Portfolio Documentation: Excel Project Coffee Sales Data Preprocessing & Dashboard

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Introduction:

- This project involved an end-to-end Excel endeavour within the financial services industry.
- My primary goal was to create an interactive coffee sales dashboard.
- I gathered, transformed, and visualized data using Excel.

Data Preprocessing:

1. Customer Data:
   - I utilized the XLOOKUP formula to retrieve customer information.
   - Key information included customer name, email address, and country.
   - I employed the Ctrl+Shift+Down shortcut to select the entire customer ID column.
   - I locked the range using the F4 key.
   - I used the IF function to handle missing data (email addresses) gracefully.
2. Product Data:
   - I chose INDEX MATCH to create dynamic formulas.
   - I created a single formula in cell I2 that populated all necessary columns.
   - I explained the locking of ranges using dollar signs ($) for column and row references.
   - I demonstrated how the formula adapted as I dragged it across and down the data set.
3. Sales Calculation:
   - I calculated sales by multiplying unit price and quantity sold.
   - A simple formula was applied to the entire column.
4. Enhancing Data Clarity:
   - I created additional columns for coffee type names and roast type names.
   - I used IF functions to convert abbreviations into full names for clarity.
5. Date Formatting:
   - In Excel, I navigated to the order date column in column B.
   - To format the dates, I used the day, abbreviated month in letters, and four-digit year format.

- I clicked into cell B2 and pressed `Ctrl+Shift+Down` to select the entire date column.

- I pressed `Ctrl+1` to open the "Format Cells" dialog box or went to the Home tab > Number > Format Cells.

- In the "Format Cells" dialog box, I selected "Custom."

- In the "Type" field, I entered the custom date format: "dd mmm yyyy" (e.g., 01 Sep 2023).

- I clicked "OK" to apply the date format.

7. Number Formatting (Sizes Column):

- I formatted the sizes column to display the metric unit.

- I clicked into cell K2 and pressed `Ctrl+Shift+Down` to select the entire sizes column.

- I pressed `Ctrl+1` to open the "Format Cells" dialog box.

- In the "Type" field, I entered the custom number format: "0.0"" kilo" (e.g., 1.0 kilo).

- I clicked "OK" to apply the number format.

8. Number Formatting (Unit Price and Sales Columns):

- I formatted the unit price and sales columns to display values in US Dollars.

- I clicked into cell L2, then pressed `Shift+Right` to select the sales column.

- I went to the Home tab > Number > Currency and selected "US Dollars."

9. Check for Duplicates:

- I checked for duplicate values in the data.

- I clicked into cell A1, pressed `Ctrl+Shift+Right`, and then pressed `Ctrl+Shift+Down` to select all data.

- I went to the Data tab > Remove Duplicates.

- I ensured the necessary columns were selected and clicked "OK" to remove duplicates.

Building Dashboard:

1. Convert Range to Table:

- I converted the data range into a table for easier management.

- I clicked anywhere within the data range, then pressed `Ctrl+T` or went to the Insert tab > Table.

- In the "Create Table" dialog box, I made sure "My table has headers" was checked and clicked "OK."

- I named the table (e.g., "Orders Table") and chose a table style if desired.

2. Pivot Tables and Pivot Charts:

- I created a pivot table for data analysis.

- I clicked into the table.

- I went to the Insert tab > PivotTable or used the shortcut `Alt+N > V > T`.

- I configured the pivot table by dragging "Order Date" to Rows, "Coffee Type Name" to Columns, and "Sales" to Values.

- I adjusted the number formatting of the "Sales" field to display as currency (USD).

3. Creating a Pivot Chart:

- I created a pivot chart based on the pivot table.

- I clicked into the pivot table.

- I went to the Insert tab > Line Chart or the desired chart type.

- I customized the chart as needed, including formatting the chart title, axis labels, and series colors.

4. Adding a Timeline (if applicable):

- If I wanted to add a timeline for filtering data, I inserted it based on my specific Excel version.

5. Duplicating Sheets:

- In Excel, I duplicated the existing sheet that contained my "Top Five Customers" bar chart.

