US Regional Sales Report

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Contents

Introduction:

Regional Sales refers to the total sales performance within specific geographic areas of a country, this report centers its attention on the United States region. The analysis of regional sales data plays a vital role in understanding market dynamics, consumer preferences, and economic trends. Regional Sales allows businesses to tailor their marketing and sales strategies to meet the unique demands of each region.

Variations in consumer behavior and purchasing power often exist between different areas, making it important to plan your approach accordingly. Additionally, regional sales analysis helps in identifying growth opportunities and potential challenges within specific markets, enabling companies to allocate resources effectively, improve inventory management, and maximize revenue. Moreover, this dataset is useful for providing insights into regional economic health and aiding in the formulation of targeted policies to promote economic growth and stability.

In essence, the analysis of United States Regional Sales data is a pivotal step in achieving a deeper understanding of the diverse and ever-evolving American marketplace.

Executive Summary:

Project Objective:

The objective of this project is to perform a detailed analysis on sales data to draw out key insights and recommendations which could result in enhancing customer satisfaction, boosting organizational productivity and driving regional sales growth.

Key Insights:

- The repeat customer rate is 100% with C-12 being the highest purchaser.
- Profit increased by 66% between 2018 and 2019, remaining same in 2019 and 2020.
- St-284 store, S-26 sales team, and NMK1003 Warehouse lead in profit. Store St-122 and Product P-8 have high profit despite low cost.
- Customers C-12, C-29 and C-3 are best customers due to high profit and number of orders. High discounts negatively effect the profit.
- In store sales are the most profitable and delivery time should not exceed 30 days.

Immediate Future Actions:

- Offer higher discounts to customers with greater profits and higher order volumes.
- Promote stores, warehouses, and cost-effective products that yield high profits.
- Adhere to the optimal delivery duration to maximize profits while minimizing costs.
- Plan strategically based on both high and low-profit months.
- Reward sales teams that have delivered high profits while managing costs efficiently, and closely monitor underperforming teams to enhance their productivity.

About the Dataset:

The open-source dataset is taken from **Kaggle**:

https://www.kaggle.com/datasets/talhabu/us-regional-sales-data

This dataset offers a thorough understanding of sales in various regions of the United States through different sales channels, such as In-Store, Online, Distributor, and Wholesale. Comprising 17,992 rows and 15 columns, it contains a vast array of information, covering everything from specific order and product details to key sales performance metrics. It provides a comprehensive view of sales transactions and customer interactions, facilitating in-depth analysis of sales patterns, trends, and possible opportunities.

Data Wrangling:

The csv data file was extracted using **Microsoft Excel**. The Data Wrangling operations were performed using **Power Query** in Microsoft Excel. Some of the performed operations were:

- Header Promotion
- Removal of Duplicates
- Filtering Columns
- Correcting Data Types
- Adding Prefixes

Data Transformation:

Data Transformation was done by using **Power Query** and Pivot tables were made using **Power Pivot** in **Microsoft Excel**. Some of the performed operations were:

- Removal of Irrelevant Columns
- Addition of calculated columns for further comparisons
- Addition of calculated measures for in-depth study.
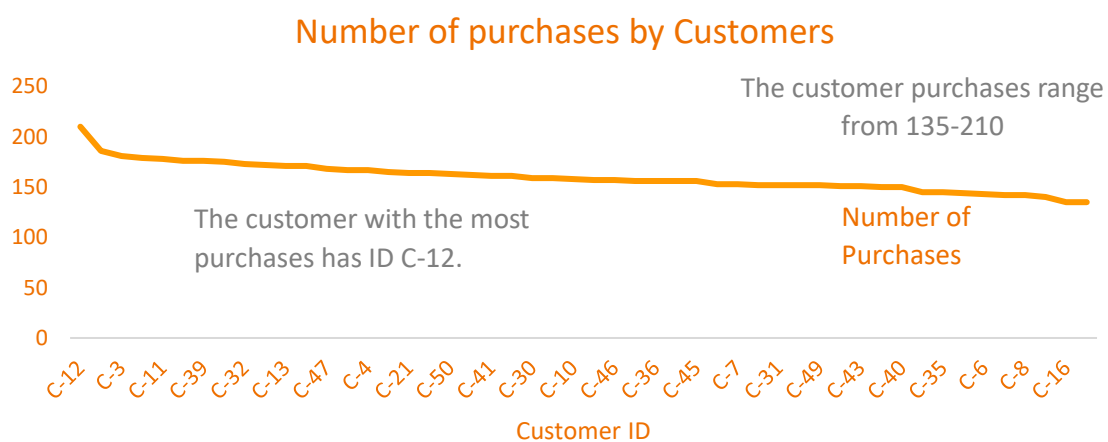- Creation of specific pivot tables for analysis and visualizations

