# Project Report: Coffee Shop Sales Dashboard Analysis & Internship Project with Unified Mentor

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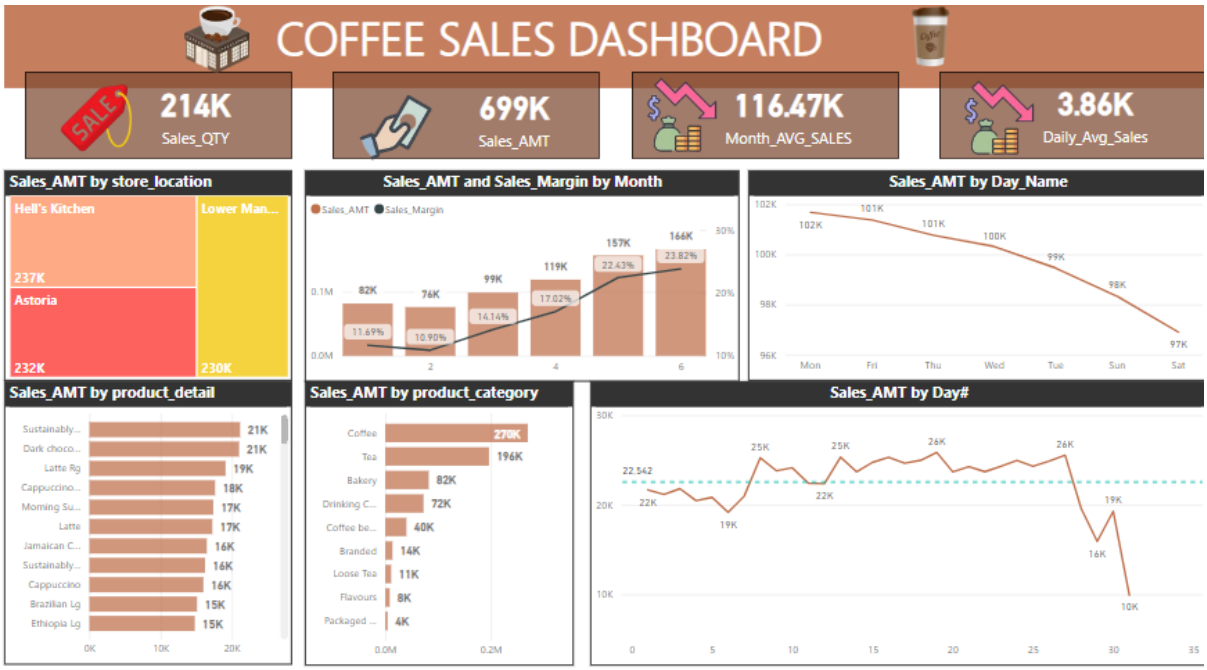


## 1. Introduction

The retail coffee industry generates significant data from sales transactions, making it an ideal area for analysis. This project combines two distinct yet related experiences: a **Coffee Shop Sales Dashboard Analysis** created independently and a **Coffee Sales Analysis** conducted during an

internship with **Unified Mentor**. Both projects focus on understanding sales performance, customer buying behavior, and product trends through data visualization and analysis using **Power BI**.

The objective was to uncover actionable insights to improve sales strategies and store performance, ultimately leading to better business decisions and a more tailored customer experience.

## 2. Objectives

The key objectives of this project include:

- Analyzing sales performance across coffee shop locations.
- Identifying top-selling products, peak sales times, and customer purchase patterns.
- Exploring geographical trends to optimize inventory and supply chain management.
- Gaining hands-on experience in data transformation and visualization techniques to deliver insights in a user-friendly format.

## 3. Tools and Technologies Used

- **Power BI**: For creating interactive visualizations, dashboards, and data exploration.
- **Data Transformation**: Data cleaning and preparation in Power BI, with DAX functions to calculate and summarize key metrics.
- **Dataset**: Provided as part of the internship with Unified Mentor and also independently sourced to understand transaction details, product performance, and store sales.

