

Coffee Shop Sales Analysis

Project Overview

This project aims to analyze coffee shop sales data using Power BI to gain insights into customer purchasing behavior, popular coffee choices, and sales trends. By leveraging Power BI's visualization capabilities, the project provides data-driven insights for better decision-making.

Problem Statement

The coffee shop must maximize its sales strategy through learning customer preferences, peak sales time, and trends in revenue. The existing issue is a shortage of visibility regarding sales performance and customer spending behaviours, which will limit strategic planning.

- Total Sales Analysis
- Total Transactions Analysis
- To analysis the best-selling coffee
- To analysis Sales trends over time
- Sales Analysis by days and hours
- Analysis count of card per day
- To analysis the peak sale hours
- To analysis the payment method

Tools Used

- Data Processing & Cleaning: Microsoft Excel, Power Query
- Data Visualization & Analysis: Power BI

Data Sources

The dataset consists of coffee sales transaction records, including:

- **Date:** The transaction date.
- **Datetime:** The time of the transaction.
- **Cash Type:** Payment method (e.g., card or cash).
- **Card:** Anonymized card details for transactions.
- **Money:** The amount spent per transaction.
- **Coffee Name:** The type of coffee purchased.

Data Cleaning and Analysis

Data cleaning was performed in power bi power query to ensure data integrity and consistency.

- **Changing Data Types:** Ensured that numeric columns were set to appropriate numeric data types.
- **Replacing Null Values:** Applied methods such as filling with mean/median for numeric fields.
- **Formatting Cells:** Ensured proper formatting for columns, such as setting number formats with appropriate decimal places.
- **Handling Missing Values:** Used functions to fill or remove missing data.
- **Standardizing Date Formats:** Used functions to convert date columns to a consistent format.

Visualization Used in Power BI


- **Total Sales & Total Transactions:** Displays key performance indicators (KPIs) like Total Sales and Total Transactions.
- **Best-Selling Coffee Types:** Donut chart displaying the most popular coffee choices.
- **Sales Trends Over Time:** Line chart showing revenue trends.
- **Count of Card by Day:** Stacked Area Chart is used to count the number of card transactions per day
- **Peak Sales Hours:** Column chart displaying Peak Sales Hours (hours with the highest sales)
- **Payment Methods Distribution:** Pie chart to compare cash vs. card transactions.


Exploratory Data Analysis

- Total sales and sales trends over different time periods.
- Identify the most popular coffee type.
- Determine peak sales hours and days.
- Compare revenue generated from different payment methods.
- Analyze customer spending behavior.
- Sales performance vary by days and hours.

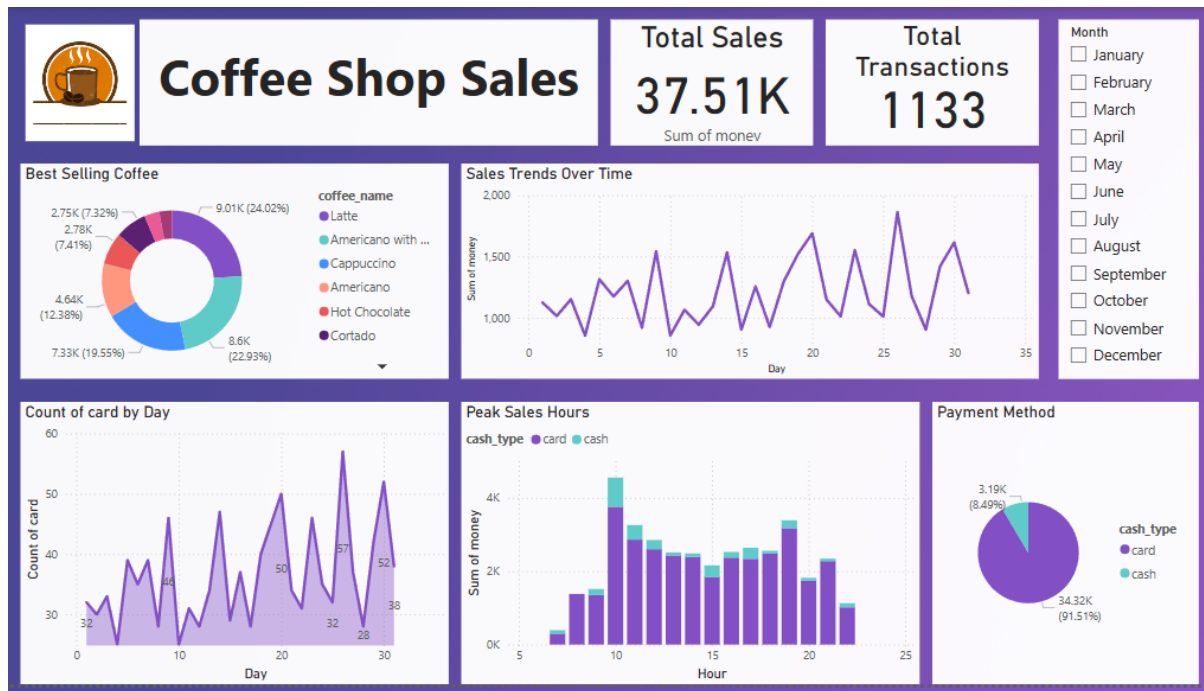
 **Which coffee sells the most? → Helps optimize inventory**

 **Which payment method is preferred? → Helps with financial planning**

 **Peak hours and days? → Helps in staffing decisions**

 **Sales trends over time? → Helps predict future sales**

Result



Conclusion

The Coffee Shop Sales Analysis dashboard provides valuable insights into the shop's sales trends, customer preferences, and peak business hours. By analysing key metrics such as total sales, transaction counts, peak sales hours, and popular coffee types, the business can make data-driven decisions to improve operations and profitability.