**SUPERSTORE DATA SETS ANALYSIS**

1. **Define business objectives**

From the dataset from Kraggle: <https://www.kaggle.com/datasets/vivek468/superstore-dataset-final>, here are some questions that can be asked from observing the data:

* 1. What trends can we identify?
  2. What products, regions, categories that the Superstore should target to increase profitability?

1. **Analyze the dataset:**
2. **What are the total sales and total profits for each year**

The years are grouped by order date so we can see the profit by using GROUP BY:

SELECT

YEAR(OrderDateOnly) as Year,

SUM (Sales) as TotalSales,

SUM (Profit) as TotalProfit

FROM superstore

GROUP BY YEAR(Orderdateonly)

ORDER BY year

The query above produced the following result:

A screenshot of a computer

Description automatically generated

The table above shows the profits steadily increased over the years, even though there is a fall in sales in 2015.

1. **What are the Total Sale and Profit per quarter**

SELECT

YEAR(OrderDateOnly) AS year,

CASE

WHEN MONTH(OrderDateOnly) IN (1,2,3) THEN 'Q1'

WHEN MONTH(OrderDateOnly) IN (4,5,6) THEN 'Q2'

WHEN MONTH(OrderDateOnly) IN (7,8,9) THEN 'Q3'

ELSE 'Q4'

END AS quarter,

SUM(sales) AS total\_sales,

SUM(profit) AS total\_profit

FROM superstore

GROUP BY

YEAR(OrderDateOnly),

CASE

WHEN MONTH(OrderDateOnly) IN (1,2,3) THEN 'Q1'

WHEN MONTH(OrderDateOnly) IN (4,5,6) THEN 'Q2'

WHEN MONTH(OrderDateOnly) IN (7,8,9) THEN 'Q3'

ELSE 'Q4'

END

ORDER BY year, quarter;

The code above is done to see the periods when our company has been the most impactful. So that in the future, the company can direct its resources like advertisement, customer service and our overall presence to maximize profits. The code produced the following result:

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Computing the above results into Excel give us the following:

A screenshot of a graph

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The data above shows that quarter 4, which are October, November and December, are our bestselling months. Quarter 4 also brigns in the most profit. Just by seeing this table, we can develop operational strategies as there’s a clear increase of sales and profit through each quarter.

1. What regions generate the most profit:

SELECT Region, SUM(sales) AS TotalSales, SUM(profit) AS TotalProfit

FROM superstore

GROUP BY Region

ORDER BY TotalProfit DESC

From the code above, we have the following result:

A screenshot of a computer

Description automatically generated

The result indicates that the West region is the one with the most sales and brings in the highest profits. The East region is pretty good looking for the company too. Those 2 regions are areas of interest if the company wants to maximize profits and expand business. Concerning the South region, there is not a lot of revenue but still the profits are there. It is the Central region that should be on the watchlist for evaluating as it generates way more revenue than the South region but does not make the same profits over there. Let’s observe each region’s profit margins for further analysis with the following code:

SELECT Region, (SUM(Profit)/SUM(Sales)\*100) AS ProfitMargin

FROM superstore

GROUP BY Region

ORDER BY ProfitMargin DESC

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Profit margins are a measure of a company’s profitability and are expressed as the percentage of revenue that the company keeps as profit. Profit margin of the West and East are really good, both at 14.94% and 13.48% respectively. The South region, despite only has half revenue of the West region, has a good profit margin of 11.93%, which is great. The Central region still need additional attention as its profit margin is the lowest, at 7.92%.