Coffee Sales Dashboard

12-month overview of customer behavior and product performance
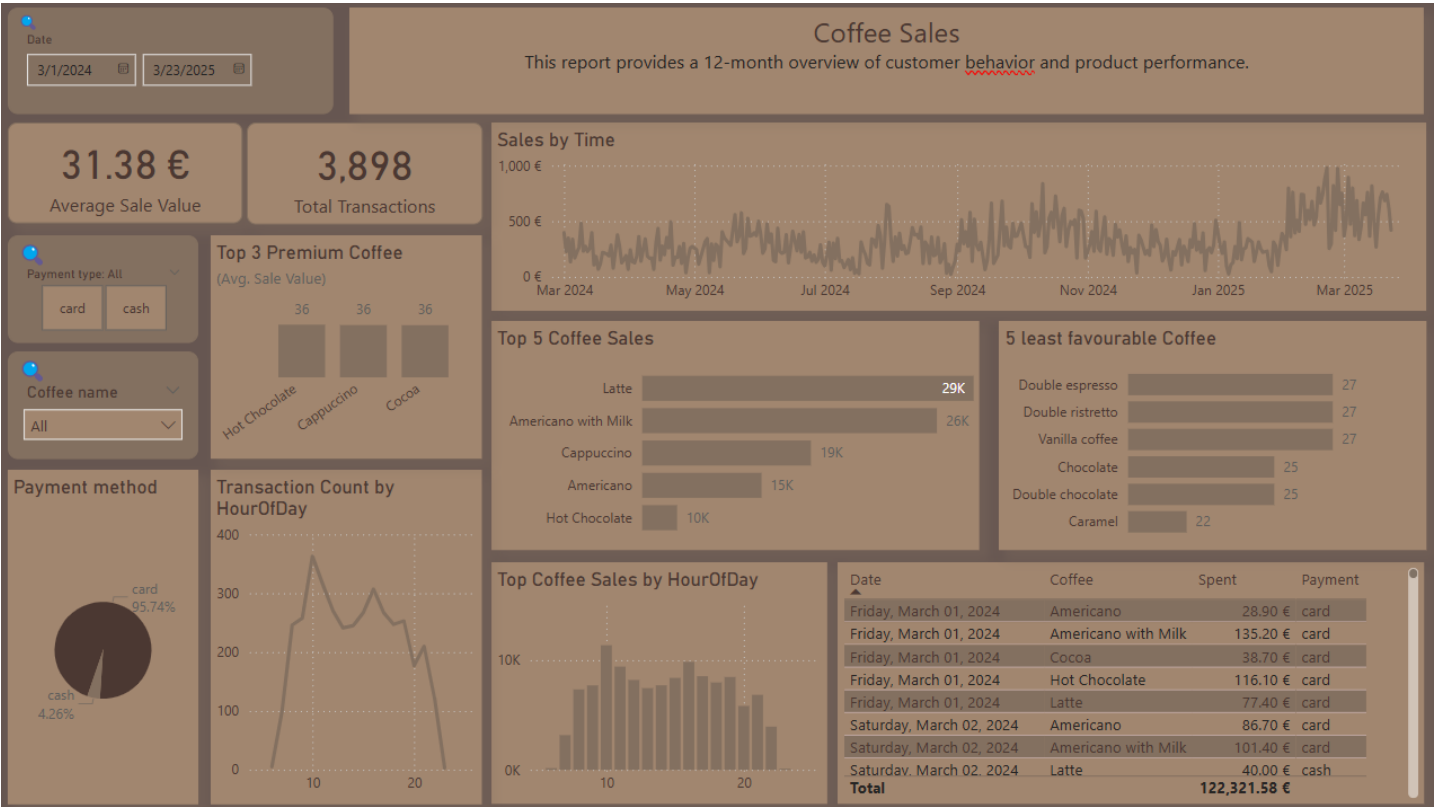
Author: Lajos Almasi

Date: 2025. 04. 30

Dashboard Overview

This report is based on a sample dataset downloaded from Kaggle.com. The dataset contains detailed records of coffee sales from a vending machine and spans from March 2024 to March 2025 capturing daily transaction data.

Tools used: Power BI, PostgreSQL, TablePlus

Visualizations

1. **Average Sale Value & Total Transactions (KPI Cards)**

   - The average amount spent per purchase is €31.38, reflecting typical customer spending.

   - A total of 3,898 transactions occurred during the selected period.

   - These KPIs provide a quick snapshot of overall volume and revenue.

   - Both values are dynamically filterable using slicers.

2. **Sales by Time (Line Chart)**

   - This visual track daily revenue trends over the 12-month period.

