



The Coffee Cup Café and Eatery: Performance Analysis

EXECUTIVE DASHBOARD

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 - Date

Audience Analysis

Audience: Senior Management Team

The stakeholders for this analysis are the **Senior Management Team** of "The Coffee Cup Café and Eatery." This group plays a pivotal role in the strategic decision-making and overall performance of the business. Their focus is on ensuring profitability, efficiency, and growth.

Need for this Analysis: The Senior Management Team requires actionable insights to answer key business questions related to sales, profit, market trends, product performance, and areas of improvement.

Purpose of this Analysis: The purpose of this analysis is to equip the Senior Management Team with

- ✓ **Accurate Data:** Providing reliable data to support strategic decisions.
- ✓ **Actionable Insights:** Translating data into practical recommendations for improving the café's performance.
- ✓ **Performance Tracking:** Enabling the team to track how the café is performing against its goals.
- ✓ **Future Planning:** Helping in resource allocation, product development, and market expansion strategies.



Data Analysis

	Type of issue	Error	Actions Taken
1	Formatting Errors	Date formats were inconsistent	Standardized all dates to a consistent format
2	Duplicate Values	Food Sales contains 4,813 duplicate rows	In Food Sales, 4,813 duplicate rows were removed.
3	Spelling errors	City names- Bunaby, Fredricton, Gatieau, Vancounver, Steinback Food names- Kaleberry, EggCheese, Crossiants	City names- Burnaby, Fredericton, Gatineau, Vancouver, Steinbeck Food names- Kale berry, Egg & Cheese, Croissants
4	Negative Values	Actual Profit (\$): 528 entries Budget Profit (\$): 188 entries Inventory (Qty): 88 entries	Profit Fields (Actual Profit (\$) and Budget Profit (\$)): Negative values were flagged as losses and retained, as they might represent valid scenarios. Inventory (Qty): Negative inventory was corrected to 0, assuming it represents an error.
5	Inconsistent column names	Rename inconsistent column names: Actual Cost of Goods Sold (COGS) (\$)	Change Actual Cost of Goods Sold (COGS) (\$) to Actual COGS (\$).

Data Analysis

- We did the Data cleaning in **Excel** and **PowerBI** and **python** code.

The image is a collage of screenshots illustrating data cleaning and analysis steps:

- Microsoft Excel:** A message box states "4813 duplicate values found and removed; 3220 unique values remain. Note that counts may include empty cells, spaces, etc." with an "OK" button.
- Spelling: English (India):** Two windows showing corrections. The first window lists "Vancouver" as not in the dictionary, with suggestions like "Vancouver" and buttons for "Ignore Once", "Ignore All", "Add to Dictionary", "Change", "Change All", and "AutoCorrect". The second window lists "Crossiants" as not in the dictionary, with suggestions like "Croissants" and similar buttons.
- Python Code:** A screenshot of a Python script in a Jupyter Notebook. The code includes:

```
missing_summary = df.isnull().sum()
print(missing_summary)
```

Actual Profit (\$)	0
Actual Sales (Qty)	0
Actual Cost of Goods Sold (COGS) (\$)	0
Actual Total Expenses (\$)	0
Inventory (Qty)	0
Budget Profit (\$)	0
Budget Sales (Qty)	0
Budget COGS (\$)	0
Date	0
Market	0
Province	0
City	0
Store#	0
Market Size	0
Product Type	0
Product	0
Type	0

```
dtype: int64
```
- Find what / Replace with:** A screenshot showing a search for "Egg Cheese" and a replacement with "Egg & Cheese".
- Python Code (Continued):** A screenshot showing a Jupyter Notebook cell with the following code:

```
[9]: # Correct negative values for inventory, setting them to 0
if "Inventory (Qty)" in df.columns:
    df["Inventory (Qty)"] = df["Inventory (Qty)"].apply(lambda x: max(x, 0))

[11]: # Show changes made to the "Inventory (Qty)" column
corrected_inventory = df[df["Inventory (Qty)"] == 0]

# Display rows for inspection
corrected_inventory
```

	Actual Profit (\$)	Actual Sales (Qty)	Actual Cost of Goods Sold (COGS) (\$)	Actual Total Expenses (\$)	Inventory (Qty)	Budget Profit (\$)	Budget Sales (Qty)	Budget COGS (\$)	Date	
[11]:	530	366	492	72	54	0	360	460	60	31/03/2019



Key Performance Questions

1. How well do actual sales align with budgeted sales projections?
2. Are we achieving the expected profit margins compared to budgeted goals?
3. How do actual costs compare to budgeted costs?
4. Which market size drives the highest sales volume?
5. Which product categories are the most profitable for the business?
6. What are the best-selling food products in the café?
7. Which individual product delivers the highest profit?
8. Which province performs best in terms of coffee sales?
9. Which province performs best in terms of food products sales?



