■ Coffee Sales Dashboard Project – Detailed Report

Project Overview:

The Coffee Sales Dashboard Project is an end-to-end data analytics solution developed using Tableau and MySQL to analyze coffee shop sales data. The goal of the project is to provide data-driven insights into sales performance, product trends, and customer preferences. The project covers the complete lifecycle — from data extraction, transformation, and loading (ETL) to visualization and business reporting.

Project Objectives:

1. To perform data cleaning and preprocessing using SQL.
2. To design an interactive Tableau dashboard showing key performance indicators (KPIs).
3. To identify sales patterns by product type, location, and time period.
4. To provide actionable insights for decision-making and sales optimization.

Dataset Structure:

The dataset used in this project is named 'Coffee Shop Sales.xlsx'. It contains transactional sales data from multiple coffee shop outlets. Key columns include:

• Date – Transaction date
• Time – Transaction time
• Store Location – Name of the coffee shop branch
• Product Category – Type of product (Coffee, Tea, Bakery, etc.)
• Product Name – Specific item sold
• Transaction Quantity – Number of items sold
• Total Bill – Total revenue for each transaction
• Payment Method – Mode of payment used by customer

Tools & Technologies Used:

• Tableau Public – For interactive dashboard creation
• MySQL Workbench – For data storage, cleaning, and analysis using SQL
• Microsoft Excel – For initial data preparation
• Power Query – For basic transformation and formatting
• Python – For data validation and report automation

SQL Queries & Logic:

1. Total Sales per Store Location:
```
SELECT store_location, SUM(total_bill) AS total_sales FROM coffee_sales GROUP BY store_location;
```

2. Top-Selling Products:

```
SELECT product_name, SUM(transaction_qty) AS total_quantity FROM coffee_sales
GROUP BY product_name ORDER BY total_quantity DESC LIMIT 10;
```

3. Monthly Revenue Trends:

```
SELECT DATE_FORMAT(date, '%Y-%m') AS month, SUM(total_bill) AS total_revenue
FROM coffee_sales GROUP BY month;
```

4. Average Transaction Value by Payment Method:

```
SELECT payment_method, AVG(total_bill) AS avg_bill FROM coffee_sales GROUP BY
payment_method;
```

Tableau Dashboard Design:

The Tableau dashboard has been designed to be visually appealing with coffee-inspired color tones. It includes the following visual elements:

• **KPIs Section:** Displays total sales, average order value, and total transactions.
• **Sales Trend Chart:** A time-series line chart showing revenue growth over months.
• **Top Products Bar Chart:** Highlights the most popular items sold.
• **Sales by Store Location Map:** Shows performance across branches.
• **Customer Payment Preferences:** A pie chart breaking down payment modes.
• **Filters:** Date range, product category, and store location filters to refine analysis.

Key Insights & Findings:

• The majority of sales come from espresso-based drinks and bakery items.
• Weekend sales are consistently higher compared to weekdays.
• Credit card is the most used payment method.
• The downtown branch generates the highest revenue.
• The average order value has shown steady growth month-over-month.

Future Enhancements:

• Integrate live data connections for real-time sales monitoring.
• Add forecasting models in Tableau using built-in predictive analytics.
• Include customer segmentation analysis using clustering.
• Automate SQL data refresh using scheduled ETL pipelines.

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