Super Market Sales Analysis Report

PROJECT OVERVIEW:

This project focuses on analyzing and visualizing supermarket sales data to gain valuable insights into sales performance, customer behavior, and product trends. The dataset includes information about customer demographics, sales transactions, product categories, and taxes, providing a comprehensive foundation for exploring various aspects of the business.

Objective:

The main goal is to make a clear and useful Power BI report. This report will help answer important questions about sales, customers, and products. It will also help in making better decisions for improving sales, attracting customers, and managing stock.

Data Dictionary:

The dataset contains the following columns:

1. **Gender**: Represents Male or Female Customers.
2. **Invoice ID**: A unique identifier for each sales transaction.
3. **Branch**: Represents the branch where the sale occurred. Dataset includes 3 branches: A, B & C.
4. **City**: The city where the branch is located.
5. **Customer Type**: Specifies whether the customer is a "Member" or a "Normal" customer.
6. **Product Line**: Includes the category of the products.
7. **Unit Price**: The price of a single unit of the product.
8. **Quantity**: The number of units purchased in the transaction.
9. **Tax 5%**: The tax applied to the transaction, which is calculated as 5% of the total purchase value.
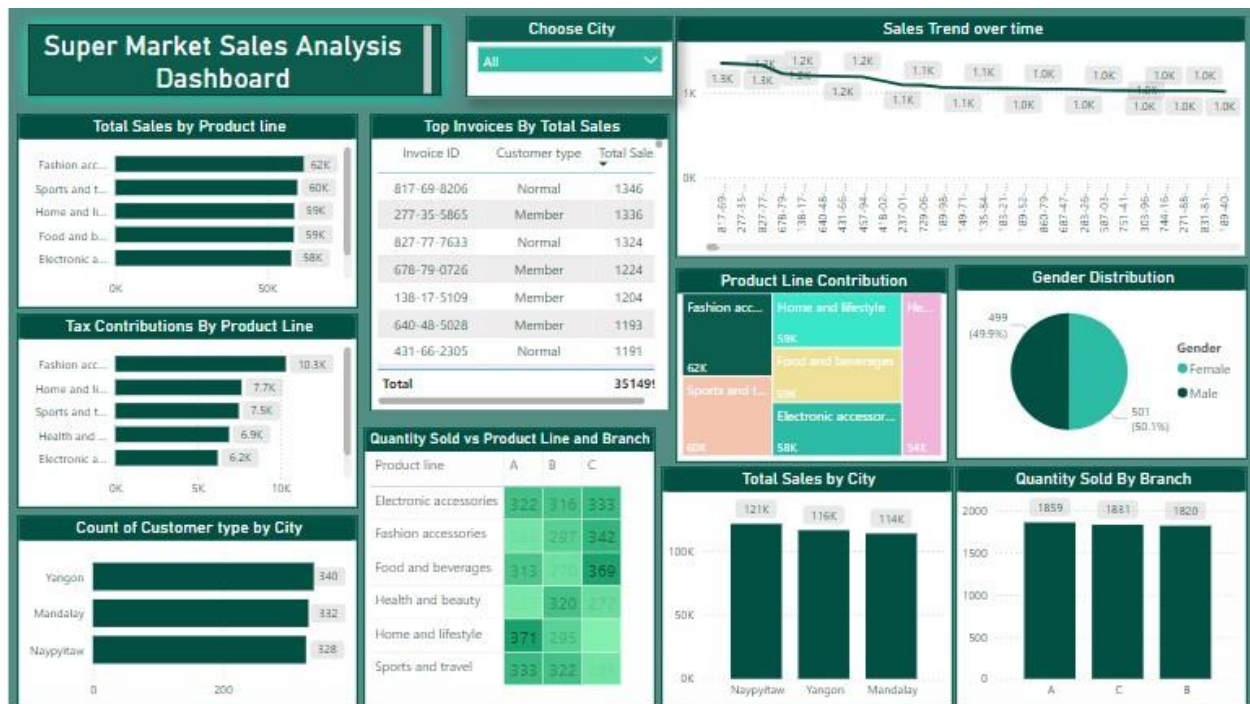
Results:

1. **Power BI Dashboard**:

1. Simple visuals to show sales trends, customer behavior, and product performance.
2. Filters to explore data by branch, city, and product categories.

