COFFEE SALES ANALYSIS

Hello, I'm Clifford and today, I will walk you through my process of completing this excel project, the "Coffee Sales Analysis". I will cover how I went by this project from the earliest stage of obtaining the data, to data visualization.

Project Overview

The objective of the project was to develop a Coffee Sales Dashboard for McKeezy Coffee Shop, focusing on finding the following:

- 1. Sales over time for each coffee type.
- 2. Sales by country.
- 3. Top customers.
- 4. Loyalty Subscription.

Other Key Metrics like Total Sales, Total Profit, Total Orders, Top Selling Product, that will be deduced.

The dashboard will be interactive, so you will be able to filter by time period, type of coffee roast, coffee sizes, and whether or not the customers are loyalty members.

Getting the Data

First, I needed to get the data. I downloaded this dataset from Kaggle: <u>Coffee Bean Sales Raw Dataset</u>. The dataset had three sheets:

- 1. Orders
- 2. Customers
- 3. Products

These sheets contained all the details about the coffee shop's sales transactions, customer info, and product specifics.

After downloading the dataset, I performed the following steps which are:

- 1. Data Cleaning
- 2. Data Analysis
- 3. Data Visualization

Methodology

1. Data Cleaning

a. Data Exploration:

I conducted a thorough examination of the dataset in Microsoft Excel to enhance comprehension and identify areas requiring cleaning. The Orders and Customers sheet had a total of 1000 records each, and the Products sheet had 48 records. There were no duplicates, errors or blank values.

b. Data Cleaning:

The data cleaning process started with copying the entire workbook into another workbook. I always do this and save the original dataset so I can come back to it for any reference. Now, I converted each sheet into a table so I can easily refer and work with it. The following are some cleaning procedures I performed:

- 1. Converting all the price related fields to currency with the \$ sign and two decimal places.
- 2. Creating a custom format and adding "kg" to the size field.
- 3. The coffee types were then changed to their full meaning to avoid confusion. (Ara = Arabica, Rob = Robusta, Lib = Liberica, Exc = Excelsia)
- 4. The above naming was done for the Roast Types (L = Light, M = Medium, D = Dark)

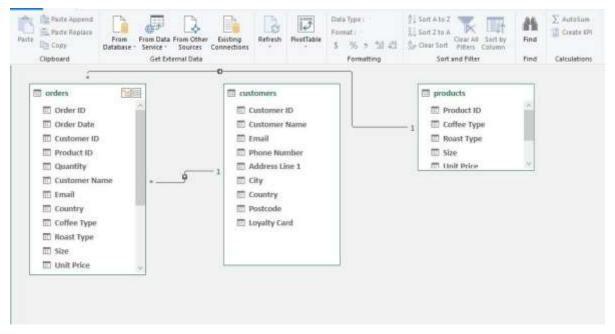
 Step 3 and 4 were done with the Find and Replace method in Excel.

2. Data Analysis

a. Data Modelling:

I added the three tables to the Data Model so I could use Power Pivot to do data modelling. I created a relationship between the three tables. Using the Customer ID as a key, I created a relationship between the Orders table and the Customers table. Similarly, I created a relationship between the Orders table and the Products table using the Product ID.

Instead of creating relationships, I could have used *XLOOKUP* and *Index Match* to get the data from the Products and Customers table into the Orders table so it will be one whole table. I thought about how it might affect efficiency if I have the same data in multiple sheets.



In the Orders table, I calculated the total profit for each order. The products table provided the profit made on a single unit of each product. To find the total profit for each order, I multiplied this per-unit profit by the quantity sold. This gave a clear picture of how much profit each transaction brought in.

Similarly, I calculated the total sales for each order by multiplying the Unit Price of each product by the quantity sold.

b. Data Analysis:

In this step, I used pivot tables to generate some useful insights. I had a total of six pivot tables which show the following insights:

- 1. Sum of sales for each year by each coffee type, sub-sectioned in months.
- 2. Sum of sales by Customer
- 3. Sum of sales by Country
- 4. Sum of Total Profit by Coffee Type
- 5. Count of Customers with Loyalty Cards shown in Percentage
- 6. Count of Orders for each Coffee Type



Also, I created a section called *Working on the Key Metrics* where I calculated the totals which would be used for the KPIs.

I calculated the total sales for each coffee type in the *Sales by Year* field. I then found the coffee type with the highest sales out of the total sales of the four coffee types. I used XLOOKUP to find the coffee type which corresponds to the highest sales.

I added the sums of total profit by coffee type to get the total profit in all.

I added the count of orders for each coffee type to get the total orders.

Total Sales \$ 11,768.50 \$ 12,306.44 \$ 12,054.08 \$ 5 Sum of Total Sales \$45.13K	,005.25
Sum of Total Sales CAE 12V	
Sulli of Total Sales 943.15K	
Max Value \$12.31K	
Coffee Type Excelsia	
Total Profit \$4.52K	
Total Orders 1,000	

3. Data Visualization

From the pivot tables, I made relatable charts and integrated slicers and a timeline for enhanced dashboard navigation.

Slicers were created for the size, coffee type, roast type and loyalty subscription.

A timeline was created for the order dates. It could be filtered by day, month, quarter and year.

Bar charts were created to show the country with the highest sales and the top 5 customers.

A line chart was created for the Sales Over Time for the coffee types.

I created a doughnut chart to show the percentage of customers with loyalty cards.

Lastly, field were created for the KPIs using shapes and text fields.

The color palette used was to relate with coffee. The colors are



Conclusion

This Coffee Sales Analysis project was a fascinating journey into the power of data analytics. By preparing the data and leveraging Excel, I created a comprehensive and interactive dashboard that serves as a valuable tool for the McKeezy Coffee Shop manager.

This project not only shows current business performance but also helps in making strategic decisions by highlighting key trends and areas for improvement.

So, if you're a business owner or manager, I highly recommend diving into your sales data. You might be surprised by the insights you uncover and how they can help steer your business toward even greater success.