



Supermarket Sales Analysis



DATA VISUALIZATION WITH POWER BI: STORYTELLING WITH DATA

Introduction

In this project, we aim to achieve two key learning objectives: preparing and exploring data for visualization using Power BI, and building a comprehensive report with various visuals, graphs, and data storytelling techniques. The focus will be on analyzing a three-month sales dataset from a supermarket to derive meaningful insights and actionable recommendations.

Throughout this project, we will introduce the core principles of data storytelling and demonstrate how to effectively communicate insights through an executive summary and a well-designed cover page. By the end, you will be equipped with the skills to create compelling data-driven reports that help inform decision-making.

Data Overview

- **Invoice ID:** Unique identifier for each transaction.
- **Branch:** Represents different branches of the supermarket (A, B, C).
- **City:** Cities where the branches are located (Yangon, Naypyitaw, Mandalay).
- **Customer Type:** Indicates if the customer is a "Member" or "Normal" (non-member).
- **Gender:** Gender of the customer (Male, Female).
- **Product Line:** The category of the product being sold (e.g., Health and beauty, Electronic accessories, Home and lifestyle).
- **Unit Price:** Price of a single unit of the product.
- **Quantity:** Number of units sold in the transaction.

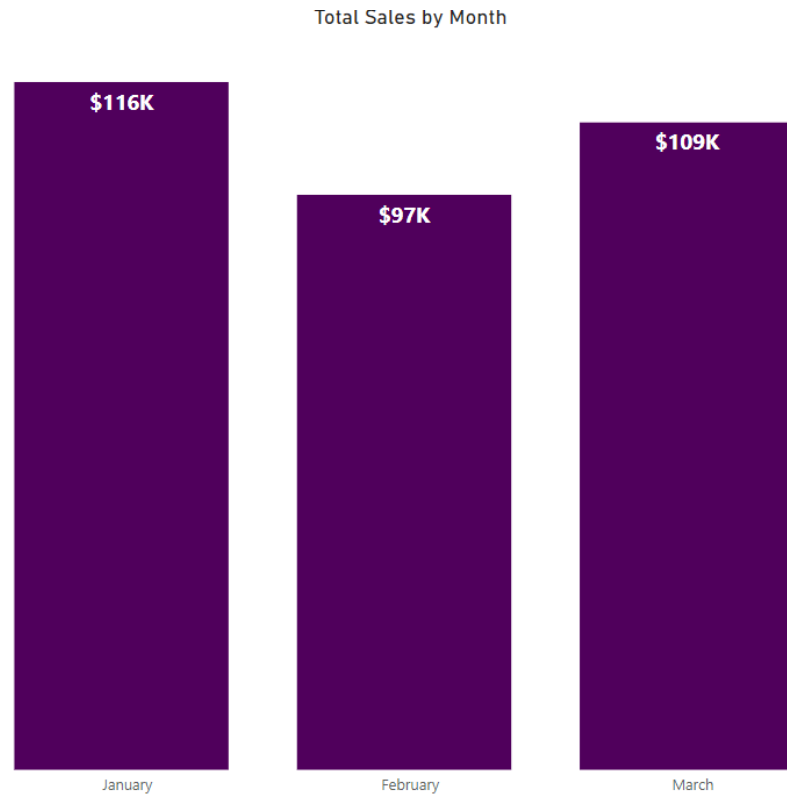
Data Overview

- **Tax 5%:** The tax applied on the total sales, calculated as 5% of the sales.
- **Sales:** The total revenue generated from the transaction, including tax.
- **Date and Time:** The date and time when the transaction occurred.
- **Payment:** The payment method used (e.g., Ewallet, Credit card, Cash).
- **Cost of Goods Sold (COGS):** The direct cost of producing the goods sold in the transaction.
- **Gross Margin Percentage:** This is consistently at 4.76% for all transactions, indicating the percentage of sales retained after the cost of goods sold is accounted for.
- **Gross Income:** Profit earned from the transaction after deducting COGS and tax.
- **Rating:** Customer rating of the purchase experience, on a scale of 1 to 10.

Data Overview

- The data captures detailed transaction information over time, including customer demographics, payment methods, and product categories.
- The sales figures are broken down into gross income and tax, which allows for precise financial tracking of each transaction.
- Customer feedback is included in the form of ratings, which could be used for analyzing customer satisfaction trends over time.

