**Walmart Sales Analysis Report**

**Problem Statement:**

The project aims to explore the Walmart Sales data to understand top performing branches and products, sales trend of different products, customer behaviour. The aims is to study how sales startergies can be improved and optimized. The dataset was obtained from the Kaggle Walmart Sales Forecasting Competition.

**Purpose of The Project:**

The major aim of the project is to gain insights into the sales data of Walmart to understand the different factors that affect sales of the different branches.

**About Data:**

The dataset was obtained from the Kaggle Walmart Sales Forecasting Competition. This dataset contains sales transactions from a three different branches of Walmart, respectively located in Mandalay, Yangon and Naypyitaw. The data contains 17 columns and 1000 rows.

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| --- | --- | --- |
| Columns | Description | DataType |
| invoice\_id | Invoice of the sales made | VARCHAR(30) |
| branch | Branch at which sales were made | VARCHAR (5) |
| city | The location of the branch | VARCHAR(30) |
| customer\_type | The type of the customer | VARCHAR(30) |
| gender | Gender of the customer making purchase | VARCHAR(10) |
| product\_line | Product line of the product solf | VARCHAR(100) |
| Unit\_price | The price of each product | DECIMAL(10,2) |
| quantity | The amount of the product sold | INT |
| VAT | The amount of tax on the purchase | FLOAT(6,4) |
| total | The total cost of the purchase | DECIMAL(10,2) |
| date | The date on which the purchase was made. | DATE |
| time | The time at which the purchase was made | TIME |
| payment\_method | The total amount paid | VARCHAR(15) |
| cogs | Cost of goods sold | DECIMALl(10,2) |
| gross\_margin\_pct | Gross margin percentage | FLOAT(11,9) |
| gross\_income | Gross income | DECIMAL (12,4) |
| rating | rating | FLOAT (2,1) |

**Conclusions:**

**Top Performing Branches:** By analyzing the sales data across different branches, it was identified that certain branches consistently outperformed others in terms of sales revenue. These top performing branches can serve as benchmarks for understanding successful sales strategies that can be replicated in other branches.

**Product Performance:** The sales data provided insights into the performance of various products across different branches. Some products exhibited steady sales throughout the analyzed period, while others showed seasonal fluctuations or sudden spikes in demand. Understanding these patterns can help in optimizing inventory management and marketing strategies for different products.

**Sales Trends:** Analysis of sales trends revealed fluctuations in sales volume over time. By identifying these trends, Walmart can anticipate demand changes and adjust their strategies accordingly. For instance, seasonal trends or promotional periods can be capitalized upon to maximize sales.

**Customer Behavior:** The dataset allowed for the exploration of customer behavior patterns, such as purchasing frequency, preferred products, and shopping trends across different demographics. Understanding customer behavior is crucial for tailoring marketing campaigns and product offerings to meet the needs and preferences of Walmart's diverse customer base.

**Sales Strategy Optimization:** Insights gained from the analysis can be leveraged to optimize sales strategies. This includes improving product placement, pricing strategies, promotional activities, and inventory management to enhance overall sales performance across branches.

**Forecasting and Planning:** Utilizing the sales data, predictive models can be developed to forecast future sales trends, enabling Walmart to proactively plan inventory, staffing, and promotional activities. This proactive approach can lead to better resource allocation and improved efficiency in meeting customer demand.

**Competitive Analysis:** Benchmarking Walmart's sales performance against competitors in the retail industry can provide valuable insights into market positioning and areas for improvement. Understanding the competitive landscape can guide strategic decision-making aimed at enhancing Walmart's market share and profitability.