2. Key Insights:

1. Which product lines or cities are doing well.
2. How members and non-members shop differently.
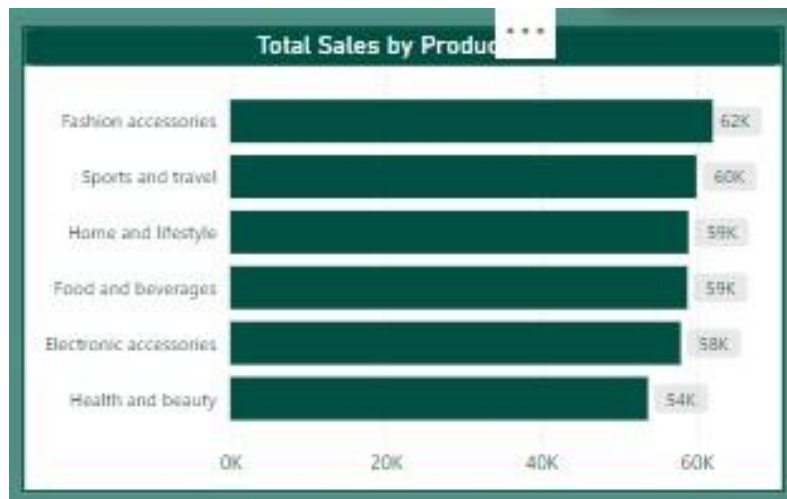3. Where improvements can be made to grow sales.

Power Bi Dashboard:

Problem Statement:

Q1. Which product line generates the most revenue?

Visualization:

Total Sales by Product

Category	Sales
Fashion accessories	62K
Sports and travel	60K
Home and lifestyle	59K
Food and beverages	59K
Electronic accessories	58K
Health and beauty	54K

This bar graph shows that which of the product category is generating the most revenue. It can be seen that the fashion accessories demand is the highest generating the highest revenue from the other categories. The sales figures are relatively close across categories, showing a balanced demand for most products.

## Q2. How does the quantity sold vary across branches?

Visualization:

Quantity Sold By Branch

Branch	Quantity
A	1859
C	1831
B	1820

With the help of a clustered column chart we have identified the quantity sold by each branch. The differences in quantities sold are minimal, indicating that all three branches perform consistently in terms of sales volume. This balance suggests that the supermarket chain has an evenly distributed customer base across its branches, with no branch significantly outperforming or underperforming.

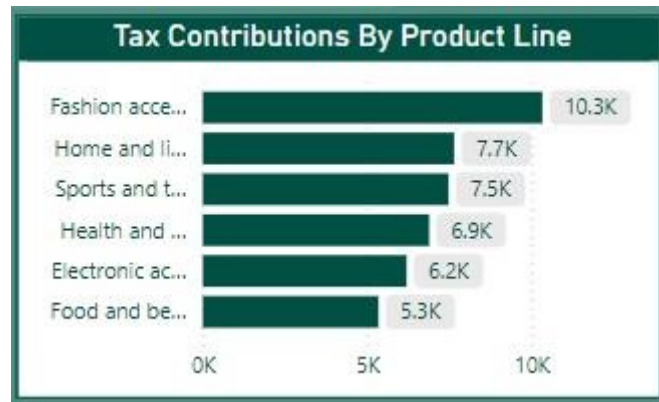## Q3. What is the gender distribution of customers?

Visualization:
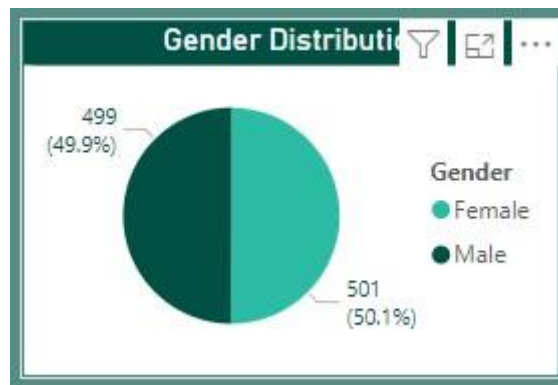
A pie chart shows that the distribution of male and female consumers is almost equal, suggesting that there is no obvious gender gap in the supermarket's customers.

Q4. Which product line contributes the most tax?

Visualization:

Tax Contributions By Product Line

Product Line	Value
Fashion acce...	10.3K
Home and li...	7.7K
Sports and t...	7.5K
Health and ...	6.9K
Electronic ac...	6.2K
Food and be...	5.3K

The Fashion Accessories product line contributes the highest tax revenue, aligning with its status as the top revenue generator. Other product lines, such as Sports and Travel, also contribute significantly.

