**Course: Business Analysis and Assessments**

**Assignment 3 – Executive Dashboards**

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# Document Overview

This study provides an extensive and organized examination of The Coffee Cup's company performance data for 2023–2024. The Coffee Cup is a well-known coffee chain in Canada. This analysis's goal is to find performance insights that will assist senior management in making well-informed strategic choices. Evaluation of the data quality, computation of important metrics, and a fully interactive executive dashboard created with Power BI are all included in the analysis. By visualizing key performance metrics across stores, regions, and goods, the dashboard facilitates a thorough comprehension of the factors that influence profitability and the ways in which actual outcomes contrast with projected budgetary outcomes.

# Data Analysis

Using Power BI, the data analysis process transformed unstructured transactional data into metrics and visuals that produced insightful information. In order to facilitate variance analysis and time-based trends, important calculated fields were included.

## Data Dictionary

An explanation of the fields that are part of the dataset is provided below:

|  |  |  |
| --- | --- | --- |
| S.N. | Column Name | Description |
| 1. | **Profit** | Final profits following the deduction of all costs and expenses from sales income. |
| 2. | **Margin** | Profitability is represented by a ratio, which is a percentage determined by (Profit / Sales). |
| 3. | **Sales** | Total amount of money made from product sales. |
| 4. | **Cost of Goods Sold (COGS)** | The expenses directly related to making the sold goods. |
| 5. | **Total Expenses** | Total expenses, including those for marketing and operations. |
| 6. | **Marketing** | The amount of money spent on advertising and marketing campaigns. |
| 7. | **Inventory** | The monetary worth of each store's stock. |
| 8. | **Budget Profit** | For planning, a target or expected profit value is established. |
| 9. | **Budget Margin** | Budget predictions determine the target profit margin. |
| 10. | **Budget Sales** | Anticipated or anticipated revenue amounts. |
| 11. | **Budget COGS** | Budget-based estimates of the direct costs of the products offered. |
| 12. | **Date** | The date of the transaction, converted from text to the appropriate date format. |
| 13. | **Market** | The more general market category (e.g., Atlantic Canada, Western Canada). |
| 14. | **Province** | The province in Canada where the transaction took place. |
| 15. | **City** | The city in which a store is situated. |
| 16. | **Store#** | Every retail store has a unique alphanumeric identification number. |
| 17. | **Market Size** | Market size classification (Small, Medium, Large) according to revenue or population. |
| 18. | **Product Type** | General categories like coffee, snacks, beverages, etc. |
| 19. | **Product** | The particular product sold, such as iced lattes or espresso. |
| 20. | **Type** | An additional classification of the product, like food item kind or drink category. |

Table 2.1 Data dictionary for Coffee Cup Data

## Data Quality

### Date field

* The original values were saved as text in the format dd/mm/yyyy.
* In Power Query Editor, these were changed to the appropriate Date data type.
* There was no null values in the date column.
* It was verified that the date values fell between January 2023 and December 2024.

### Market/Province/City consistency of stores

* To ensure that each Store# is consistently mapped to a distinct mix of City, Province, and Market, an analysis was conducted.
* There were no contradictory mappings found. Each store has a specific and exact location connected with it.
* Valid regional and store-level performance analysis depends on this consistency.

### Calculated field consistencies

|  |  |  |
| --- | --- | --- |
| S.N. | Newly added Column Name | Description |
| 1. | **Month** | Month name extracted from date field. |
| 2. | **Month-Year** | a label that has been concatenated in the format "MMM YYYY" to facilitate time-based analysis. |
| 3. | **Year** | Year extracted from the date field. |
| 4. | **Quarter** | The date is used to determine the fiscal quarter of the year. |
| 5. | **Profit Margin** | Profit column divided by the sales column. |
| 6. | **Sales Variance** | Substruction of sales column from Budget sales. |
| 7. | **Profit Variance** | Profit subtracted by the Budget profit column |
| 8. | **Margin Variance** | Margin column is subtracted by Budget Margin column. |
| 9. | **Total operating cost** | Addition of total expenses column with COGS. |

Table 2.2.3 Newly calculated columns

### Store#, Date, Product uniqueness

* A composite key consisting of Store#, Date, and Product was used to do duplicate checks.
* By doing this, you can be sure that every record corresponds to a distinct sales event.
* The dataset contained no duplicate entries, indicating a clear and reliable transactional record.

### General Observations

* Most of the data was clean, with structured layout and the proper headers.
* Inconsistent casing, such as city names in upper/lower case, which were standardized, was one of the minor problems.
* A few null values were present in columns including Marketing, Inventory, and Total Expenses; these were handled correctly during transformation.
* All of the fields in the above dataset were judged suitable for analysis after unnecessary columns or metrics were examined.

# Data Scope

A multifaceted examination of store performance, geographical trends, product categories, and budget comparisons is made possible by the data. Slicing and dicing across several filters, including period, province, market size, and product type, is supported by the dashboard

### KPQs:

* Which cities, markets, or provinces produced the most revenue and earnings?
* How do sales, profit, and margins compare between actual and budgeted performance?
* Which product categories or individual items provide the highest profits?
* Which five stores are the most profitable?
* What monthly trends have we seen in sales and profitability in 2023 and 2024?
* Do profit margins hold true for different product categories, market sizes, and geographical areas?
* What effect do marketing costs have on profit or sales?
* Which stores or markets are not meeting budgetary expectations?

# Recommendations & conclusions

## Recommendations

* Enhance Data Collection: To offer more detailed information, incorporate categories such as quantity sold, customer loyalty metrics, employee productivity ratings, and promotion-related characteristics into the 2025 dataset.
* Geographic Mapping: For location-based mapping and regional analysis, include geolocation (latitude/longitude).
* Forecasting Models: To improve inventory and budget planning, apply time series forecasting approaches based on past trends.
* Data Source Improvement: To reduce future data inconsistencies, make sure that the source is validated and formatted consistently.
* Automated Data Refresh: For real-time dashboard updates, use Power BI's automated refresh tools.

## Conclusions

* After transformation, the Coffee Cup dataset has excellent integrity and can be used for strategic performance tracking.
* Targeted insights based on real-time metrics, trend analysis, and dynamic filtering are made possible by the Power BI dashboard.
* Although there are chances for margin improvement in certain markets, the business seems to be doing well generally.
* The Coffee Cup will continue to offer premium service and value in the Canadian coffee industry with the backing of the Power BI dashboard and data-driven decision-making.

# A screenshot of a computer AI-generated content may be incorrect.Executive Dashboard