

Supermarket Sales Analysis Dashboard

Project Overview

This project presents a comprehensive analysis of supermarket sales data across multiple branches. Using Power BI, we've created an interactive dashboard that offers stakeholders clear insights into sales performance, customer behavior, and product line effectiveness.

Data Source

The dataset includes sales information from three branches of a supermarket chain, covering various aspects such as customer types, product lines, and branch-specific performance.

Dashboard Components

1. Time-Based Analysis

- **Time Series Chart**: Displays daily sales trends over the analyzed period.
- **Key Performance Indicators (KPIs)**: Shows total sales, average daily sales, total transactions, and average daily transactions.
- **Month-over-Month Comparison**: Visualizes sales performance across different months.
- **Day of Week Analysis**: Highlights sales patterns for each day of the week.

Key Insights:

- Identified peak sales periods and potential seasonal trends.
- Determined the most profitable days of the week for targeted marketing efforts.

2. Customer Type Analysis

- **Clustered Column Chart**: Compares average purchase amounts between member and normal customers, segmented by gender.
- **Table**: Provides detailed view of average purchase amounts and ratings for each customer segment.

Key Insights:

- Female members have the highest average purchase amount.
- Slight variations in customer ratings across different segments.

3. Product Line Performance

- **Stacked Bar Chart**: Visualizes total sales for each product line.
- **Table**: Details total sales and average ratings for each product category.
- **Gauge Chart**: Displays overall average rating across all product lines.

Key Insights:

- Food and beverages is the top-selling product line.
- Health and beauty products have the highest average customer rating.
- All product lines maintain average ratings between 6.8 and 7.1 out of 10.

4. Branch Performance Analysis

- **Clustered Column Chart**: Compares total sales across different cities/branches.
- **Map Visual**: Provides a geographical representation of sales distribution.
- **Donut Chart**: Shows the distribution of transactions across branches.
- **KPI Cards**: Display total sales, total transactions, and average sales per transaction.

Key Insights:

- Naypyitaw (Branch C) leads in total sales despite having the lowest number of transactions.
- Yangon (Branch A) has the highest number of transactions.
- Relatively small variation in total sales between branches, indicating consistent performance.

Conclusions and Recommendations

1. **Customer Engagement**: Develop targeted strategies to increase engagement with non-member customers, particularly males, to boost their average purchase amounts.
2. **Product Focus**: While food and beverages lead in sales, there's potential to promote health and beauty products given their high customer satisfaction ratings.
3. **Branch Efficiency**: Investigate and potentially replicate the efficiency model of the Naypyitaw branch, which achieves the highest sales with fewer transactions.
4. **Time-Based Strategies**: Implement promotional activities during identified peak sales periods and on the most profitable days of the week.