## 4. Project Descriptions

### 4.1. Coffee Shop Sales Dashboard Analysis (Independent Project)

This project involved analyzing sales data from multiple coffee shop locations, focusing on metrics such as total sales, transaction count, and average transaction value to get an overview of store performance.

#### Dataset Overview

The dataset includes:

- **Transaction ID**: Unique identifier for each transaction.
- **Transaction Date & Time**: Date and time of each transaction.
- **Store ID & Location**: Unique store identifiers and location details.
- **Product Details**: Product category, type, and specific details.
- **Quantity & Total Bill**: Quantity purchased and total amount spent per transaction.

### 4.2. Internship Project with Unified Mentor

During my internship with Unified Mentor, I worked on a **Coffee Sales Analysis** project, gaining hands-on experience with a real-world dataset to produce insights focused on product performance, customer buying behavior, and seasonal trends.

The focus was to visualize:

- Peak sales times and seasonal trends.
- Customer purchasing behaviors by day, week, and month.

- Geographical distribution of sales across locations.

## 5. Methodology

Data analysis and visualization followed these steps:

1. **Data Import and Preparation**: The datasets were imported into Power BI, where initial cleaning, such as handling missing values and reformatting date columns, was completed.
2. **Data Transformation**: Used Power Query Editor in Power BI to:
    - Extract relevant columns and create new features like sales per month, day of the week, and time of day.
    - Segment data by product categories, customer segments, and locations for deeper insights.
3. **Visualization Creation**: Built an interactive dashboard using Power BI, employing bar charts, line charts, heatmaps, and pie charts to represent various metrics visually.

## 6. Key Findings

### 6.1. Coffee Shop Sales Dashboard Analysis (Independent Project)

- **Sales Patterns**: Identified peak sales periods, with a noticeable increase in sales on weekends.
- **Product Performance**: Certain products consistently generated high sales, indicating customer preferences.
- **Customer Segmentation**: Regular customers tended to purchase specific product categories, highlighting areas for targeted marketing.
- **Location Insights**: Some locations outperformed others due to factors like population density and demographic appeal.

### 6.2. Internship Project with Unified Mentor

- **Data Transformation & Visualization**: Created detailed visualizations to identify top-performing products, peak hours, and low-activity periods.

- **Customer Behavior Insights**: Noted that specific times of the day and days of the week saw increased customer traffic.
- **Trend Analysis**: Seasonal trends indicated heightened sales in specific months, providing insights into stock preparation.

## 7. Data Visualizations

Visualizations created include:

- **Sales Overview**: Bar and line charts to show sales trends over time, by day, week, and month.
- **Product Performance**: Pie charts and bar graphs highlighting the top-selling products and revenue distribution across product categories.
- **Customer Patterns**: Heatmaps illustrating transaction volumes by time and day.
- **Geographical Analysis**: Maps and charts representing sales distribution by store location.

## 8. Conclusion and Recommendations

Both the independent and internship projects provided valuable insights:

- **Targeted Inventory Management**: Stock popular items in high quantities during peak seasons to meet customer demand.
- **Strategic Promotions**: Implement promotions during off-peak periods to balance customer traffic.
- **Staff Scheduling**: Align staffing with peak shopping hours to enhance service quality.
- **Location-Based Marketing**: Customize marketing strategies based on store performance and customer demographics in specific areas.

## 9. Key Takeaways

- Developed proficiency in **Power BI** for data visualization, transforming data into meaningful insights.
- Gained experience in **data transformation** techniques, enabling better data-driven decision-making.

- Enhanced my skills in **analyzing customer behavior**, identifying trends, and optimizing inventory and marketing strategies.

## 10. Acknowledgements

A big thank you to **Unified Mentor** for the opportunity to work on this impactful project and for their guidance throughout the internship. These projects have been instrumental in building my skills in **Data Analytics** and **Business Intelligence**.