A blue background with orange text and graphics

Description automatically generated

Dissanayake Mudiyanselage Nelum Chathurani

* Data Science / Data Analytics Intern -

Sales Data Analysis - Walmart

Table of Contents

[**1. Introduction** 2](#_Toc175613388)

[**2. Analysis Overview** 2](#_Toc175613389)

[**3. Detailed Findings** 2](#_Toc175613390)

[3.1 Gross Income per Product Line 2](#_Toc175613391)

[3.2 Unit Price per Branch and City 3](#_Toc175613392)

[3.3 Gross Income per Gender and Product Line 4](#_Toc175613393)

[3.4 Most Common Payment Methods 4](#_Toc175613394)

[3.5 Total Sales by Branch 5](#_Toc175613395)

[**4. Key Insights and Recommendations** 6](#_Toc175613396)

[**5. Conclusion** 7](#_Toc175613397)

# 

# **1. Introduction**

The dataset used for this analysis was obtained from the Kaggle Walmart Sales Forecasting Competition. It consists of sales transactions from three different branches of Walmart located in Mandalay, Yangon, and Naypyitaw. The dataset comprises 17 columns and 1000 rows, capturing details such as invoice ID, branch, city, customer type, gender, product line, pricing information, tax details, date of purchase, payment method, and customer ratings.

# **2. Analysis Overview**

The analysis was conducted using Tableau to explore various aspects of the sales data. Five sheets were created to delve into different dimensions of the dataset:

* Sheet 1: Gross Income per Product Line
* Sheet 2: Unit Price per Branch and City
* Sheet 3: Gross Income per Gender and Product Line
* Sheet 4: Most Common Payment Methods
* Sheet 5: Total Sales by Branch

Each sheet provides insights into specific metrics and relationships within the dataset, aiming to uncover patterns and trends that can inform business decisions.

# **3. Detailed Findings**

## 3.1 Gross Income per Product Line

The analysis of gross income per product line reveals significant variations in revenue generation across different categories. The top-performing product lines in terms of gross income include food and beverages, while health and beauty has less gross income. This insight suggests potential areas for strategic focus in product promotion and inventory management.

A colorful stripes on a white background

Description automatically generated

## 3.2 Unit Price per Branch and City

A colorful lines with black text

Description automatically generatedExamining unit prices across branches and cities shows noticeable differences in pricing strategies. For instance, products in branch C tend to have higher unit prices compared to others. Understanding these variations can help optimize pricing strategies to align with local market dynamics and customer preferences.

## 3.3 Gross Income per Gender and Product Line

A graph of different colored bars

Description automatically generatedUpon analyzing gross income by gender and product line, a notable pattern emerges in the Health and Beauty category. Specifically, the gross income generated by male customers in this category is significantly higher compared to female customers. This finding suggests distinct purchasing behaviors and preferences between genders within the Health and Beauty product line. This information can guide targeted marketing campaigns and product positioning strategies to enhance customer engagement and satisfaction.

## 3.4 Most Common Payment Methods

The analysis of payment methods across transactions reveals that cash is the most frequently used payment method. This finding sheds light on the prevalent customer preference for cash transactions at Walmart branches in Mandalay, Yangon, and Naypyitaw. This insight is crucial for optimizing payment processing systems and improving customer convenience during checkout.

A pie chart with numbers and a diagram

Description automatically generated

## 3.5 Total Sales by Branch

Total sales analysis by branch shows that branch C consistently outperforms others in terms of revenue generation. Understanding the factors contributing to this performance can provide valuable insights for replicating successful strategies across all branches or implementing tailored approaches to boost sales in specific regions.

A graph of a graph

Description automatically generated with medium confidence

# **4. Key Insights and Recommendations**

Based on the findings from the analysis, the following key insights and recommendations are proposed:

* **Optimize Product Line Strategies:** Focus on promoting top-performing product lines and consider adjusting inventory levels for underperforming categories.
* **Localized Pricing Strategies:** Implement dynamic pricing strategies based on regional differences in unit prices to maximize profitability.
* **Targeted Marketing Campaigns:** Tailor marketing efforts to capitalize on gender-specific purchasing behaviors identified in the analysis.
* **Enhance Payment Processing:** Streamline payment methods to accommodate the preferences of customers using the most common payment methods.
* **Regional Sales Strategies:** Replicate successful sales strategies from high-performing branches to other locations, while also exploring unique approaches to address regional market dynamics.

# **5. Conclusion**

In conclusion, the analysis of the Walmart sales data has provided valuable insights into consumer behavior, product performance, and regional sales dynamics. By leveraging these insights, Walmart can optimize its operations, enhance customer satisfaction, and drive sustainable growth in the competitive retail market.