# OnyX Coffee Sales Analysis Technical Report

## **Project Background and Overview**

OnyX Coffee, established in 2018, is a South Africa-based company that sells coffee in three countries: South Africa, Namibia, and Botswana.

The company has a significant amount of data on its sales, product offerings, and loyalty program, which has been previously underutilized. I'm partnering with the Head of Operations to thoroughly analyze this data to uncover insights that will enhance OnyX's profitability and commercial success.

Insights and recommendations are provided on the following key business areas:

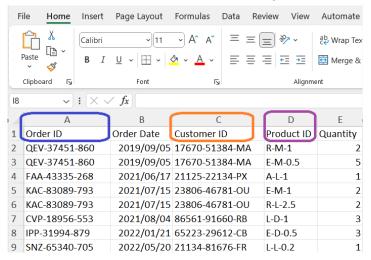
- 1. **Sales Trends and Growth Analysis:** This involves evaluating OnyX's historical sales patterns from 2019 to 2022 across its three operations, focusing on revenue, order volume, and average order value (AOV).
- 2. **Product Performance**: This section includes an analysis of OnyX's product lines to understand their impact on overall sales.
- 3. **Loyalty Program Success:** This involves assessing the effectiveness of the loyalty program in driving customer sales.

This analysis will assist the OnyX's product team to identify the most profitable coffee products and optimize pricing, the inventory Management team to ensure that the right quantities of each coffee product are stocked, and the marketing team to tailor marketing campaigns to specific customer segments.

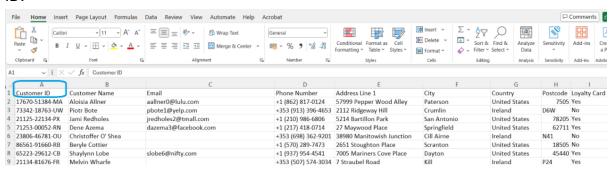
### **Dataset Description:**

The Excel sheet consists of three tabs:

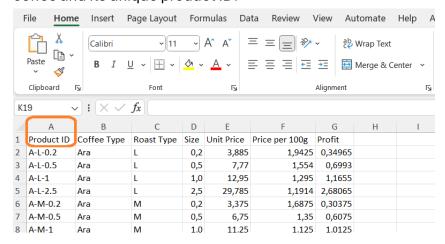
1. **Orders** - This tab lists all the orders made over time by customers.



2. **Customers** - This tab contains customer details, including a unique customer ID.

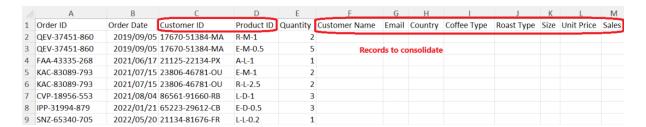


3. **Products** - This tab features details about coffee products, such as the type of coffee and its unique product ID.



## **Step 1 of 4: Dataset records consolidation**

A decision has been made that the order tab/table lacks some necessary information required from the customer and products tab/tables, as detailed below.



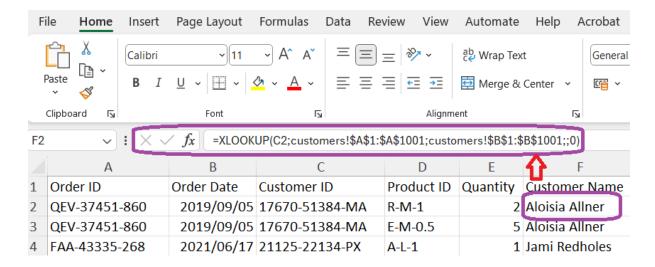
Both the XLOOKUP and INDEX + MATCH functions will be used to retrieve the missing data from their respective tabs. These functions were chosen to demonstrate Excel skills and for their dynamic nature.

#### **XLOOKUP function:**

To fill the missing values in the customer table, such as **Customer Name**, **Email**, and **Country**, an XLOOKUP function was used.

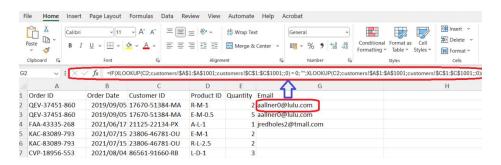
It is important to note that while VLOOKUP could have also been suitable this time, XLOOKUP was chosen because it is a newer version of VLOOKUP.

