

## Coffee Sales Dashboard Analysis – Excel Project Report

### Overview

This project presents a comprehensive Coffee Sales Dashboard created in Microsoft Excel, offering key insights into customer behavior, product performance, and revenue trends. Leveraging Excel functions, pivot tables, slicers, and dynamic visualizations, the dashboard serves as a powerful business intelligence tool to support data-driven decisions in a coffee sales environment.

I have learned the methodology and layout from the following YouTube tutorial titled "Excel Dashboard for Data Analysis - Coffee Sales Analysis" by Mo Chen, while also tailoring the design and interactivity based on personal exploration.

### Tools & Techniques Used

- Excel Functions: XLOOKUP, INDEX MATCH, IF
- Data Transformation: Column creation, formatting, standardization
- Pivot Tables & Charts: Summary tables, line & bar charts
- Interactive Filters: Slicers and Timeline
- Dashboard Layout: Custom shapes, formatting, KPI visuals

### Step-by-Step Methodology

#### Customer Data Integration

Using XLOOKUP, customer data such as names, email addresses, and country information was extracted from a separate sheet and populated in the "Orders" worksheet:

```
=IF(XLOOKUP(C2, customers!$A$1:$A$1001, customers!$C$1:$C$1001,, 0)=0, "",  
XLOOKUP(C2, customers!$A$1:$A$1001, customers!$C$1:$C$1001,, 0))
```

NOTE: We click the F4 key to lock the range we are selecting.

#### Product Data Population

Using INDEX MATCH, detailed product attributes like size, unit price, and roast type were pulled into the main dataset from the products sheet:

```
=INDEX(products!$A$1:$G$49, MATCH(orders!$D2, products!$A$1:$A$49, 0),  
MATCH(orders!I$1, products!$A$1:$G$1, 0))
```

#### Sales Calculation

Sales were computed as:

= Unit Price × Quantity Sold

## Standardizing Coffee and Roast Types

Abbreviations were replaced with full names using nested IF statements to ensure clarity in visualizations and reports:

```
=IF(I2="Rob", "Robusta", IF(I2="Exc", "Excelsa", IF(I2="Ara", "Arabica", IF(I2="Lib", "Liberica", ""))))
```

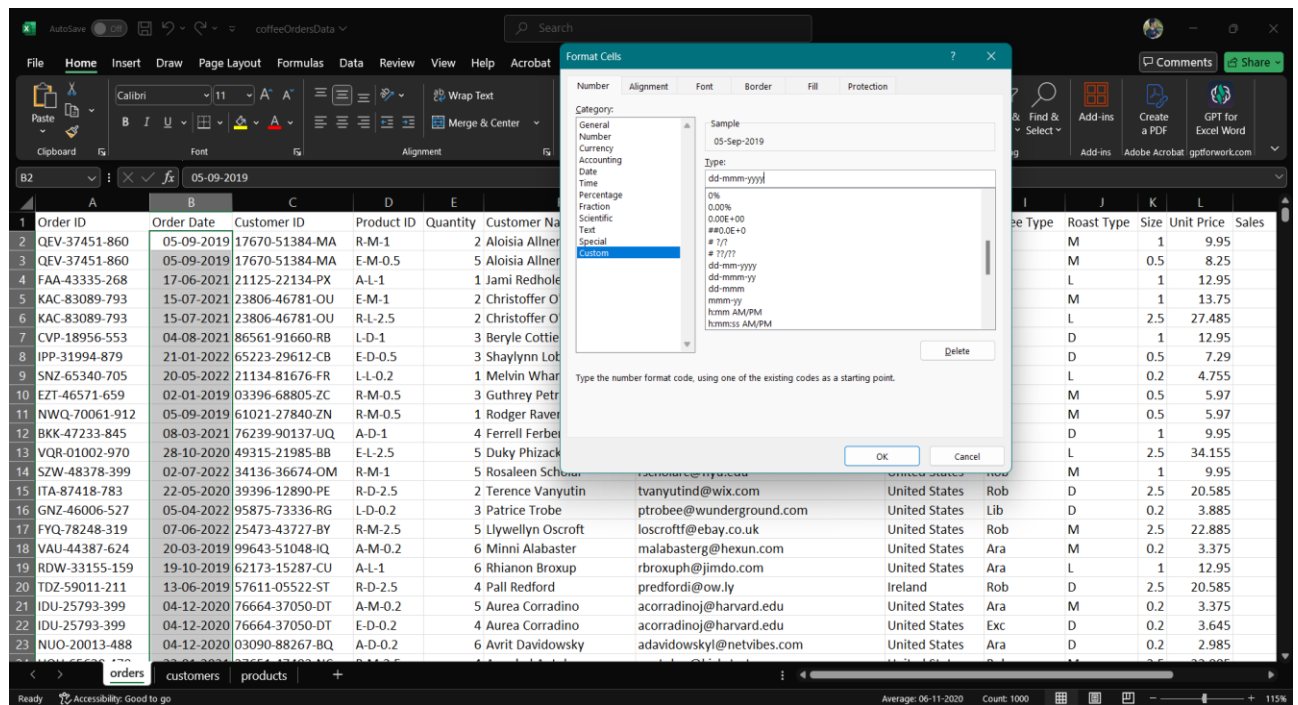
```
=IF(J2="M", "Medium", IF(J2="L", "Light", IF(J2="D", "Dark")))
```

