BRIGHTLEARN SALES CASE STUDY

By Mokgadi Lekoloana - 27 October 2025

INTRODUCTION

This case study focuses on analyzing a simulated dataset titled “Sales Case Study.csv”, which captures daily trading data for a single retail product. The dataset includes key variables such as Date, Sales, Cost of Sales, and Quantity Sold, providing insights into daily sales performance.

OBJECTIVES

1. Calculate key metrics (daily unit price, average price, gross profit %, and gross profit per unit).

2. Identify three promotional periods and determine Price Elasticity of Demand (PED).

3. Derive additional insights through visualizations, dashboards, and KPIs to support data-driven decisions..

SUMMARY OF ANALYSIS

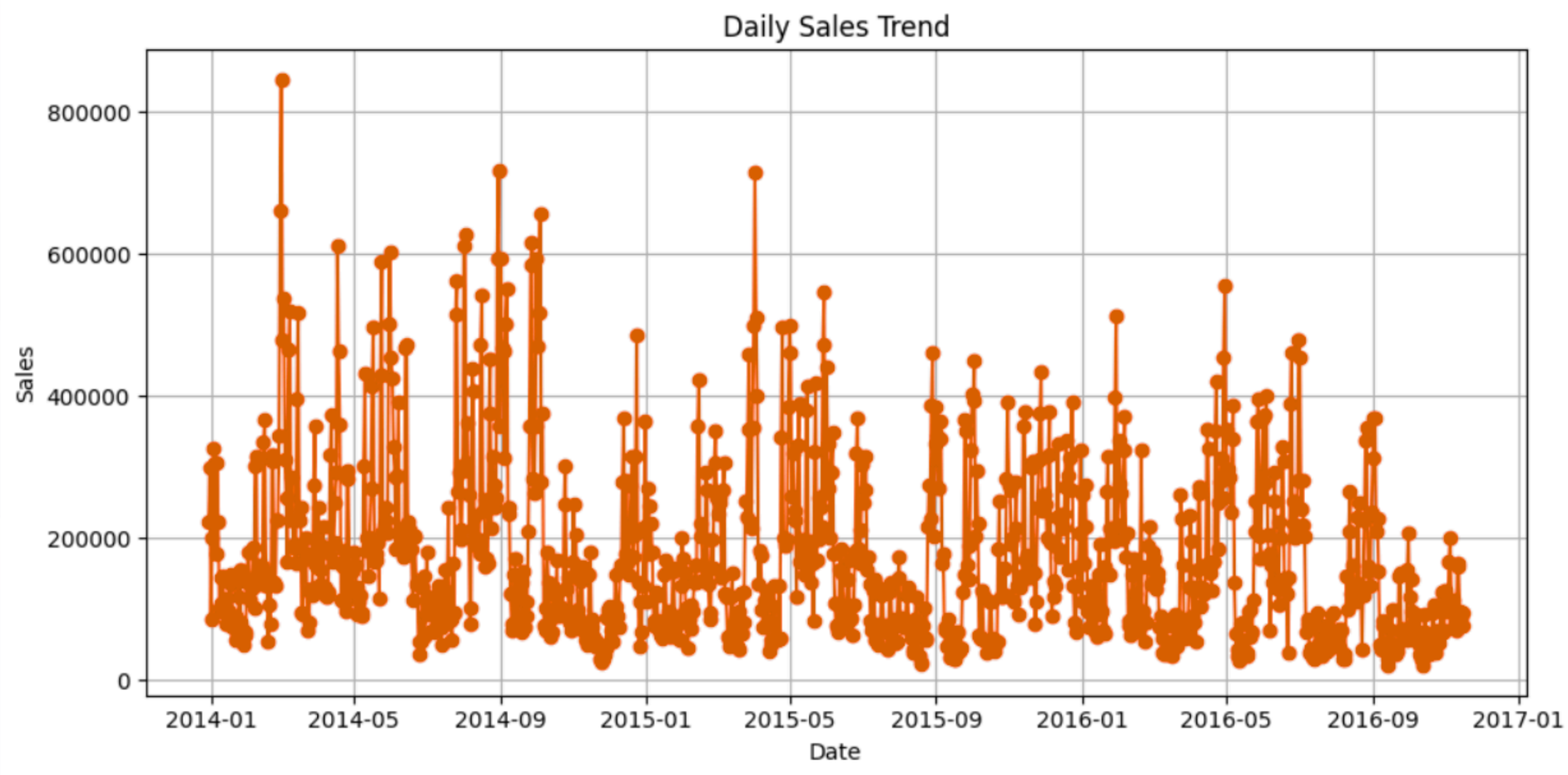
- Total Sales: R186,909,828.13 | Total Cost: R194,026,109.61 → Overall Loss: R7,116,281.48
- Total Quantity Sold: 5,279,872 units | Average Unit Price: R37.07
- Gross Profit: Negative (-921.56%) → Indicates low/negative profitability
- High Sales Days (Outliers):
  - 01 Mar 2014: R846,678.39
  - 30 Aug 2014: R717,096.71
  - 02 Apr 2015: R715,032.19