   - Seasonal fluctuations and peaks in sales are clearly visible.

   - It helps identify performance cycles and evaluate the impact of campaigns or external factors.
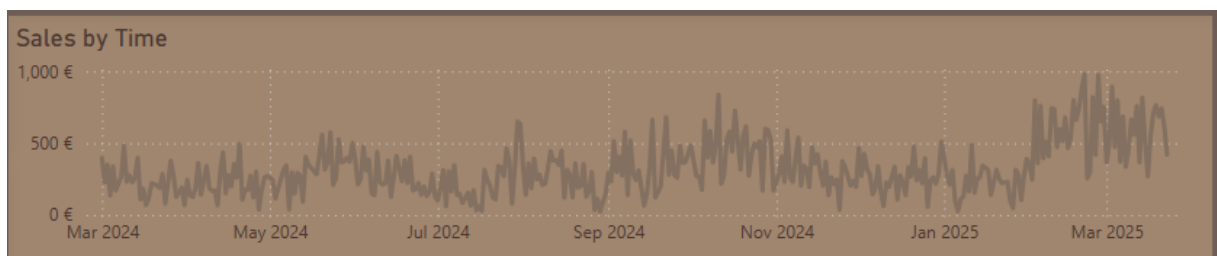
3. Top 5 Coffee Sales

- <mark>Latte</mark> is the top-selling item, followed by Americano with Milk.
- The chart ranks coffee products based on total revenue.
- Useful for identifying high-performing items and focusing marketing efforts.

Top 5 Coffee Sales

Item	Value
Latte	29K
Americano with Milk	26K
Cappuccino	19K
Americano	15K
Hot Chocolate	10K
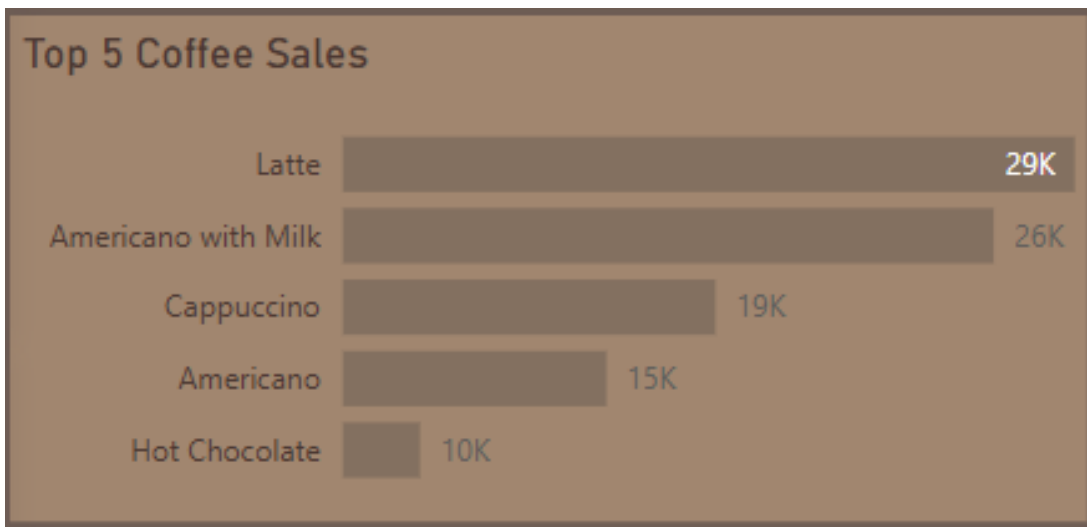
4. 5 Least Favourable Coffee

- These are the least frequently purchased products during the period.
- It highlights low-demand items that may be discontinued or promoted.
- Helps with portfolio optimization and inventory planning.

5 least favourable Coffee

Item	Value
Double espresso	27
Double ristretto	27
Vanilla coffee	27
Chocolate	25
Double chocolate	25
Caramel	22

5. **Top 3 Premium Coffee (Avg. Sale Value)**

- Hot Chocolate, Cappuccino, and Cocoa had the highest average transaction values.

- These products may not lead in volume but are valuable in profitability.

- A great complementary view to the top-selling items.

6. **Payment Method (Pie Chart)**

- Most transactions were paid by card (95.74%), with minimal cash usage.

- Useful for payment terminal usage insights and future investment decisions.