## Formatting for Readability (CTRL+1)

Date Format: Custom dd-mmm-yyyy (e.g., 05-Sep-2019)

Size Format: Custom "0.0 kg" (e.g., 1.0 kg)

Currency Format: Applied to "Unit Price" and "Sales" columns



## Data Cleaning

Duplicates were removed to ensure accuracy in pivot analysis.

## Table Creation

The cleaned dataset was converted to a structured table named Orders using Ctrl+T, enabling dynamic updates in downstream analysis.

Order ID	Order Date	Customer ID	Product ID	Quantity	Customer Name	Email	Country	Coffee Type	Roast Type	Size	Unit Price	Sales
1	QEV-37451-860	05-Sep-2019	17670-51384-MA	R-M-1	2	Aloisia Allner	aallner0@	United States	Rob	M	1.0 kg	\$ 9.95
2	QEV-37451-860	05-Sep-2019	17670-51384-MA	E-M-0.5	5	Aloisia Allner	aallner0@	United States	Exc	M	0.5 kg	\$ 8.25
3	FAA-43335-268	17-Jun-2021	21125-22134-PX	A-L-1	1	Jami Redholes	jredholes2	United States	Ara	L	1.0 kg	\$ 12.95
4	KAC-83089-793	15-Jul-2021	23806-46781-OU	E-M-1	2	Christoffer O' Shea		Ireland	Exc	M	1.0 kg	\$ 13.75
5	KAC-83089-793	15-Jul-2021	23806-46781-OU	R-L-2.5	2	Christoffer O' Shea		Ireland	Rob	L	2.5 kg	\$ 27.49
6	CVP-18956-553	04-Aug-2021	86561-91660-RB	L-D-1	3	Beryle Cottler		United States	Lib	D	1.0 kg	\$ 12.95
7	IPP-31994-879	21-Jan-2022	65223-29612-CB	E-D-0.5	3	Shaylynn Lobe	slobe6@nifty.com	United States	Exc	D	0.5 kg	\$ 7.29
8	SNZ-65340-705	20-May-2022	21134-81676-FR	L-L-0.2	1	Melvin Wharfe		Ireland	Lib	L	0.2 kg	\$ 4.76
9	EZT-46571-659	02-Jan-2019	03396-68805-ZC	R-M-0.5	3	Guthrey Petracci	gpetracci8@livejournal.com	United States	Rob	M	0.5 kg	\$ 5.97
10	NWQ-70061-912	05-Sep-2019	61021-27840-ZN	R-M-0.5	1	Rodger Raven	rraven9@ed.gov	United States	Rob	M	0.5 kg	\$ 5.97
11	BKK-47233-845	08-Mar-2021	76239-90137-UQ	A-D-1	4	Ferrell Ferber	fferbera@businesswire.com	United States	Ara	D	1.0 kg	\$ 9.95
12	VQR-01002-970	28-Oct-2020	49315-21985-BB	E-L-2.5	5	Duky Phizackerly	dphizackerlyb@utexas.edu	United States	Exc	L	2.5 kg	\$ 34.16
13	SZW-48378-399	02-Jul-2022	34136-36674-OM	R-M-1	5	Rosaleen Scholar	rscholarc@nyu.edu	United States	Rob	M	1.0 kg	\$ 9.95
14	ITA-87418-783	22-May-2020	39396-12890-PE	R-D-2.5	2	Terence Vanyutin	tvanyutin@wix.com	United States	Rob	D	2.5 kg	\$ 20.59
15	GNZ-46006-527	05-Apr-2022	95875-73336-RG	L-D-0.2	3	Patrice Trobe	ptrobee@wunderground.com	United States	Lib	D	0.2 kg	\$ 3.89
16	FYQ-78248-319	07-Jun-2022	25473-43727-BY	R-M-2.5	5	Llywellyn Oscroft	loscroftf@ebay.co.uk	United States	Rob	M	2.5 kg	\$ 22.89
17	VAU-44387-624	20-Mar-2019	99643-51048-IQ	A-M-0.2	6	Minni Alabaster	malabasterg@hexun.com	United States	Ara	M	0.2 kg	\$ 3.38
18	RDW-33155-159	19-Oct-2019	62173-15287-CU	A-L-1	6	Rhianon Brouxp	rbrouxp@jimdo.com	United States	Ara	L	1.0 kg	\$ 12.95
19	IDZ-59011-211	13-Jun-2019	57611-05522-ST	R-D-2.5	4	Pall Redford	predfordi@ow.ly	Ireland	Rob	D	2.5 kg	\$ 20.59
20	IDU-25793-399	04-Dec-2020	76664-37050-DT	A-M-0.2	5	Aurea Corradino	acorradinoj@harvard.edu	United States	Ara	M	0.2 kg	\$ 3.38
21	IDU-25793-399	04-Dec-2020	76664-37050-DT	E-D-0.2	4	Aurea Corradino	acorradinoj@harvard.edu	United States	Exc	D	0.2 kg	\$ 3.65
22	NUO-20013-488	04-Dec-2020	03090-88267-BQ	A-D-0.2	6	Avrit Davidowsky	adavidowsky@netvibes.com	United States	Ara	D	0.2 kg	\$ 2.99