Total Sales by Month



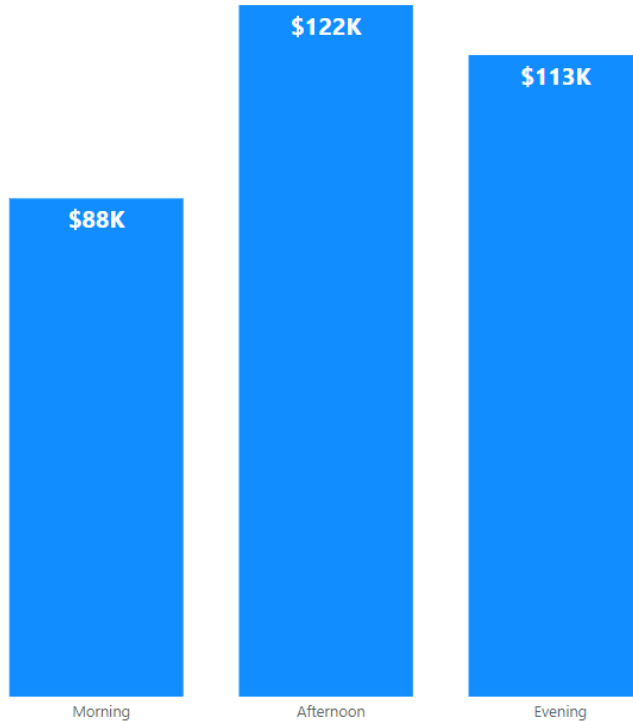
January accounted for **36.01%** of the Total sales .

Total sales **dropped by 19.62% in February** , but improved in March overall.

Main reason is February have 28 days .

Total Sales by Time of Day

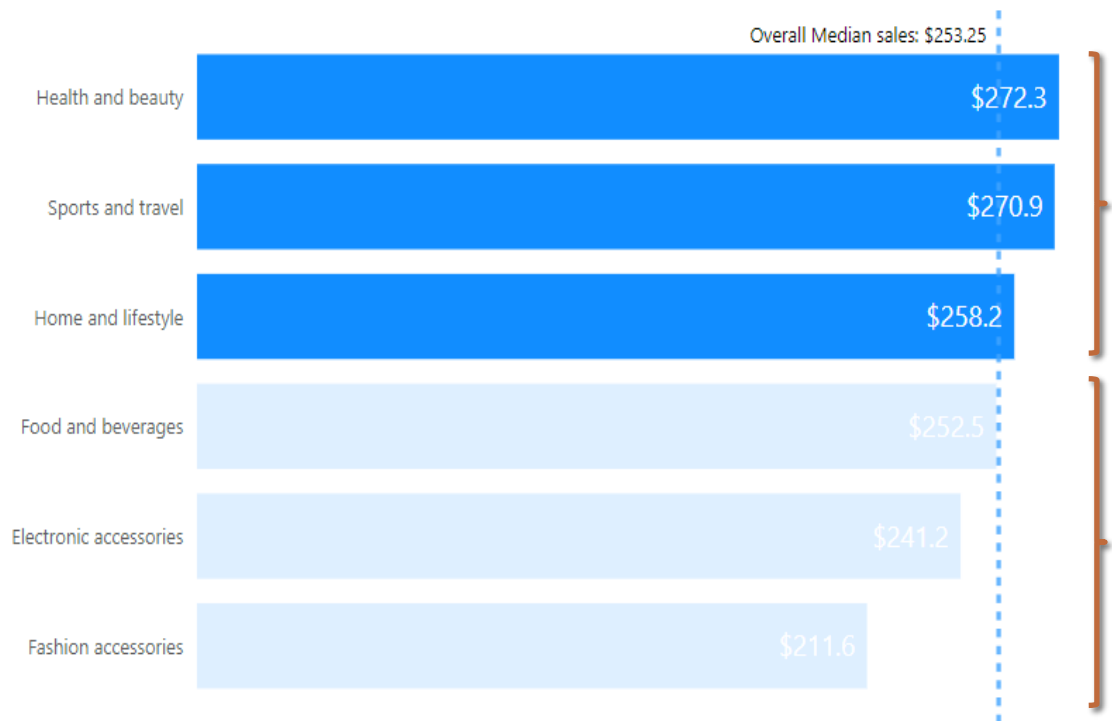
Total sales by Time of Day



Due to most people commuting to work around **8:30AM**, morning sales tend to be **lower** in comparison to sales during the afternoon & evening

Open the supermarkets earlier at 8:00AM to increase morning sales.