Data Visualizations and Insights:

Three specific charts were produced using **Microsoft Excel**. For a more thorough analysis, six dashboards were created using **Microsoft Power BI**, featuring various visualizations. These interactive dashboards were designed to allow users to personalize their experience. Each visualization was made with a specific objective in mind. The most useful visualizations and dashboards containing the obtained insights are detailed below.

Charts:

1. The first visualization is showing the number of purchases for each customer using their Customer ID.

Chart 1

Number of purchases by Customers

The customer purchases range from 135-210

The customer with the most purchases has ID C-12.

Number of Purchases

Customer ID

The overall repeat customer rate is 100%. This shows that all the customers have multiple purchases and the customers with most purchases are important.

2. This visualization is showing sales cycle length of stores.

Chart 2

Sales Cycle Length of Each Store

The sales cycle length ranges from 32 to 99.

St-26 is the best closer with the shortest sales cycle

Sales Cycle Length

Store ID
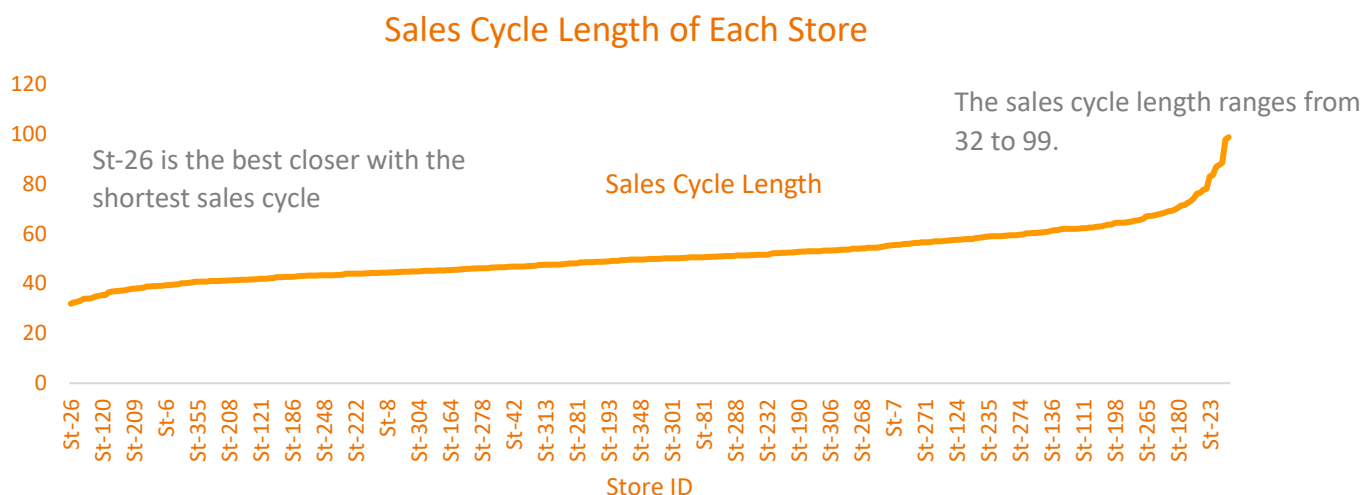
The stores with shorter sales cycle should be given more leeway in sales operations whereas those with longer sales cycle need to determine why it takes longer for them to close sales.