#### **Customer Name**

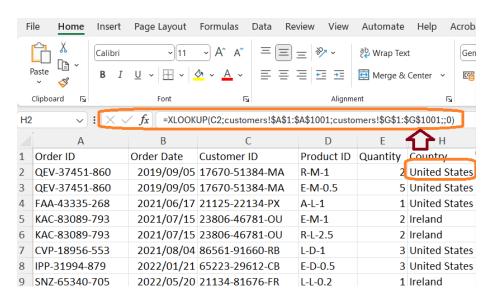


#### **Email**

An IF function was added to an XLOOKUP function to eliminate "0" from cells with blank email addresses as shown below.

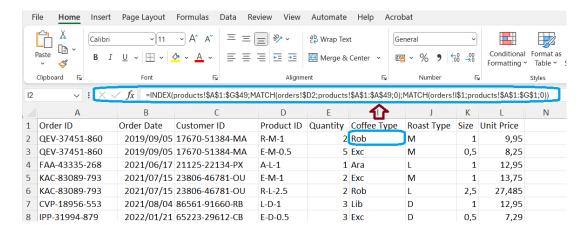


#### Country

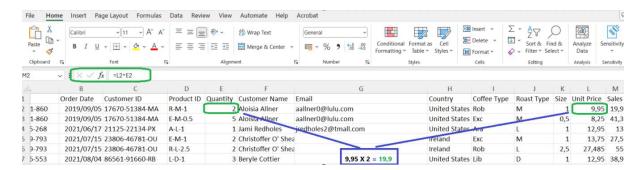


#### **INDEX + MATCH:**

To fill in the missing values in the products table such as **Coffee Type**, **Roast Type**, & package **Size**, an INDEX & MATCH function was used.

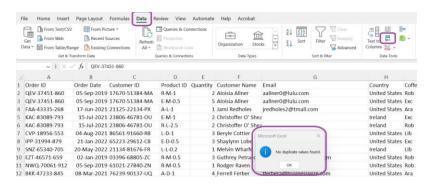


A straightforward multiplication calculation was used to populate the **Sales** column, as illustrated below.

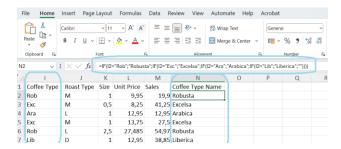


## **Step 2 of 4: Data Cleaning**

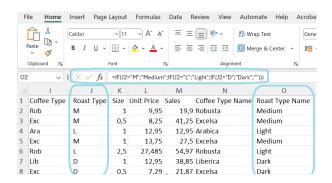
Checking for possible duplicate records.



To improve readability, prefixes in the **Coffee Type** column will be fully spelled out in a new column called **Coffee Type Name** using the **IF Function**, as shown below.

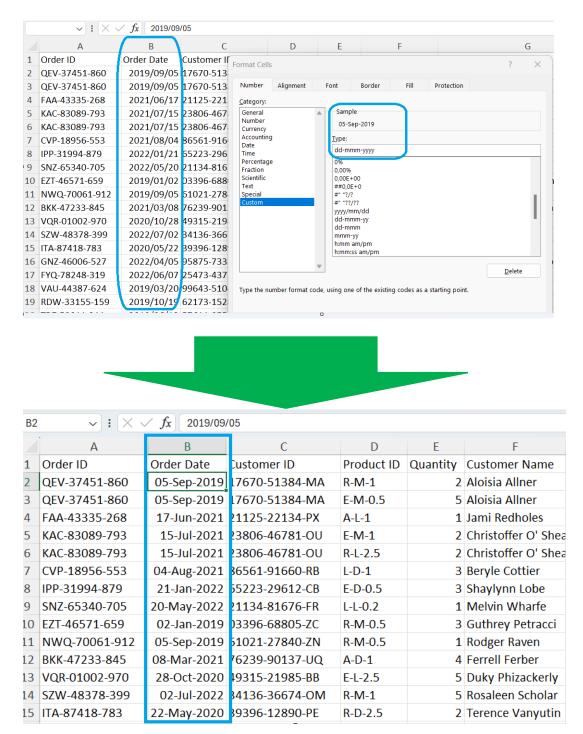


Similarly, prefixes in the **Roast Type** column will be fully spelled out in a new column called **Roast Type Name** using the **IF Function**, as shown below.

