducting the analysis, it has been found that accessories are the most profitable segment followed by clothing and bikes with helmets being the most profitable. It could be supported by the fact that young generation is more interested in these segments and considering the awareness towards fitness, the popularity of bikes, accessories as well as fashion clothing is always prominent in young generation in the demographics mentioned above.

Below is the chart representing the data:

**Result 7**

After thorough analysis of the dataset, it has also been found that despite those high sales figures, there have been significant losses with over half a million in overall losses. It seems that the company is unable to control their losses and despite being the most trending segment, Bikes have the maximum losses with over 90% of the total constituting a total loss of over $475000.

Following is the data obtained from Pivot Table depicting the numbers:



The reason behind based on analysis seems to be the high material cost for manufacturing the bikes.

After successfully completing the analysis, company can easily look through the numbers regarding where they are losing money and what step could be taken to overcome the losses. It has been found that the company is selling bikes at the significantly lower price than their unit cost.

Considering after analysis, the stakeholders decide to achieve a 10% profit on their losses and they want to identify the average price of a product under a loss making segment. This could easily be obtained through advanced Microsoft Excel tool called Goal Seek.

Following is the example of using Goal Seek and identifying the new price to obtain profitability:

A screenshot of a computer

Description automatically generated

A table with numbers and text

Description automatically generated

**Conclusion**

Upon completing the analysis, my conclusion is that XYZ company has achieved greater success with their operations in multiple countries and performing well over the time. But it has also been observed that despite high sales numbers, the company is unable to achieve a big profit as their average sales numbers are considerably lesser.



The reason behind this are the losses that the company is facing and after completing the analysis, the researcher has made few recommendations regarding the products that the company should order more and also the products the company should order loss to maintain profitability.

**Order More Of:**

**Accessories:** This category has a relatively high total quantity sold (64.52%) and contributes significantly to revenue (33.21%). It also has a relatively high profit margin per revenue (16.98%) and per unit (22.58%).

**Tires and Tubes:** While the total quantity sold is high (31.81%), the profit margin per unit is also favorable (22.05%).

**Order Less Of:**

**Bikes** (including Mountain Bikes, Road Bikes, and Touring Bikes): Despite contributing a significant percentage to revenue (51.41% for Bikes), the profit margins per revenue and per unit are relatively low compared to other categories. Considering the low profit margins, the company may consider optimizing their bike offerings or adjusting pricing strategies.

**Clothing** (including Jerseys, Shorts, Socks, and Vests): Although this category contributes to revenue (15.38%), the profit margins per revenue and per unit are lower compared to other categories. It may be worthwhile to reassess the pricing or marketing strategies for these products.

These recommendations are based on a combination of factors including total quantity sold, revenue contribution, and profit margins per revenue and per unit. The company should also consider market trends, customer preferences, and other business factors when making decisions about ordering quantities for each product category.