- To duplicate, I right-clicked on the sheet's tab at the bottom and chose "Move or Copy."

- In the "Move or Copy" dialog, I selected "Create a copy" and chose the location for the new sheet.

- I renamed the duplicated sheet to something like "Portfolio" or a relevant name.

6. Organizing Portfolio:

- In the "Portfolio" sheet, I organized and laid out my portfolio. This included creating titles, descriptions, and arranging my charts and visuals.

- I used Excel's text boxes, shapes, and drawing tools to design my portfolio layout as desired.

7. Adding Titles and Descriptions:

- I included titles and descriptions for each chart or section in my portfolio.

- I used text boxes or cell merging to create clean and informative headings and descriptions.

8. Inserting Charts and Visuals:

- I copied and pasted my existing charts and visuals from other sheets into the "Portfolio" sheet.

- I resized and arranged them to fit the layout I designed for my portfolio.

9. Creating Hyperlinks:

- I made my portfolio interactive by adding hyperlinks to different sections or charts.

- To create a hyperlink, I selected the text or shape I wanted to use as a link, right-clicked, chose "Hyperlink," and then specified the cell or sheet I wanted to link to.

10. Formatting and Styling:

- I formatted and styled my portfolio to make it visually appealing and cohesive.

- I applied consistent fonts, colors, and borders to maintain a professional look.

11. Adding Navigation Elements:

- I created navigation elements like buttons or text links that allowed the user to jump to specific sections within the portfolio.

- I used hyperlinks to link these elements to the corresponding sections or sheets.

12. Testing and Review:

- I tested my portfolio to ensure that all hyperlinks worked correctly and that the layout appeared as intended.

- I reviewed my portfolio for any spelling or formatting errors.

13. Saving and Sharing:

- I saved my Excel file and considered creating a PDF version of my portfolio for easy sharing.

- I shared my portfolio with colleagues, clients, or stakeholders as needed.

14. Updating Portfolio:

- If my data or charts changed over time, I remembered to update my portfolio accordingly.

- I saved multiple versions of my portfolio to track changes or updates.

Key-Takes:

Here's a list of the Excel skills and elements mentioned in the project:

Excel Skills and Techniques:

1. Data Ingestion: Importing and gathering data from external sources.

2. Data Cleaning/Preprocessing: Cleaning, transforming, and preparing raw data for analysis.

3. Data Formatting: Formatting data for better readability and analysis.

4. Data Validation: Checking for duplicate values in the data.

5. Creating Tables: Converting data ranges into tables for easier management.

6. Pivot Tables: Creating pivot tables for data analysis.

7. Pivot Charts: Creating pivot charts based on pivot tables.

8. Chart Customization: Customizing chart elements, including titles, labels, and colors.

9. Text Boxes and Shapes: Using text boxes and shapes for layout and descriptions.

10. Hyperlinks: Adding hyperlinks for interactivity.

11. Formatting and Styling: Applying consistent formatting and styling to maintain a professional look.

12. Navigation Elements: Creating navigation elements (buttons or text links) for easy user interaction.

Excel Functions and Formulas:

1. XLOOKUP: Used for retrieving customer information.

2. IF Function: Used to handle missing data (email addresses) and for converting abbreviations.

3. INDEX MATCH: Used to create dynamic formulas for product data.

4. Basic Arithmetic Formulas: Used for sales calculations (e.g., multiplying unit price and quantity sold).

Excel Shortcuts:

1. Ctrl+Shift+Down: Selecting entire columns or ranges.
2. F4: Locking cell references (e.g., for dollar signs in formulas).
3. Ctrl+1: Opening the "Format Cells" dialog box.
4. Ctrl+T: Converting data ranges into tables.
5. Alt+N > V > T: Creating pivot tables.
6. Right-click: Accessing context menus (e.g., for duplicating sheets).
7. Ctrl+C and Ctrl+V: Copying and pasting elements (charts and visuals).
8. Ctrl+S: Saving the Excel file.

These skills, functions, formulas, and shortcuts were used to preprocess data and create an interactive coffee sales dashboard in Excel, showcasing proficiency in data analysis and visualization.