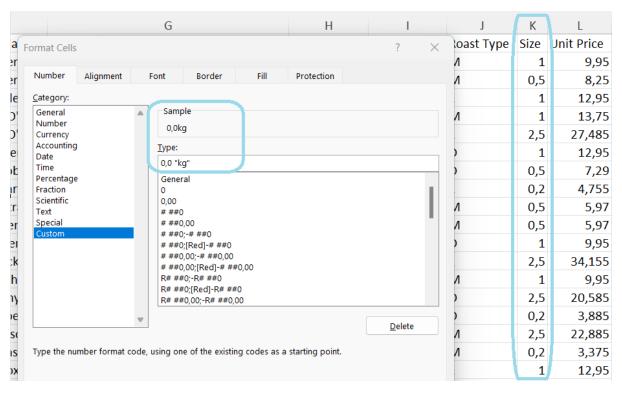


## **Step 3 of 4: Cell Formatting**

The numeric date format can be confusing; therefore, the **Order Date** column has been formatted as shown below.



Updated the Coffee size packages column called **Size** to reflect its corresponding unit size (i.e., kg), as shown below.





С	D	E	F	G	Н	1	J	K	L
Customer ID	Product ID	Quantity	Customer Name	Email	Country	Coffee Type	Roast Type	Size	Unit Price
17670-51384-MA	R-M-1	2	Aloisia Allner	aallner0@lulu.com	United States	Rob	M	1,0kg	9,95
17670-51384-MA	E-M-0.5	5	Aloisia Allner	aallner0@lulu.com	United States	Exc	M	0,5kg	8,25
21125-22134-PX	A-L-1	1	Jami Redholes	jredholes2@tmall.com	United States	Ara	L	1,0kg	12,95
23806-46781-OU	E-M-1	2	Christoffer O' Shea		Ireland	Exc	M	1,0kg	13,75
23806-46781-OU	R-L-2.5	2	Christoffer O' Shea		Ireland	Rob	L	2,5kg	27,485
86561-91660-RB	L-D-1	3	Beryle Cottier		United States	Lib	D	1,0kg	<b>12,9</b> 5
65223-29612-CB	E-D-0.5	3	Shaylynn Lobe	slobe6@nifty.com	United States	Exc	D	0,5kg	7,29
21134-81676-FR	L-L-0.2	1	Melvin Wharfe		Ireland	Lib	L	0,2kg	4,755

Both Unit Price and Sales columns have been reformatted to show the associated currency, which is the US Dollar (\$), as illustrated below.

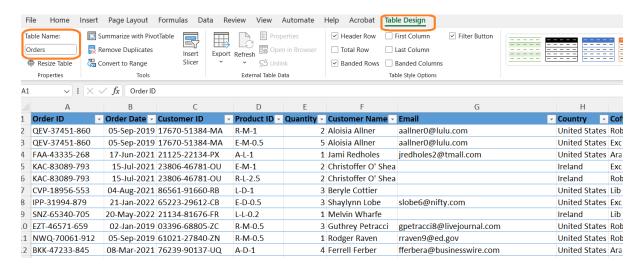
K	L	М	N
Size	Unit Price	Sales	Coffee Type Name
1,0kg	9,95	19,9	Robusta
0,5kg	8,25	41,25	Excelsa
1,0kg	12,95	12,95	Arabica
1,0kg	13,75	<b>27,</b> 5	Excelsa
2,5kg	27,485	54,97	Robusta
1,0kg	12,95	38,85	Liberica
0,5kg	7,29	21,87	Excelsa
0,2kg	4,755	4,755	Liberica
0,5kg	5,97	17,91	Robusta
0,5kg	5,97	5,97	Robusta
1,0kg	9,95	39,8	Arabica

K		L		М	N
Size	Uni	t Price	Sa	les	Coffee Type Name
1,0kg	\$	9,95	\$	19,90	Robusta
0,5kg		8,25	\$	41,25	Excelsa
1,0kg	-	12,95	\$	12,95	Arabica
1,0kg	\$	13,75	\$	27,50	Excelsa
2,5kg	\$	27,49	\$	54,97	Robusta
1,0kg	\$	12,95	\$	38,85	Liberica
0,5kg		7,29	\$	21,87	Excelsa
0,2kg	\$	4,76	\$	4,76	Liberica
0,5kg	\$	5,97	\$	17,91	Robusta
0,5kg	\$	5,97	\$	5,97	Robusta
1,0kg	\$	9,95	\$	39,80	Arabica
2,5kg	\$	34,16	\$	170,78	Excelsa
1,0kg	\$	9,95	\$	49,75	Robusta