Q5. What are the top-sales by each city?

Visualization:

Total Sales by City

City	Value
Naypyitaw	121K
Yangon	116K
Mandalay	114K

The bar chart by city shows that Yangon leads in total sales, followed by Naypyitaw and Mandalay. This suggests that Yangon is a key market for the supermarket chain.

Q6. What is the trend of sales over time?

Visualization:

Sales Trend over time

1346	1236	1204		1186		1091	1060		1048	1043	1034		1022		1020	1008
	1324	1193													1022	
			1191		1135	1086		1052	1045	1039		1024		1021	1012	1005

The line chart displays a consistent upward trend in sales over time, indicating growing customer engagement and successful sales strategies.

Q7. Which branch contributes the most revenue and how does it compare across product lines?

Visualization:

Quantity Sold vs Product Line and Branch

Product line	A	B	C
Electronic accessories	322	316	333
Fashion accessories	263	297	342
Food and beverages	313	270	369
Health and beauty		320	277
Home and lifestyle	371	295	
Sports and travel	333	322	265

Using the heat map, we have identified that Branch A generates the most revenue, with Fashion Accessories standing out as the top-performing category across all branches. This reflects the high demand for this product line. Branch C and Branch B also contribute significantly to overall revenue, showcasing a well-balanced performance across multiple product lines. These insights underline the consistent operations and customer engagement across all branches, with opportunities to further maximize revenue by focusing on high-demand categories and tailoring strategies for each branch.

Q8. What is the relationship between the number of units purchased and the total revenue?
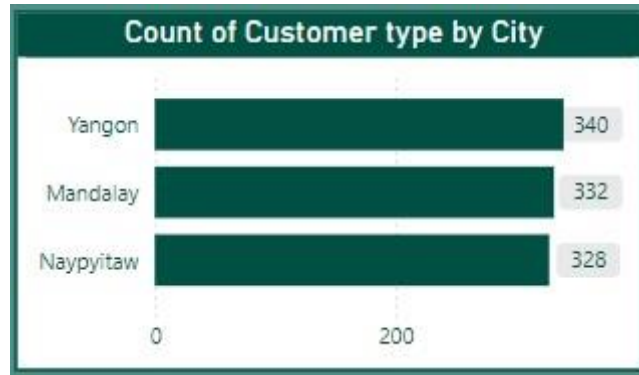
Visualization:

A scatter plot shows a positive correlation between the number of units purchased and total revenue. Larger quantities purchased generally lead to higher revenue, emphasizing the importance of bulk sales.

Q9. Which city had the most customers?

Count of Customer type by City

City	Count
Yangon	340
Mandalay	332
Naypyitaw	328

From the customer distribution chart, Yangon emerges as the city with the highest number of customers, reinforcing its status as a top-performing location.

Q10. Do members contribute more sales compared to normal customers?

Total sales contribution By Customer Type

Customer Type	Sales
Member	179K
Normal	172K
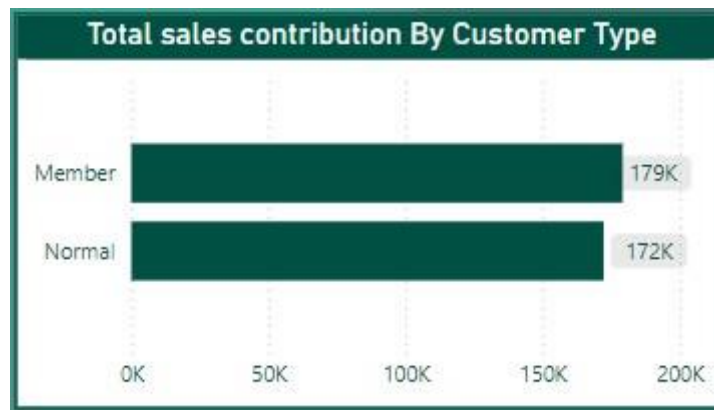
The bar chart indicates that Members consistently contribute higher sales than Normal Customers, highlighting the value of loyalty programs and customer memberships.

Conclusion:

The analysis provides detailed insights into product performance, customer demographics, and branch contributions. Fashion Accessories emerge as the top-performing category, while Yangon leads in sales and customer base. Branch A consistently performs well, but other branches are not far behind. These findings highlight the supermarket chain's operational consistency and opportunities for targeted improvements, such as boosting sales in Health and Beauty and increasing engagement in Mandalay. By leveraging these insights, the supermarket can refine its strategies and optimize its operations for future growth.