3. This visualization shows a pivot table that summarizes the percentage of year on year growth in Revenue.

Chart 3

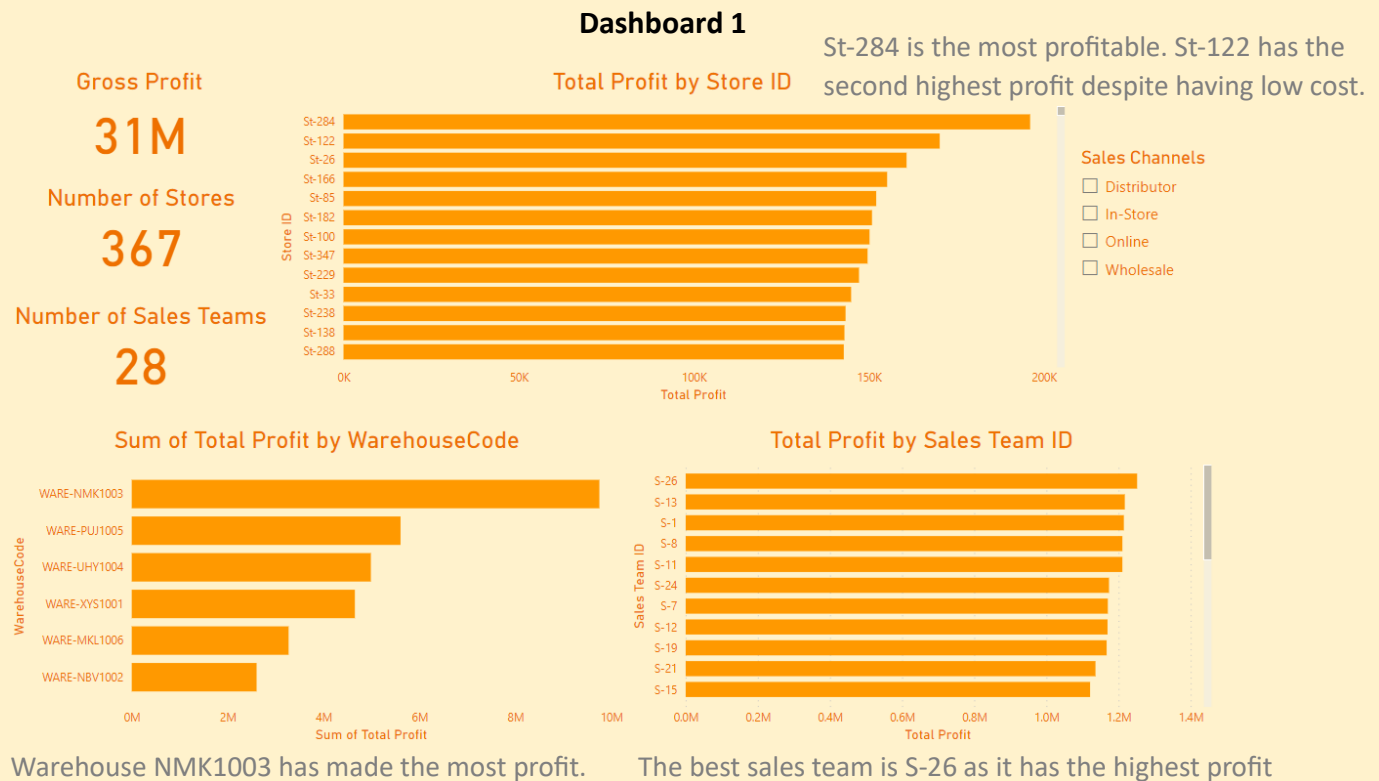| YEARS	Sum of Total Profit	Change in Revenue	YOY Growth %
2018	7138111.43		
2019	11861063.63	$4,722,952.20	66.17%
2020	11875482.66	$14,419.03	0.12%
Grand Total	**30874657.72**	**$4,737,371.23**	**66.37%**