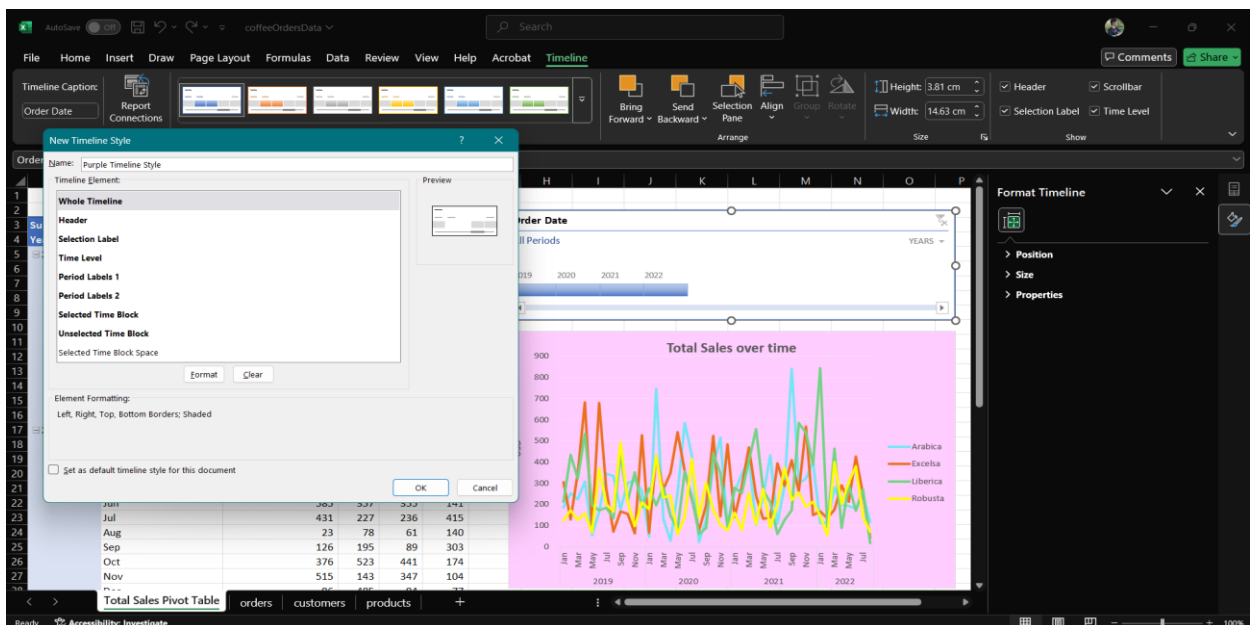
## Dashboard Components

### Sales Trend Over Time

A pivot table was used to group sales by year and month, segmented by coffee type. A line chart was created to visualize sales trends.

### Interactive Timeline

A Timeline slicer was inserted to allow dynamic filtering of the entire dashboard by date.