Median sales Across Product Line

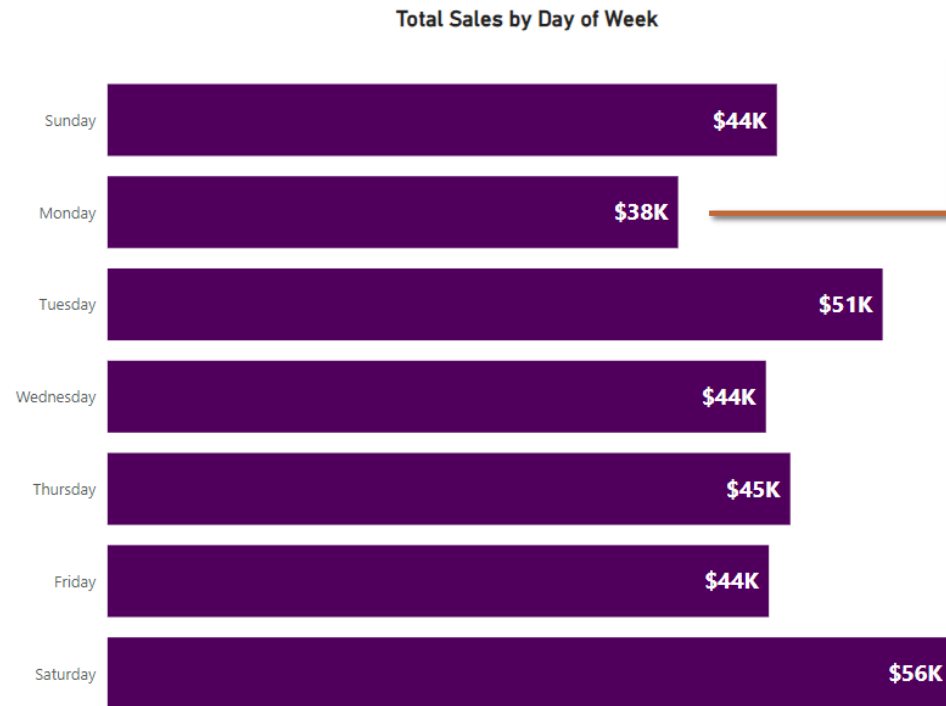


Re-evaluate the pricing strategy of the three products lines below the overall median sales value of \$253.85 .

The categories with sales **above** the median are Health & Beauty, Sports & Travel, and Home & Lifestyle.

The categories with sales **below** the median are Food & Beverage, Electronic Accessories, and Fashion Accessories.