There is a big jump in profit between years 2018 and 2019 with a growth of 66%.
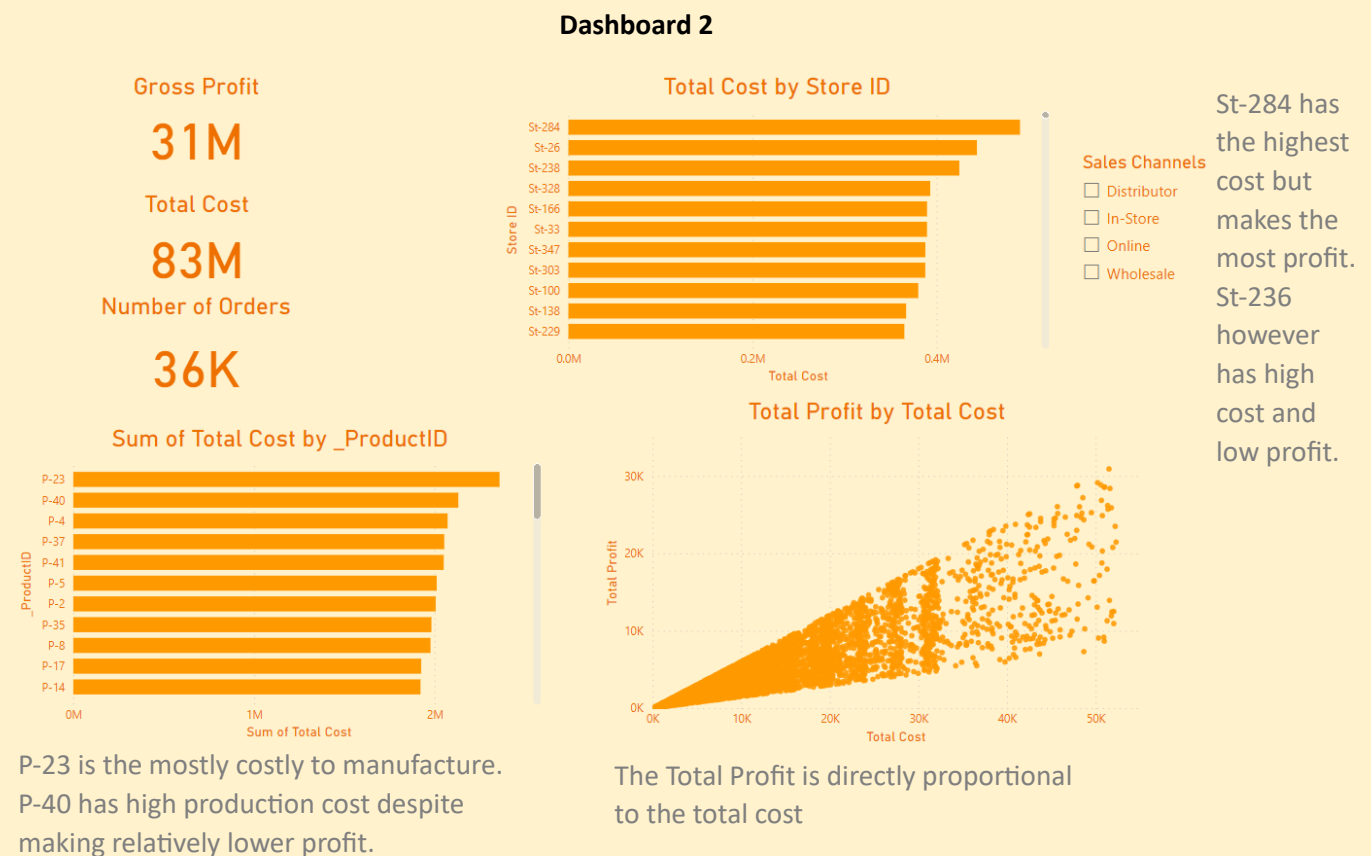
The profit remains nearly the same in year 2019 and 2020.

The reasons for the big jump in profit need to be determined and the same principles are to be applied in future to ensure a steady growth.

Dashboards:

1. The first dashboard visualizes the total profit for stores, warehouses and sales teams.

Dashboard 1

St-284 is the most profitable. St-122 has the second highest profit despite having low cost.

Gross Profit

31M

Number of Stores

367

Number of Sales Teams

28

Total Profit by Store ID

Sales Channels
☐ Distributor
☐ In-Store
☐ Online
☐ Wholesale

Sum of Total Profit by WarehouseCode

Total Profit by Sales Team ID

Warehouse NMK1003 has made the most profit.

The best sales team is S-26 as it has the highest profit

2. The second dashboard displays the total cost against stores, products and profit.

Dashboard 2

Gross Profit

31M

Total Cost

83M

Number of Orders

36K

Total Cost by Store ID

Sales Channels
☐ Distributor
☐ In-Store
☐ Online
☐ Wholesale

St-284 has the highest cost but makes the most profit. St-236 however has high cost and low profit.

Sum of Total Cost by _ProductID

Total Profit by Total Cost

P-23 is the mostly costly to manufacture. P-40 has high production cost despite making relatively lower profit.