## Slicers for Filtering

Three slicers were added for:

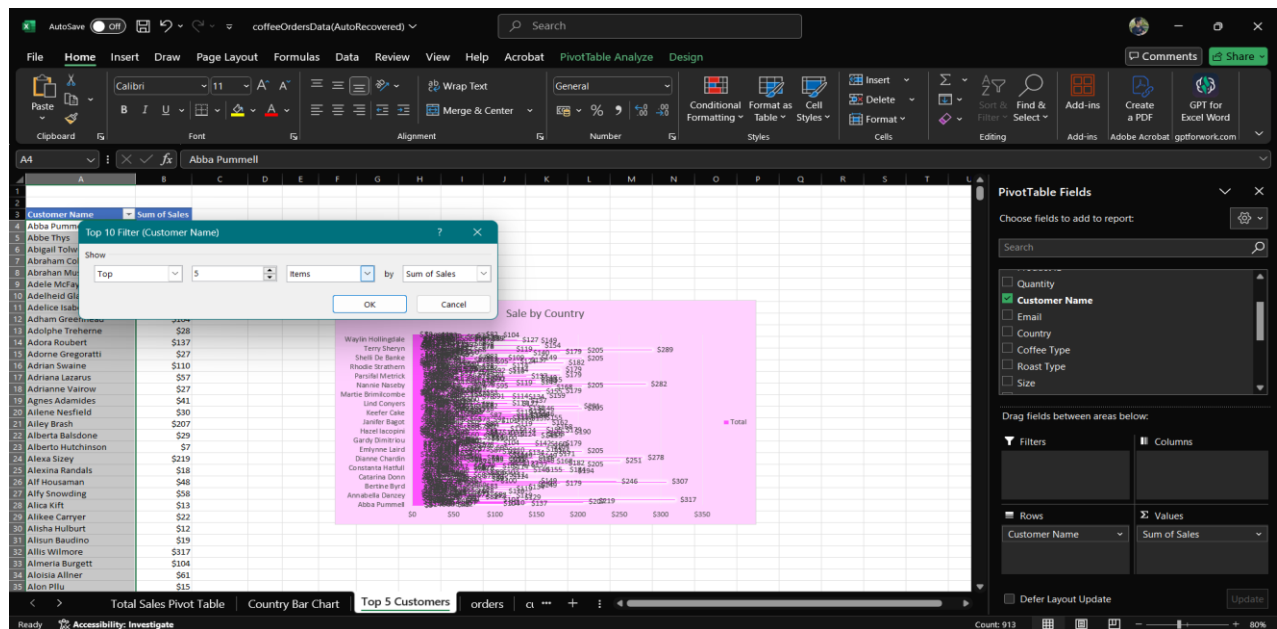
- Size
- Roast Type
- Loyalty Card Holder (retrieved via XLOOKUP on Customer ID)

## Sales by Country (Bar Chart)

Pivot data was summarized and visualized using a bar chart showing total sales per country.