SUMMARY OF ANALYSIS

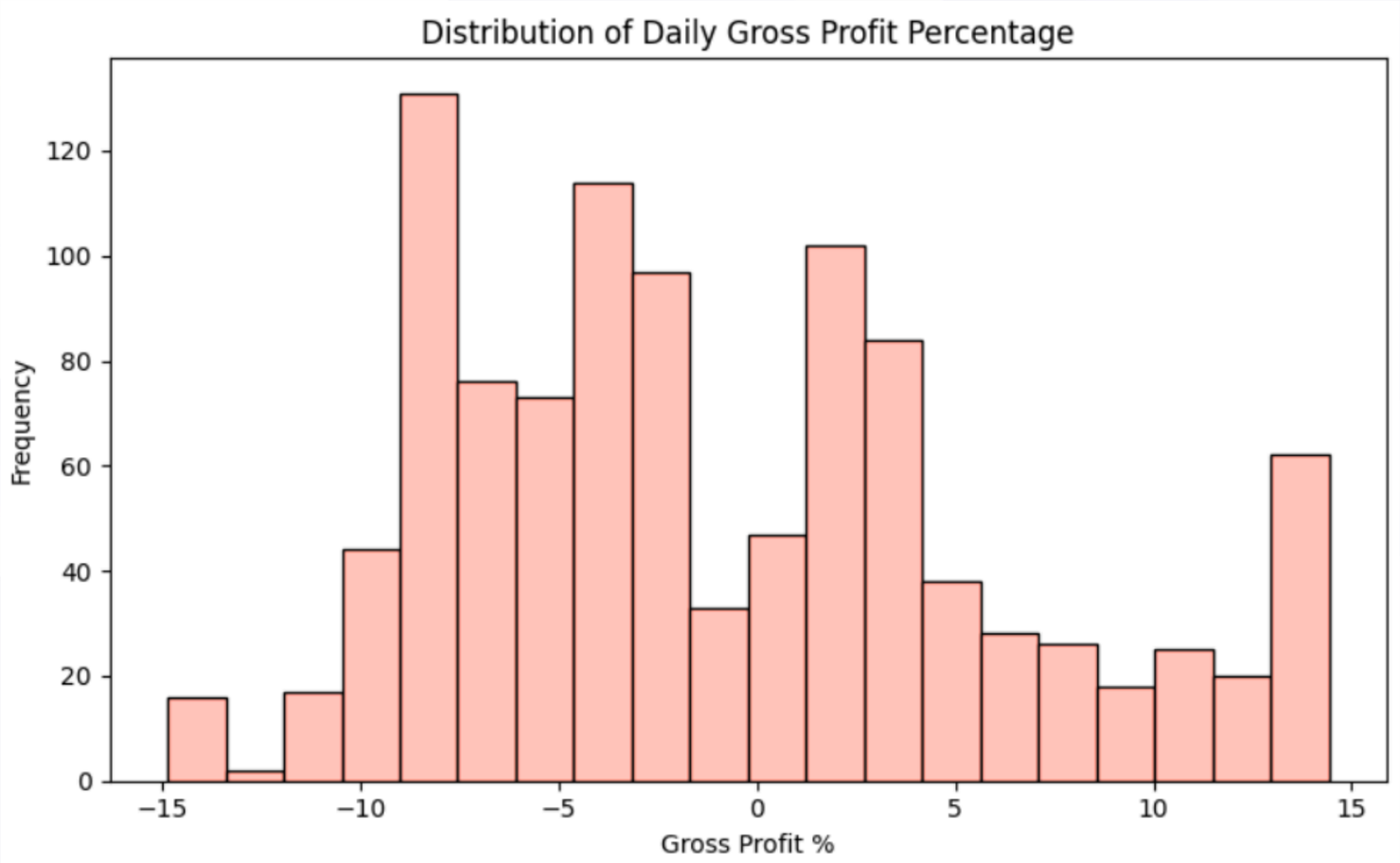
- Average Gross Profit %: -0.87% and -0.50% → High sales did not translate into profits
- The product's Price Elasticity of Demand of -0.50 indicates inelastic demand, meaning changes in price have only a small effect on quantity sold.

*NB: The key trends, profitability, outliers, and KPI insights discussed here will be illustrated with visuals on the next slides.