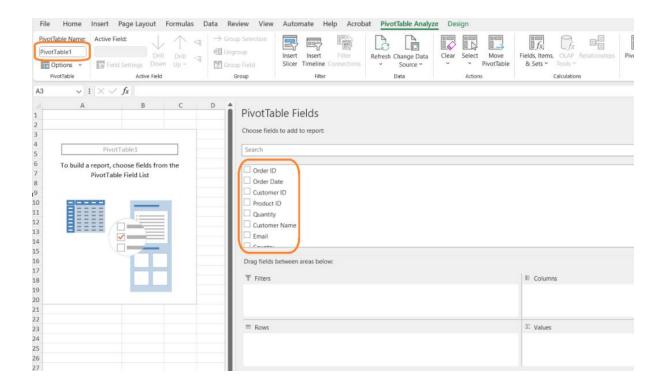
## Step 4 of 4: Pivot Tables & Charts Creation for the Dashboard

We will first convert our worksheet into a table.

With a mouse cursor on any cell on our worksheet, pressing Ctrl + T on the keyboard creates a table and allows you to give it a name, as shown below.



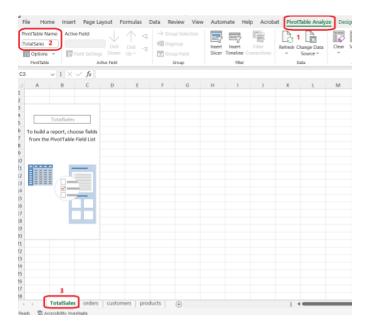
We will now create a Pivot Table for all the fields of our worksheet. Now, with a mouse cursor on any cell on our worksheet, pressing Alt + N + V + T on the keyboard creates a Pivot Table, as shown below.



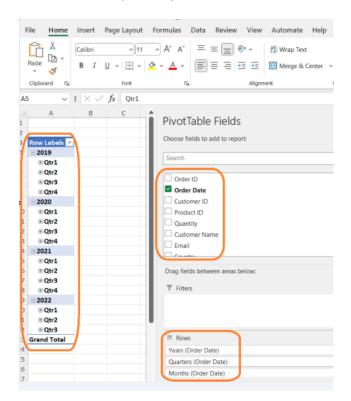
#### **Total Sales Dashboard Visualize:**

The **Pivot tables** and **charts** will be used to create a visual representation of total sales.

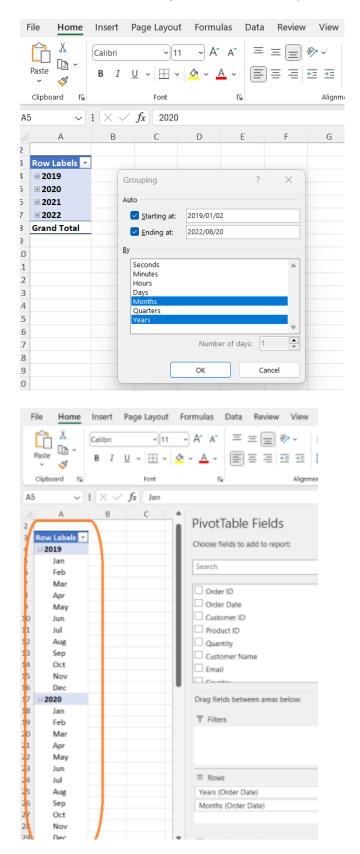
The total sales dashboard visuals will be created in a new worksheet. Our worksheet and pivot table have been created and named, as shown below.

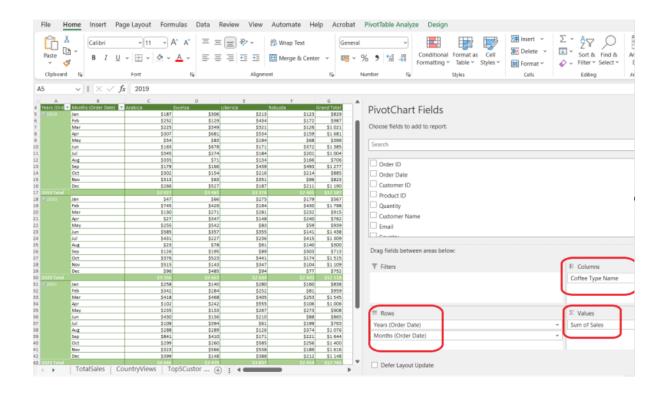


To visualize Total Sales Over Time, a line chart is suitable. As shown below, the order dates include quarterly information.