Additional Questions

1. Which customer age groups contribute the most to sales?
 - **Missing Data:** Customer age or birth date. Sales data linked to individual customers. Purchase history by demographic segments.
2. How do marketing campaigns influence sales in different regions?
 - **Missing Data:** Marketing campaign details and sales correlations.
3. What is the repeat purchase rate for customers?
 - **Missing Data:** Customer IDs or unique identifiers for transactions. Frequency of purchases per customer over a defined period.
4. How do product discounts or promotions impact sales and profits?
 - **Missing Data:** Information about promotions or discounts applied. Sales data segmented by promotional and non-promotional periods. Profit margins for discounted products.
5. Which regions or provinces have the fastest-growing sales trends?
 - **Missing Data:** Year-over-year or month-over-month sales growth data. Regional or provincial population and economic growth metrics for context.

Executive Dashboard Design (Mock-up)



The Coffee Cup Cafe and Eatery

105
Number of Stores

Actual Sales Vs Budget Sales
• Actual Sales • Budget Sales



Actual Profit Vs Budget Profit
• Actual Profit • Budget Profit



Actual COGS Vs Budget COGS
• Actual COGS • Budget COGS



Actual Sales is lesser than Budget,
Actual COGS is greater than Budget

Top Province in Coffee
Sales
British Columbia
131409.

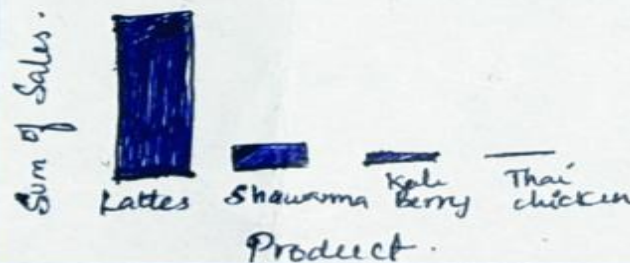
Top Province in Food
Sales
British Columbia
10377.

Sales by Market Size



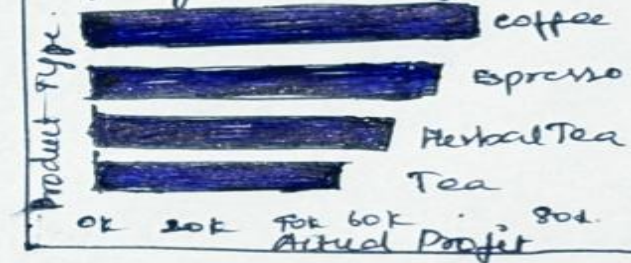
Sales in Major and Small market
are higher.

Top 4 Food Products in Sales.



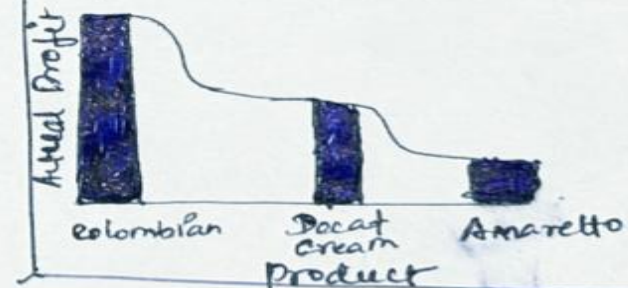
Latte is the most sold
product.

Profit by Product Type.



Product Type coffee is giving
more profit

Profit by Product



Colombian coffee is the most
Profitable Product sold.