The Total Profit is directly proportional to the total cost

3. The third dashboard presents information about the product ID using profit, discount and number of orders

Dashboard 3

P-23 is the most profitable product. P-8 has high profit and low cost

Gross Profit

31M

Number of Products

47

Number of Orders

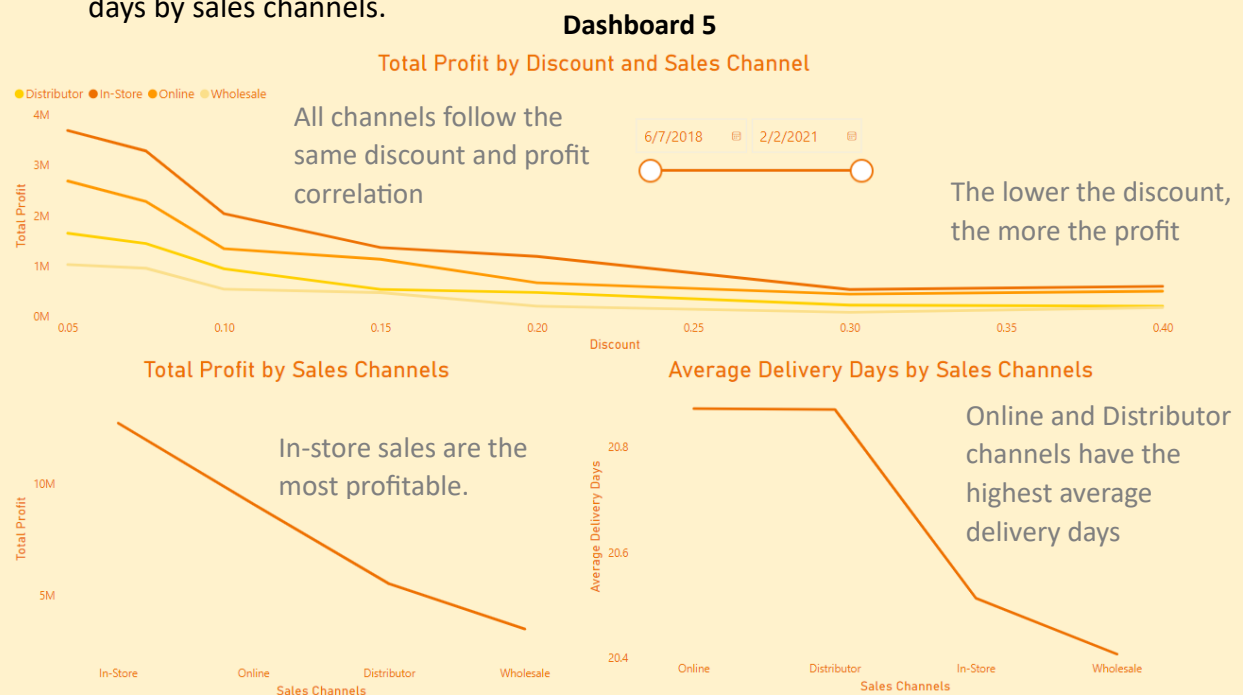**36K**

Total Profit by Product ID

Sales Channels
- ☐ Distributor
- ☐ In-Store
- ☐ Online
- ☐ Wholesale

Average of Discount Applied by Product ID

Sum of Order Quantity by _ProductID

P-8 is the most discounted product followed by P-4

P-23 has the most orders followed by P-37

4. This dashboard shows information about the customers on the basis of profit, discount and number of orders.

Dashboard 4

Total Profit by Customer ID

C-12 and C-29 have generated the most profit.

