# Walmart Sales Analysis

## Data Analyst: Rhom Joshua Garcia

## Client/Sponsor: Walmart Branch Operations & Sales Management

## Purpose:

This project aims to analyze Walmart’s sales data to uncover insights about branch performance, customer purchasing behavior, and profitability trends. The goal is to provide data-driven recommendations that will help the business improve sales, enhance customer satisfaction, optimize inventory allocation, and identify high-margin opportunities.

## Scope / Major Project Activities:

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| --- | --- |
| ACTIVITY | DESCRIPTION |
| Data Cleaning and Preparation | Format numerical fields (unit price, profit margin), parse dates/times, handle missing or inconsistent data, and ensure dataset is analysis-ready. |
| Exploratory Data Analysis (EDA) | |  | | --- | | Perform initial descriptive analysis to understand distributions, trends, and anomalies in sales, ratings, and profit margins. |  |  | | --- | |  | |
| Sales Performance Analysis | |  | | --- | | Evaluate revenue, quantity sold, and profit margin by city, branch, product category, and time period. |  |  | | --- | |  | |
| Customer Behavior Analysis | |  | | --- | | Investigate patterns in payment method usage, spending habits, and ratings across different locations and product categories. |  |  | | --- | |  | |
| Profitability & Category Analysis | |  | | --- | | Identify high-margin products and branches, and determine factors that drive higher profitability. |  |  | | --- | |  | |
| Visualization & Dashboard Development | Create interactive dashboards to display insights in a user-friendly way. |
| Insights and Recommendations | Summarize findings and provide actionable business recommendations to improve sales strategy and operations. |

## This project does not include:

* Predictive modeling or forecasting of future sales.
* Integration with live transactional databases.
* Operational implementation of recommendations.

## Deliverables:

* Clean, well-documented sales dataset ready for analysis.
* EDA summary report highlighting key trends and patterns.
* Visual dashboards showing sales performance, customer behavior, and profitability metrics.
* Final insights and recommendations report for decision-makers.

## Schedule Overview / Major Milestones:

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| --- | --- | --- |
| Milestone | Expected Completion Date | Description/Details |
| Data Cleaning and Preparation Completed | Day 1 – [Aug 11, 2025] | Dataset cleaned, all columns correctly formatted, missing data handled, date/time parsed. |
| EDA Completed | Day 2 – [Aug 12, 2025] | Summary statistics created, initial trends identified, anomalies noted. |
| Sales Performance Analysis Completed | Day 3 – [Aug 13, 2025] | Revenue, quantity sold, and margins analyzed by city, branch, category, and time period. |
| Customer Behavior Analysis Completed | Day 4 – [Aug 14, 2025] | Payment preferences, rating patterns, and spending habits evaluated. |
| Profitability & Category Analysis Completed | Day 5 – [Aug 15, 2025] | High-margin products and branches identified, correlations between price, quantity, and margin explored. |
| Dashboard Created | Day 6 – [Aug 16, 2025] | Interactive dashboard designed with filters and drill-down capabilities. |
| Final Report & Recommendations Completed | Day 7 – [Aug 17, 2025] | Full project write-up with insights, visuals, and business recommendations delivered. |

## \*Estimated date for completion: August 17, 2025