## Top 5 Customers (Bar Chart)

Sales data was sorted and filtered to highlight the top 5 customers by revenue contribution.



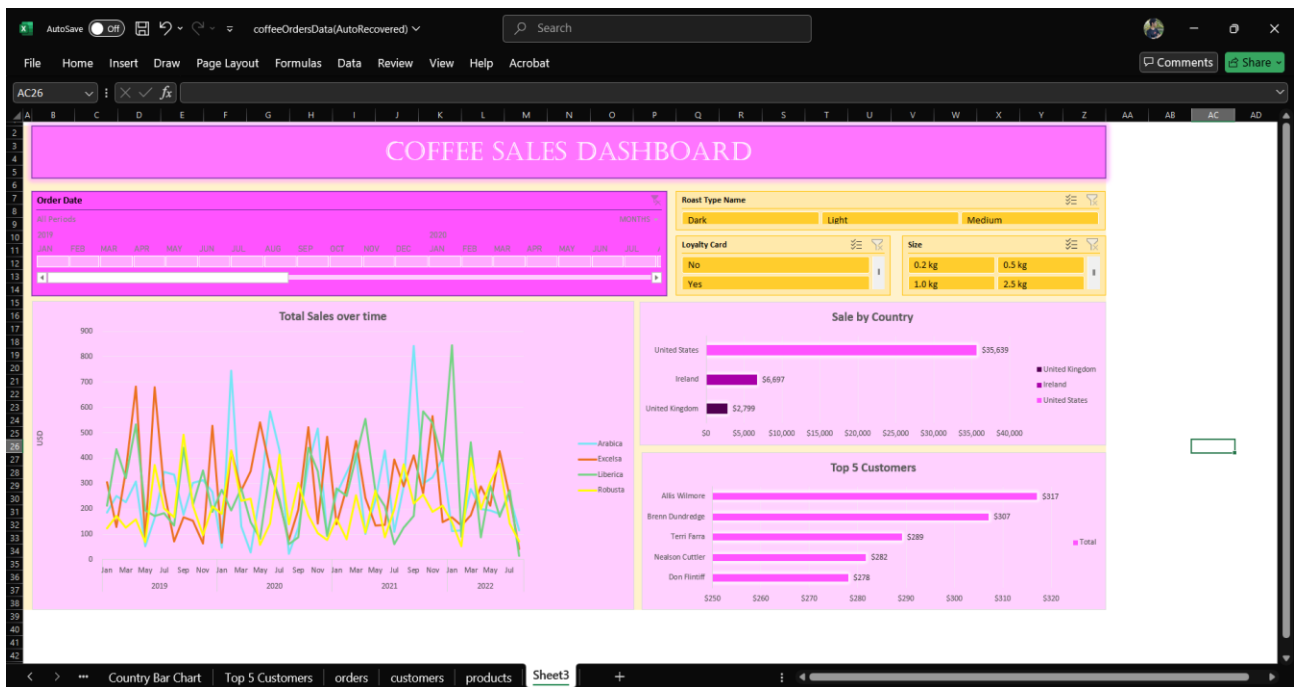
## Dashboard Design

A new worksheet was dedicated to the final dashboard.

- Custom layout with minimized grid lines and resized cells for cleaner visuals.
- Strategic placement of pivot tables, charts, slicers, and KPIs.
- Color-coded headers, shapes, and elements to guide user navigation.

## Key Insights

- Arabica emerged as the most sold coffee type across multiple months.
- Certain countries and customers significantly contribute to total sales. Here, the United States consumes more coffee than other countries. Similarly, Allis Wilmore buys coffee more than any other customer.
- The dashboard allows decision-makers to easily identify trends and high-performing segments.



## Conclusion

This Coffee Sales Dashboard shows how Excel can be transformed into a full-featured data analytics tool through its formulas, clean data organization, and thoughtful design.