Gross Profit

31M

Number of Customers

50

Number of Orders

36K

Sales Channels
- ☐ Distributor
- ☐ In-Store
- ☐ Online
- ☐ Wholesale

Average of Discount Applied by Customer ID

Number of Orders by Customer ID

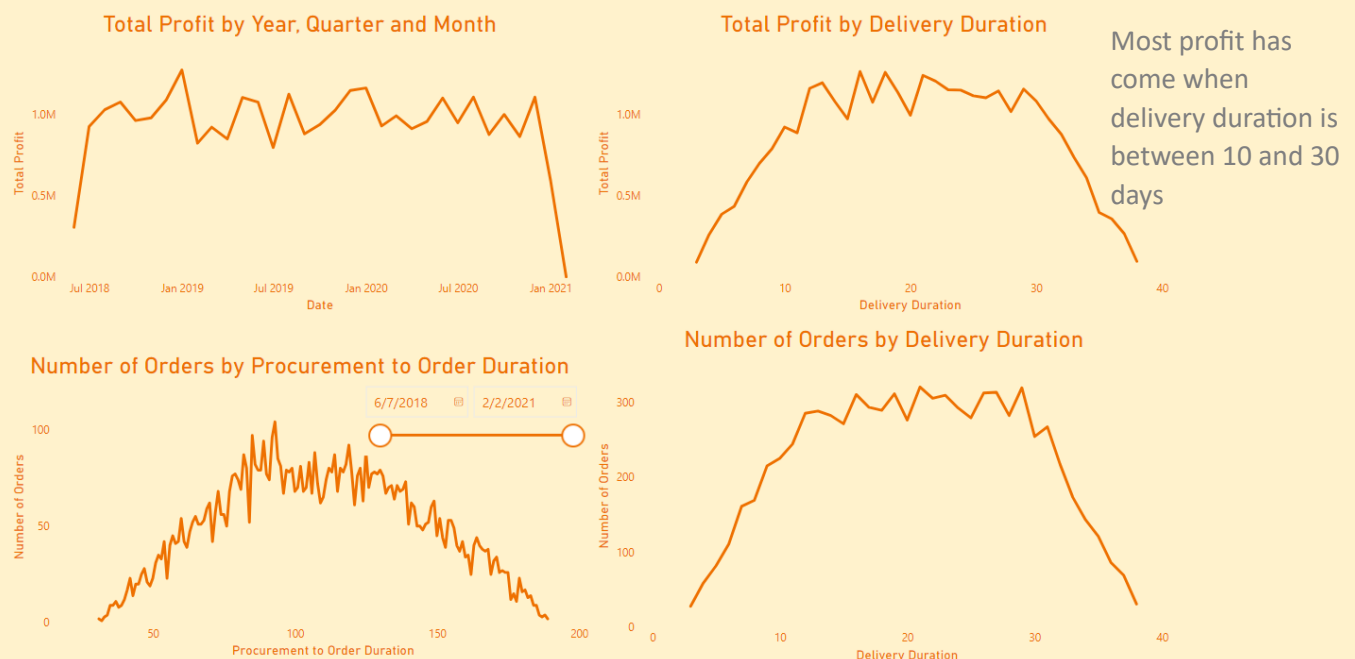C-24, C-32 and C-38 have bought the most discounted products

C-12 and C-3 have the highest number of orders
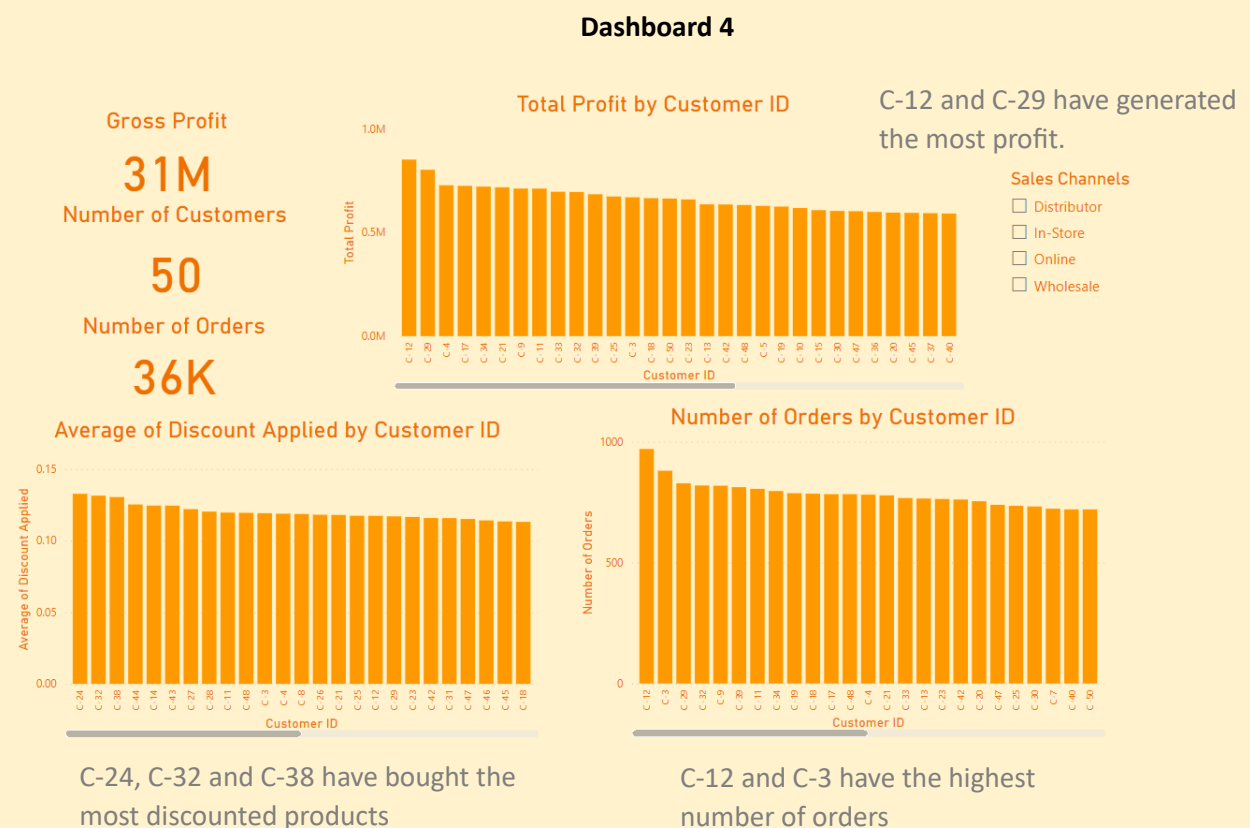
5. The fifth dashboard displays the distribution of profit, discount and average delivery days by sales channels.

