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**Introduction:**

Most towns with a lot of people have more and more stores, and market competition is also very high. The dataset is a record of one of the company's past sales, which has been kept in 3 different locations for 3 months. This information makes it easy to use predictive data analytics methods. This project provides a brief overview of the Supermarket sales of the one company, which has been kept in 3 different places for 3 months.

**Domain:**

Supermarket Sales

**Data File:**

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**Data Source:**

[**https://www.kaggle.com/datasets/aungpyaeap/supermarket-sales**](https://www.kaggle.com/datasets/aungpyaeap/supermarket-sales)

**Number of Rows:** 1000

**Number of Columns**: 17

Here are the meanings of each column in the Supermarket Sales dataset:

* Invoice id: A computer-made sales slip with an invoice number
* Branch: A branch of a supercenter. There are three branches, marked A, B, and C.
* City: Where supercenters are
* Customer Type: Type of customer, which is kept track of by Members for customers with a member card and by Normal for customers without a member card.
* Gender: Type of customer by gender
* Product line: Electronic accessories, fashion accessories, food and drinks, health and beauty, home and living, sports and travel, and other general groups of items.
* Unit price: How much each item costs in $
* Quantity: number of items a customer bought
* Tax: 5% tax on customer purchases
* Total: Price total, including tax
* Date: Date of buying. Record is available from January 2019 to March 2019.
* Time: 10 a.m. to 9 p.m.
* Payment: There are three ways for a customer to pay for an item: cash, a credit card, or an e-wallet.
* COGS: Cost of goods sold
* Gross margin percent: Gross margin percent
* Gross income: Total money made.
* Rating: Customers rate their shopping experience generally on a range from 1 to 10.

**Visualization tools selected:**

I have used Excel and Tableau to visualize the charts for the goals prepared.

**Data Cleaning Strategies:**

The dataset which was found I the source has some unwanted data; I have removed the time column and put only the Date column in the data set.

**Cleaned Data Set:**

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**Goal 1: Analyze the total Revenue over the different product lines and the average unit price of the product.**

A screenshot of a computer

Description automatically generated

**Story:** After Analyzing the above chart the Food and beverages, Sports and travel and Electronic and accessories product lines made the most money, possibly because they had higher-priced things. This was found by looking at the total income for each product line and the average unit price in the Supermarket Sales dataset. On the other hand, sales were lower for the health and beauty and Home and lifestyle product lines. When the average unit prices of each product line were looked at, it was clear that high-end tech things were driving sales. These findings can help the store make better decisions about marketing, goods, and price so that it can make more money.

**Goal 2: To visualize the total gross income of the various product lines**

A screenshot of a computer

Description automatically generated

**Story:** Through visualizing the data, we found that the Food and beverages, Electronics Accessories, Sports and travel and Home and Living product lines brought in the most money for the Supermarket Sales dataset. These results show how important the customer desire for tech and goods for the home is to the supermarket's sales. The picture makes it easier to make strategic decisions and shows how important it is to improve product options and marketing strategies in these high-profit product lines.

**Goal 3: Analyze the relationship between gender and average quantity of items purchased in the Supermarket Sales**

A screenshot of a computer

Description automatically generated with medium confidence

**Story:** The study of the above side-by-side bars showed that, on average, male customers bought a few more things than female customers. Also, in food and beverages female customers bought almost 90 quantities it is more than male customers. This shows how important it is to understand and meet the needs of people of different genders to make the most money in the store.

**Goal 4: Analyze the total revenue by city in the Supermarket Sales**

A screenshot of a computer

Description automatically generated

**Story:** The above pie chart gives the Supermarket Sales total income by city showed that Naypyitaw made the most money of 110569, followed by Yangon of 106200, while Mandalay made less money. These results tell us a lot about how the money comes in from different places. This helps the store make smart decisions about where to put resources and how to grow.

**Goal 5: Analyze payment methods and average customer ratings in the Supermarket Sales.**

A screenshot of a computer

Description automatically generated

**Story:** By looking at the above bar chart, it was found that credit cards were the most common way for customers to pay, followed by cash and e-wallets. The average customer review showed that shopping was a good experience and the average rating for the credit cards is 7.00 and it is good compared to the other ones. This shows how important it is for the store to offer different ways to pay and put customer happiness first.

**Goal 6: To visualize the average cost of goods sold(cogs) in different sectors in supermarket**

A screenshot of a computer

Description automatically generated

**Story:** The lollipop chart showed that the Home and lifestyle has the highest average COGS with the 320.61, followed by the Sports and travel sector has 316.25. The Fashion accessories sector, on the other hand, had a smaller average COGS of 290.56. These results can help the store make decisions about price tactics, product management, and sector-specific cost efficiency.

**Dashboard**

A screenshot of a computer

Description automatically generated

Here is the dashboard showing total revenue and average rating and total gross income over the different product lines.

**StoryBoard1**A screenshot of a computer

Description automatically generated

**StoryBoard2**

A screenshot of a computer

Description automatically generated

**Conclusion:**  In this project I tried to show the data in different ways, like with a Pie chart, Tree map, Lollipop chart, side-by-side bars, packed bubbles, or a Bar Graph. With the above charts and stories, I've shown different situations. I've made the plans easier to see by using different colors. Lastly, I used a Dashboard to see the whole situation.