Visual Analysis - Daily Sales Trend

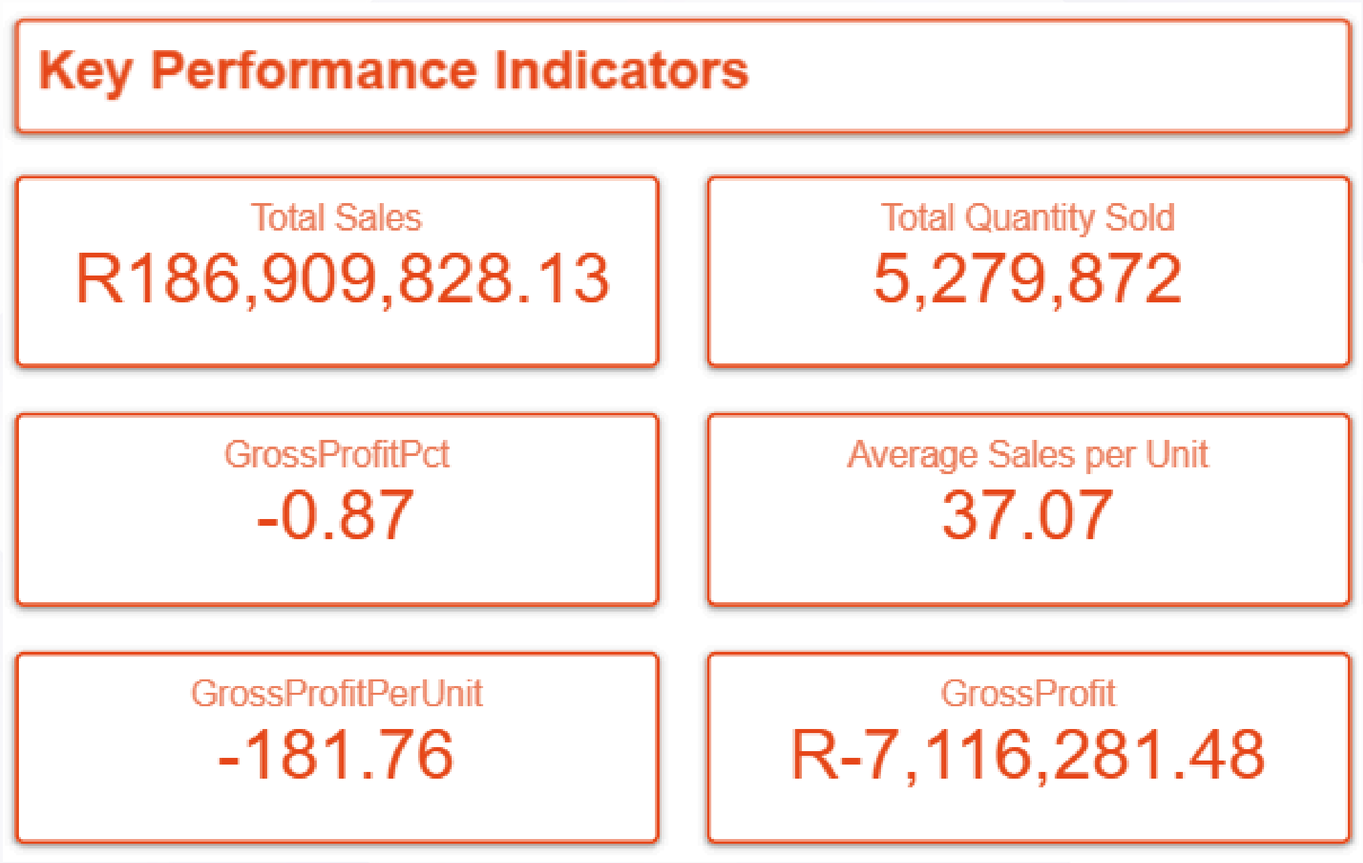


Visual Analysis - Distribution of Daily Gross Profit Percentage



Visual Analysis - Sales vs. Quantity Sold

Visual Analysis - Key Performance Indicators



RECOMMENDATIONS

- Review Pricing Strategy: Adjust unit prices to ensure sales cover costs and generate profit.
- Cost Management: Identify and reduce high cost of sales items or inefficiencies in supply chain.
- Promotion Optimization: Evaluate past promotions to ensure they increase profit, not just sales volume.
- Focus on High-Performing Periods: Leverage insights from peak sales days to plan targeted promotions.
- Monitor Profit Margins: Regularly track gross profit % and profit per unit to prevent losses.
- Data-Driven Decisions: Use dashboards and KPIs to continuously analyze sales, costs, and profitability.

CONCLUSION

- This case study provided a comprehensive analysis of sales performance, pricing, and profitability using Databricks and Spark.
- Key trends and drivers were identified, including the impact of price on quantity sold and gross profit margins.
- The Price Elasticity of Demand (PED) revealed that sales volume is moderately sensitive to price changes, offering insights to optimize pricing strategies.
- Overall, the study highlights the importance of data-driven decision-making in improving sales outcomes and profitability.

THANK YOU