Dashboard 5

Total Profit by Discount and Sales Channel

● Distributor ● In-Store ● Online ● Wholesale

All channels follow the same discount and profit correlation

6/7/2018   2/2/2021

The lower the discount, the more the profit

Total Profit by Sales Channels

In-store sales are the most profitable.

Average Delivery Days by Sales Channels

Online and Distributor channels have the highest average delivery days

6. The final dashboard illustrates different timeseries charts to understand the relation of profit and orders by different timeseries factors.

Dashboard 6

The profit peaks over January but remains fairly consistent throughout the years

Total Profit by Year, Quarter and Month

Total Profit by Delivery Duration

Most profit has come when delivery duration is between 10 and 30 days

Number of Orders by Procurement to Order Duration

6/7/2018   2/2/2021

Number of Orders by Delivery Duration

The general timeframe for orders to transition from procurement to order initiation falls within the range of 80 to 120 days.

Most orders take from 10 to 30 days to delivers

Analysis Conclusions:

1. The repeat customer rate is 100%, indicating that all customers make multiple purchases, with C-12 being the highest purchaser. **(Chart 1)**
2. St-26 is the top performing store with a short sales cycle, and profit increased by 66% between 2018 and 2019, remaining same in 2019 and 2020. **(Chart 2, Chart 3)**
3. St-284 store, S-26 sales team, and NMK1003 Warehouse lead in profit, with St-122 following St-284 closely despite lower costs. **(Dashboard 1)**
4. Store St-284 is high in cost but highly profitable, while St-236 has high costs and lower profit. Product P-23 is the costliest to produce, and P-40 has relatively high production costs with lower profit. Total profit positively correlates with costs. **(Dashboard 2)**
5. P-23 is the most profitable product, with P-8 having high profit and low costs. P-23 receives the most orders, followed by P-37. P-8 is the most discounted, with P-4 following. **(Dashboard 3)**
6. Customers C-12 and C-29 generate the most profit, while C-24, C-32, and C-38 buy the most discounted products. C-12 and C-3 have the highest order counts. **(Dashboard 4)**
7. All channels show the same correlation between discount and profit: lower discount leads to higher profit. In-store sales are the most profitable, with Customers C-12 and C-3 having the highest order counts, **(Dashboard 5**)
8. Profit peaks in January and remains consistent throughout the year. Most profit occurs with delivery durations of 10 to 30 days. Orders typically take 80 to 120 days from procurement to initiation and 10 to 30 days for delivery. **(Dashboard 6)**

Considerations to keep in mind:

1. The dataset is not inclusive of all the details regarding all the sales in United States. As a result, the accuracy of this information is confined to the scope of the provided dataset.
2. Apart from the discussed metrics there are many other metrics like state of the economy that effect the regional sales.

Recommendations:

1. Offer higher discounts to customers with greater profits and higher order volumes, while reducing discounts for those with fewer orders and lower profits.
2. Promote stores, warehouses, and cost-effective products that yield high profits.
3. Adhere to the optimal delivery duration to maximize profits while minimizing costs.
4. Plan strategically based on both high and low-profit months.
5. Recognize and reward sales teams that have delivered high profits while managing costs efficiently, and closely monitor underperforming teams to enhance their productivity.