# **COFFEE SHOP DATA ANALYSIS (EXCEL)**

**A Comprehensive Analysis of Coffee Shop Sales Data for Insights and Growth**  
**Date: January 2025**



# **ANALYSIS REPORT**

## **1. Project Overview**

* **Objective**: To analyze coffee shop sales data and gain actionable insights to enhance performance and profitability.
* **Tools Used**: Microsoft Excel 2021 (Power Query, Power Pivot).

## **2. Data Sources**

**2.1 Data File**

* **Path**: Coffee Dataset.
* **Description**: Sales data of a coffee shop, including product details, transactions, and customer activity.

## **3. Directory Structure of the Project**

Coffee\_Shop\_Analysis\_Project/

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├── Data/

│ ├── Raw\_Data.xlsx

│ ├── Cleaned\_Data.xlsx

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├── Analysis/

│ ├── Pivot\_Tables.xlsx

│ ├── Measures.xlsx

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├── Dashboard/

│ ├── Coffee\_Shop\_Dashboard.xlsx

│ ├── Dashboard\_Screenshot.png

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├── Reports/

│ ├── Coffee\_Shop\_Analysis\_Report.pdf

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└── README.md

## **4. External References**

* **YouTube**: [WsCube Tech](https://www.youtube.com/watch?v=Rthh_bK5xUs)
* **Data Source**: [Manven Analytics](https://mavenanalytics.io/data-playground?order=date_added%2Cdesc&search=coffee)

## **5. Work-Flow**

**Step 1: Data Collection**

* **Description**: Opened the raw dataset and reviewed its structure.
* **Source File**: Coffee-Shop-Sales-Cleaned.xlsx.
* **Actions Taken**:
  + Verified column headers and data types.
  + Identified potential issues such as missing values and duplicates.

**Step 2: Data Preparation & Data Cleaning**

* **Description**: Performed data preparation using Power Query.
* **Actions Taken**:
  + **Changed Data Types**:
    - transaction\_date: Converted from date/time to date format.
    - transaction\_time: Converted from decimal to time format.
    - unit\_price: Converted from decimal to currency format.
  + **Cleaning Steps**:
    - Added a conditional column to categorize product\_details:
      * Lg: Large.
      * Rg: Regular.
      * Sm: Small.
      * Default: Not Defined.
    - Replaced empty values in product\_details with "Not Defined."
    - Removed white spaces using the **Trim** function in Power Query.
  + **Custom Columns Added**:
    - Total\_Bill: Calculated as [transaction\_qty] \* [unit\_price].
    - Extracted Day Name, Month Name, and Hour for trend analysis.

**Step 3: Data Analysis**

* **Description**: Used Pivot Tables for sales trend analysis.
* **Steps Performed**:
  + Inserted Pivot Tables using data from the Data Model.
  + Created custom measures for analysis:
    - Total Revenue = SUM(transaction\_qty \* unit\_price).
    - Total Footfall = COUNT(transaction\_id).
  + **Insights Derived**:
    - Peak sales occur on weekends.
    - Most revenue comes from the "Coffee" category.

**Step 4: Dashboard Creation**

* **Description**: Designed an interactive dashboard in Excel.
* **Components**:
  + **KPIs**:
    - Total Revenue.
    - Total Footfall.
    - Average Bill per Person.
    - Average Order Size.
  + **Charts**:
    - **Line Chart**: Quantity ordered by hour of the day.
    - **Pie Chart**: Product category distribution.
    - **Bar Chart**: Revenue per store location.
    - **Bar Chart**: Top 5 products by revenue.
  + **Filters**:
    - Day Name.
    - Month Name.

## **6. Outcomes and Results**

The analysis revealed the following actionable insights:

1. **Peak Sales Timing**:
   * **Insight**: The majority of sales occur during early mornings (7 AM–10 AM) and weekends.
   * **Recommendation**:
     + Increase staffing during these peak hours to handle higher customer traffic.
     + Launch special breakfast combos to capitalize on the early-morning rush.
2. **Top-Selling Products**:
   * **Insight**: The "Coffee" and "Bakery" categories contribute to 70% of the total revenue.
   * **Recommendation**:
     + Expand the variety of coffee and bakery options.
     + Focus marketing efforts on these categories.
3. **Revenue by Store Location**:
   * **Insight**: The Hell’s Kitchen location generates the highest revenue, while Lower Manhattan sees lower footfall.
   * **Recommendation**:
     + Investigate customer preferences and competition around the Lower Manhattan store.
     + Introduce promotional offers or events to attract customers to underperforming locations.
4. **Customer Behavior**:
   * **Insight**: Average bill per person is ₹4.68, and average order size is 1.44 items.
   * **Recommendation**:
     + Upsell larger portions or bundles to increase order size.
     + Offer loyalty programs to encourage repeat purchases.
5. **Product Preferences**:
   * **Insight**: Hot beverages such as Barista Espresso and Brewed Chai Tea are the top-selling products.
   * **Recommendation**:
     + Ensure consistent availability of top-performing items.
     + Offer discounts or deals on complementary products to increase sales.