Executive Dashboard



The Coffee Cup Café and Eatery

105

Number of Stores

Actual Sales (Qty) VS Budget Sales (Qty)

● Actual Sales ● Budget Sales



Actual Profit (\$) VS Budget Profit (\$)

● Actual Profit ● Budget Profit



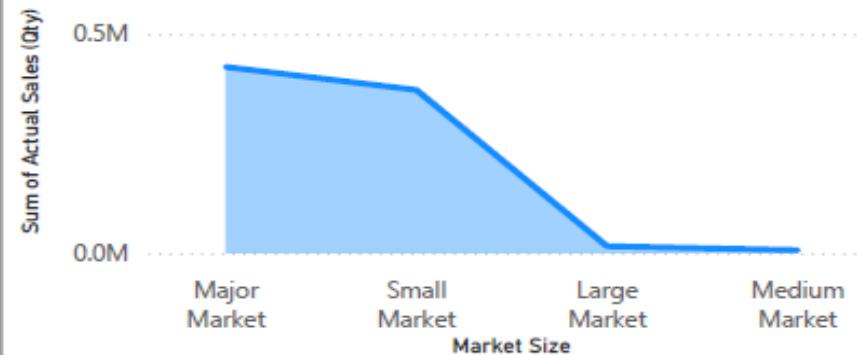
Budget COGS (\$) VS Actual COGS (\$)

● Budget COGS ● Actual COGS



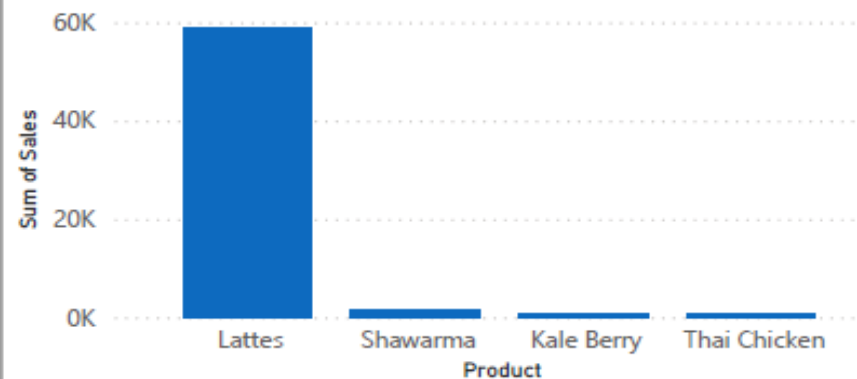
Actual Sales is less than the Budget, while the Actual COGS is more than Budget. Actual and Budgeted profit are same

Sales by Market Size



Sale in Major Market and Small Market are higher comparing other markets

Top 4 Food Products in Sales



Lattes is the most sold Food Item

Top province in Coffee Sales

British Columbia

131409

Sales (Qty)

Top province in Food Sales

British Columbia

10377

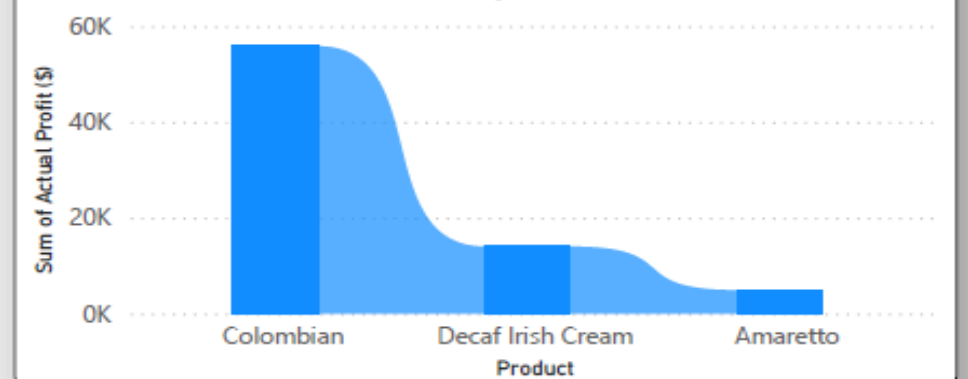
Sales (Qty)