- Fully filterable by product or time.
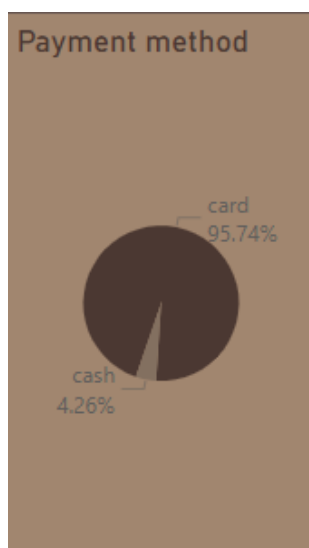
7. Transaction Count by Hour of Day

- Peak buying times are between <mark>8 AM and 10 AM</mark>, aligning with morning routines.
- Supports planning for refills or staff scheduling (if applicable).
- Useful for time-targeted marketing strategies.
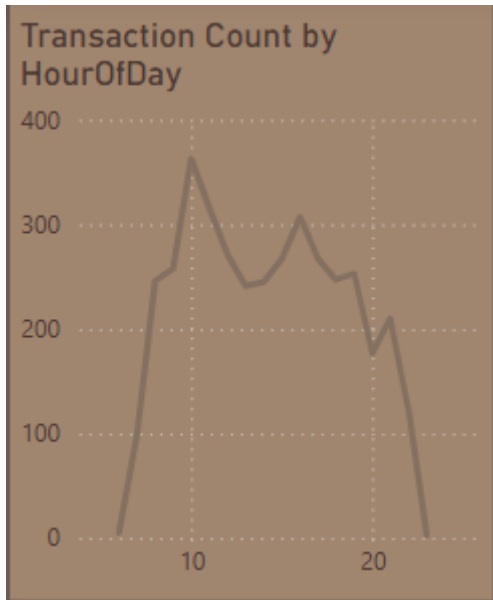
8. Top Coffee Sales by Hour of Day

- Shows which coffee types perform best during different hours of the day.
- Reveals customer preferences over time and consumption patterns.
- Compact and informative, ideal for spotting time-based trends.
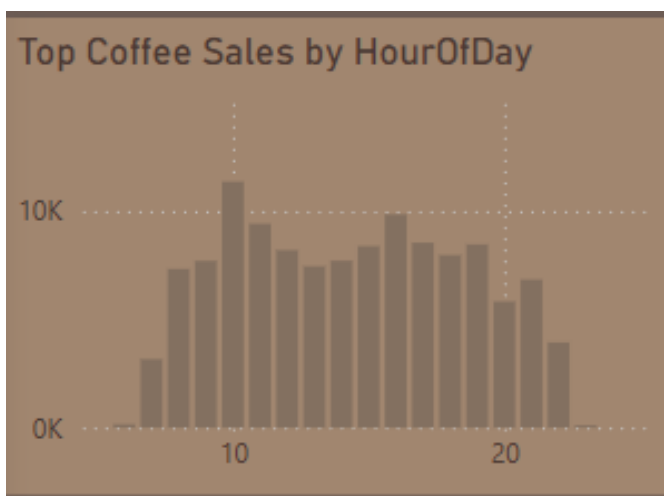
9. **Data Table (Transaction Details)**

- Displays individual transactions with date, coffee name, amount, and payment method.

- Ideal for drilldowns or filtered exploration.

- Includes a total revenue line: €122,321.58.

Date	Coffee	Spent	Payment
Friday, March 01, 2024	Americano	28.90 €	card
Friday, March 01, 2024	Americano with Milk	135.20 €	card
Friday, March 01, 2024	Cocoa	38.70 €	card
Friday, March 01, 2024	Hot Chocolate	116.10 €	card
Friday, March 01, 2024	Latte	77.40 €	card
Saturday, March 02, 2024	Americano	86.70 €	card
Saturday, March 02, 2024	Americano with Milk	101.40 €	card
Saturday, March 02, 2024	Latte	40.00 €	cash
Total		**122,321.58 €**	

Key Insights

- Morning peak hours (8–10 AM) account for the highest transaction volume, indicating that most purchases align with customers' commute or workday start.

- Latte and Americano with Milk are the most popular coffee products, representing most of the revenue across the year.

- Despite lower sales volume, products like Hot Chocolate and Cocoa show high average transaction values, highlighting their potential as premium offerings.

- Card payments dominate (over 95%), suggesting low reliance on cash and confirming the importance of a fully functioning card terminal system.

- A small group of products (e.g., Caramel, Vanilla, Double Ristretto) consistently underperform, indicating they could be considered for discontinuation or promotion.

Recommendations

- Focus **early-day promotions** on high-margin products like Hot Chocolate or Cocoa to boost premium revenue during peak traffic.

- Consider optimizing **product mix** by removing or bundling low-demand items to simplify customer choices and increase throughput.

- Use the insights from **time-based sales patterns** to adjust restocking and maintenance schedules for the vending machine.

- Highlight the top 3 sellers visually at the machine interface to guide quicker decision-making and reinforce bestsellers.