## **7. Key Findings and Insights**

1. **Sales Trends**:

* Sales peak during weekends and early morning hours (7 AM to 10 AM), suggesting a focus on breakfast promotions.

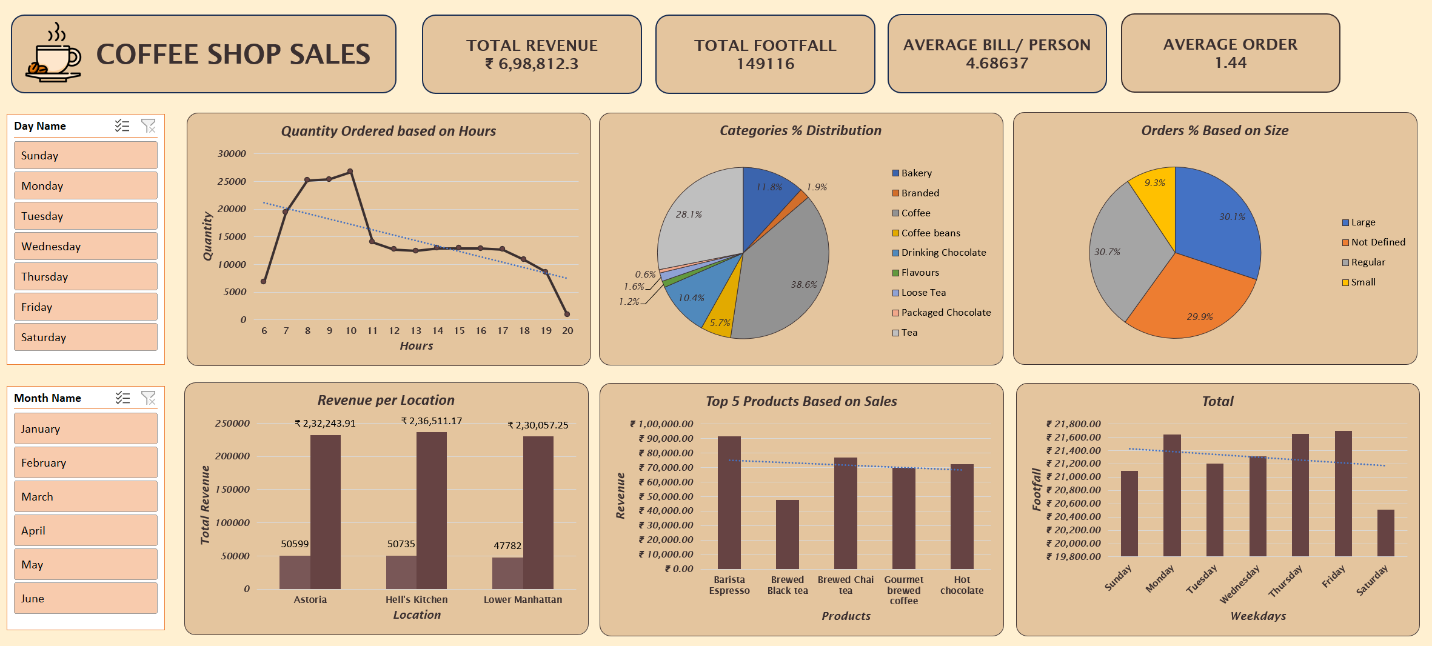
1. **Product Performance**:
   * Barista Espresso is the top-selling product, and it can be bundled with other items to increase sales.
2. **Store Performance**:
   * The store in Hell’s Kitchen generates the highest revenue.
   * Weekend sales outperform weekdays, calling for targeted weekend campaigns.

## **8. Future Steps**

1. Incorporate advanced visualizations using Power BI to create dynamic and interactive dashboards.
2. Explore customer demographics to understand purchasing patterns and preferences by age and gender.

## **9. Appendix**

* **Github:** [**Coffee-Shop-Sales-Dashboard**](https://github.com/mr-shanks/Coffee-Shop-Sales-Dashboard)
* **Dashboard Screenshot**:

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