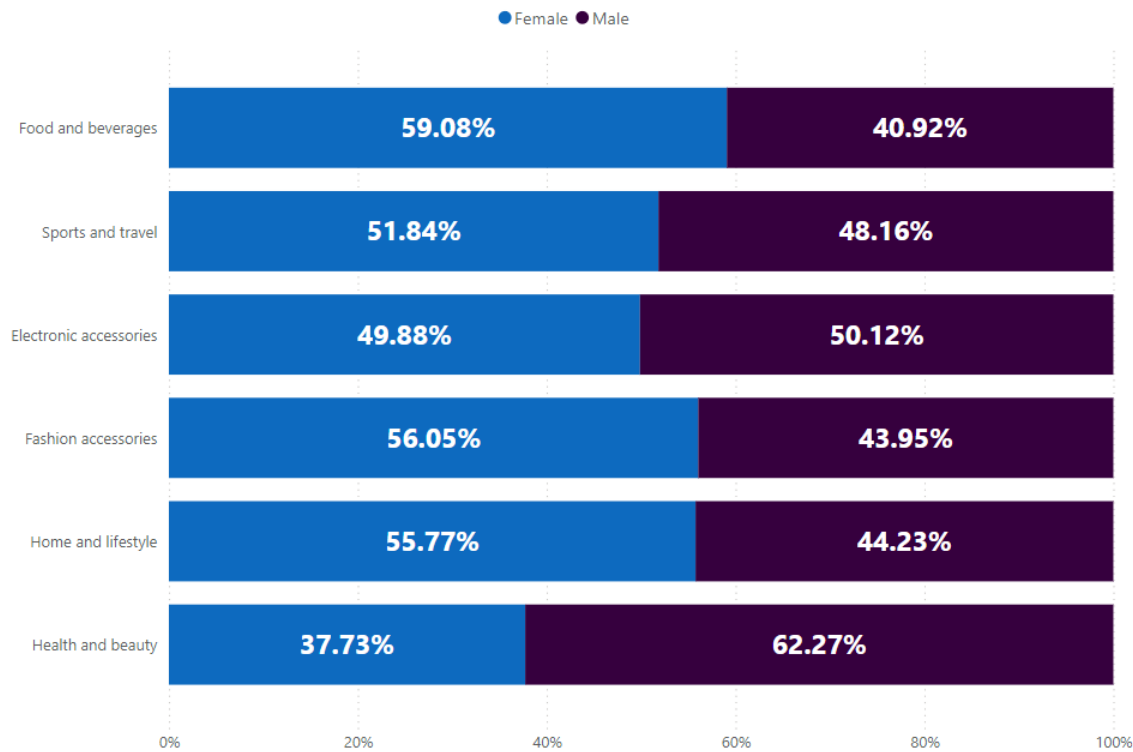
Total Sales by Day of Week



Sales was marginally lower on monday than other days of the week.

Pls give more discounts and incentives to increase sales on mondays

Total Sales by Product Line and Gender



There is a huge difference (>20%) in the buying patterns of female and male on health and beauty products.

Cover Page

Supermarket Sales Report

Report for a supermarket for three months sales data



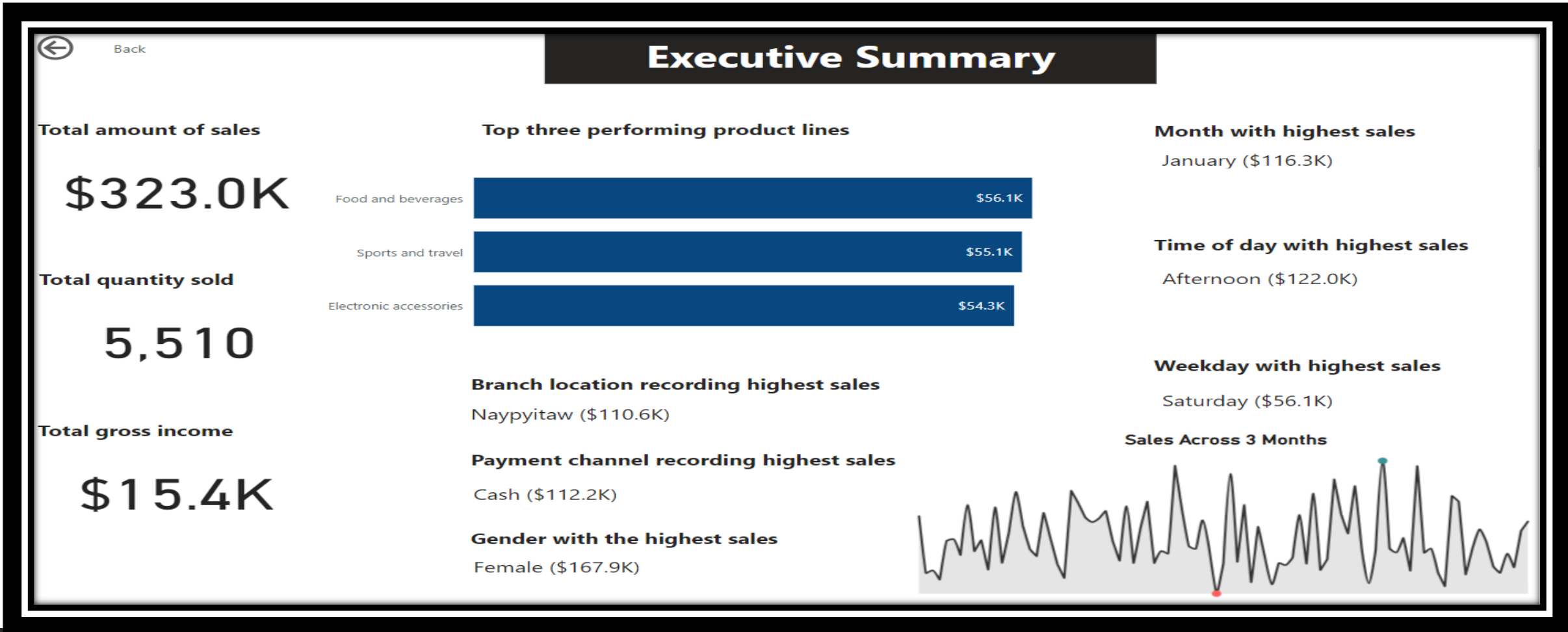
Executive Summary

Trend Analysis

Product Analysis

Report prepared by: Aashirwad Mehare

Executive Summary



Thank You !

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