Profit (\$) by Product Type



Product Type Coffee is giving more profits

Profit (\$) by Product



Colombian Coffee is the most Profitable Product sold

Instructions for Dashboard

- **Top Section: Overview**
 - ✓ **Logo and Title:** Represents the brand identity and title of the dashboard.
 - ✓ **Number of Stores:** Indicates the total number of stores contributing to the dataset (**105 stores**).
- **Top Right Section: KPIs for Provinces**
 - ✓ **Top Province in Coffee Sales:** British Columbia leads in coffee sales with **131,409 units**.
 - ✓ **Top Province in Food Sales:** British Columbia also leads in food sales with **10,377 units**.
- **Center Section: Sales by Market Size (Line Chart)**
 - X-Axis: Market size categories (Major, Small, Large, Medium), Y-Axis: Sales quantity.
 - Insight: Major and small markets drive the highest sales, while large and medium markets contribute significantly less.
- **Bottom Left Section: Top Food Products in Sales (Bar Chart)**
 - X-Axis: Food products, Y-Axis: Sales quantity.
 - Insight: Lattes are the top-selling food product by a wide margin, with other items like shawarma and kale berry lagging behind.
- **Bottom Summary Box:** Narrative Insight of all charts
- **Bottom Right Section: Profit by Individual Product (Bar Chart)**
 - X-Axis: Profit values, Y-Axis: Products (Colombian, Decaf Irish Cream, Amaretto).
 - Insight: Colombian coffee is the most profitable product, followed by Decaf Irish Cream and Amaretto.
- **Top Right Section: Profit by Product Type (Bar Chart)**
 - X-Axis: Profit values, Y-Axis: Product categories (Coffee, Espresso, Herbal Tea, Tea).
 - Insight: Coffee is the most profitable product type, followed by espresso and herbal tea.

- **Left Column: Comparisons (Donut Charts)**
 - ✓ **Actual Sales (Qty) vs. Budget Sales (Qty):**
 1. Blue: Actual sales (**746K, 48%**).
 2. Dark Blue: Budget sales (**820K, 52%**).
 3. Insight: Actual sales are slightly lower than the budget.
 - ✓ **Actual Profit (\$) vs. Budget Profit (\$):**
 1. Blue: Actual profit (**259K, 50%**).
 2. Dark Blue: Budget profit (**260K, 50%**).
 3. Insight: Profits align closely with budgeted values.
 - ✓ **Budget COGS (\$) vs. Actual COGS (\$):**
 1. Blue: Budgeted costs (**359K, 53%**).
 2. Dark Blue: Actual costs (**318K, 47%**).
 3. Insight: Actual costs are slightly lower than budgeted, indicating cost efficiency.

Instructions for Interpreting the Dashboard

1. **Start with KPIs:** Understand overall store performance and top-performing provinces.
2. **Dive into Comparisons:** Analyze actual vs. budgeted performance for sales, profit, and costs.
3. **Explore Market Size Trends:** Use the sales by market size chart to identify market contributions.
4. **Product Performance:** Identify top-selling and most profitable product categories and items.
5. **Actionable Insights:** Use the summary to identify areas needing improvement or further exploration.

Appendix: Design Techniques Utilized

We did the Executive Dashboard using **PowerBI**. The design techniques utilized are:

- **Consistent Color Scheme:**
Used blue tones throughout the dashboard for a professional and cohesive look.
- **Clear Titles and Labels:**
Each chart and KPI has descriptive titles to ensure easy interpretation.
- **Alignment and Spacing:**
Charts and cards are evenly spaced and aligned to create a clean and organized layout.
- **Data Storytelling:**
Captions under charts provide insights and emphasize key takeaways for quick understanding.
- **Focus on Key Metrics:**
Highlighted important metrics (e.g., sales, profit, and costs) using KPI cards and visuals for immediate attention.
- **Comparative Visuals:**
Used donut charts for actual vs. budgeted comparisons, emphasizing variances.
- **Summarized Key Insights:**
Included a summary box to reinforce critical findings and actionable insights.

References

- Biswal, A. (2024, June 5). *An Introduction To Power BI Dashboard*. Simplilearn.com. <https://www.simplilearn.com/tutorials/power-bi-tutorial/power-bi-dashboard>
- *Executive Dashboard: 5 Examples for Data-Driven Leaders*. (n.d.). Qlik. <https://www.qlik.com/us/dashboard-examples/executive-dashboards>
- Pratt, M. K. (2023, August 4). *executive dashboard*. Search CIO. <https://www.techtarget.com/searchcio/definition/executive-dashboard#:~:text=An%20executive%20dashboard%20is%20a,a%20graphical%20or%20visual%20manner.>

THANK YOU

