
Data Analysis Report

For Cafe Sales

INTRODUCTION

This project investigates the sales data of a Café. The dataset contains transactional records such as item types, quantities, payment methods, and sales amounts. These figures were collected from multiple sources over a period of time. The goal is to understand customer preferences, payment trends, and item performance in different locations to suggest actionable insights for the business.

DATA EXPLORATION

How The Data Was Collected

The datasets were sourced from CSV files that contain item-level sales transactions recorded over time. Each transaction includes details like item name, quantity sold, price per unit, total spent, payment method, and location. These files were merged and then imported into MySQL database for cleaning and then further to Power BI for further exploration and visualization.

Features Identified for Analysis

The features selected for the analysis are:

- **Item** – Type of food or beverage sold (e.g., Coffee, Cake, Salad)
- **Quantity** – Number of units sold per transaction
- **Price Per Unit** – Cost of a single unit
- **Total Spent** – Total cost for the transaction
- **Payment Method** – Mode of payment (e.g., Cash, Credit Card, Digital Wallet)
- **Location** – Whether the item was sold in-store or as takeaway
- **Transaction Date** – When the sale occurred

These features were chosen to uncover sales patterns, high-demand products, preferred payment methods, and location-based performance.

PROCEDURE FOLLOWED

1. **Data Loading:** The CSV files were merged into a single database using MySQL
2. **Data Cleaning:**
 - Removed irrelevant and empty columns.
 - Checked for null values and handled them appropriately.
 - Verified consistency in item names, payment methods, and locations.
3. **Data Transformation:**
 - Aggregated total sales per item.
 - Grouped data by payment method and location.
 - Converted transaction dates into proper date formats.
4. **Data Visualization:** Using Power BI, the data was visualized via:
 - Bar and column charts (item popularity)
 - Line graphs (trend over time)
 - Doughnut charts (payment method share)
 - Cards (KPIs like total revenue, average sales)

FINDINGS

- **Top-Selling Items:** Salads consistently outperformed other items, accounting for a significant portion of overall sales. Sandwich, Smoothie and Juice followed behind but didn't surpass the 15K mark in total sales.
 - **Payment Trends:**
 - **Credit Card** was the most commonly used payment method, as for most customers the mode of payment was unavailable.
 - **Cash** and **Digital Wallets** were also used frequently.
 - Offering targeted promotions like discounts for digital wallet use could increase adoption and streamline operations.
 - **Sales by Location:**
 - **Takeaway purchases** dominated over in-store orders, suggesting less dine-in customers.
 - This may reflect customer preference for the takeaway service or limitations in café ambiance.
 - **Underperforming Items:**
 - Items like "Tea" and "Cookie" had the lowest transaction values and frequencies.
 - These could be considered for either promotional boosts or phase-outs, depending on profitability.
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CONCLUSION

While a few items like Salad and Sandwich are driving most of the revenue, many others are underperforming. The business could benefit from:

- Focusing on high-demand items by ensuring stock availability and bundling offers.
- Boosting UPI/Digital Wallet transactions through cashback incentives.
- Enhancing dine-in service for convenience-focused customers.
- Re-evaluating low-performing items to reduce waste and improve profitability.

By implementing these insights, the café can increase its overall efficiency and profitability in the coming quarters.