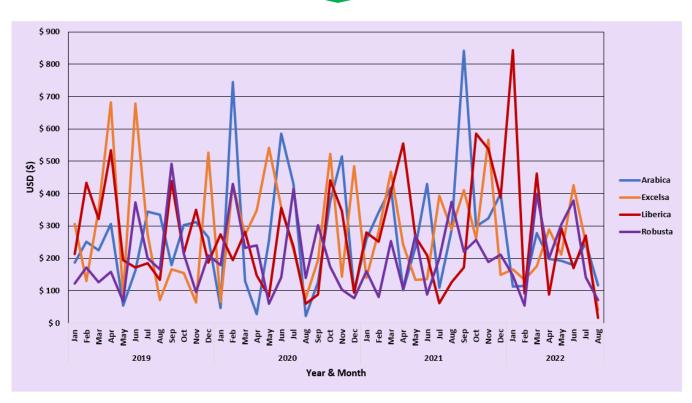


To display only the Year and Month, right-click the existing Pivot Table. In the new window, select "**Group**" and choose the preferred format.

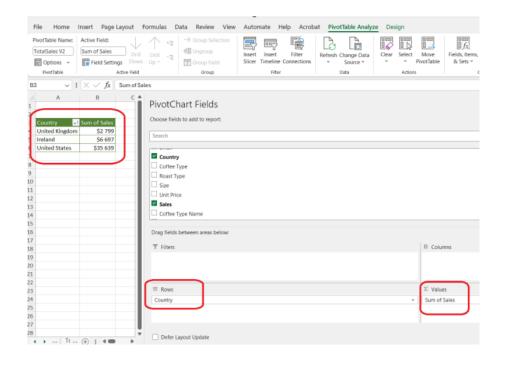




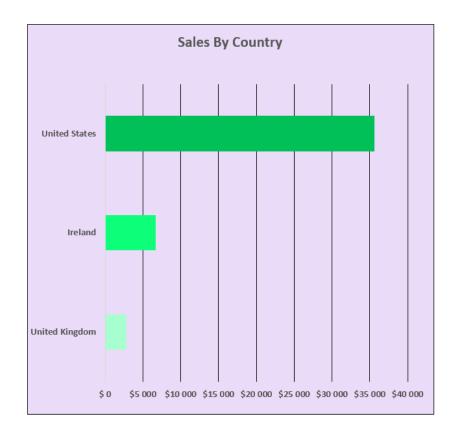




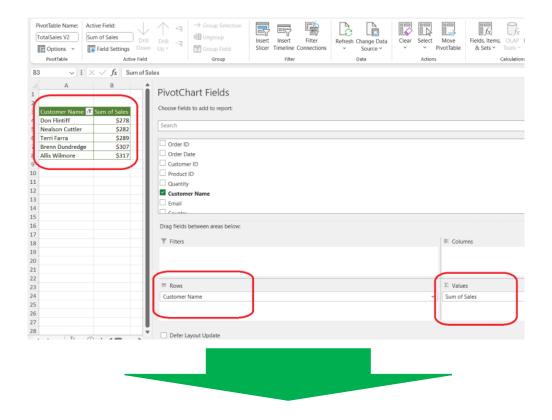
#### **Sales by Country Dashboard Visualize:**

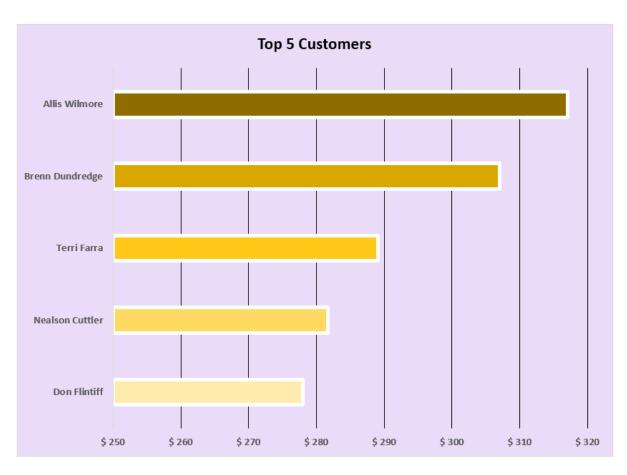






#### **Top 5 Customers by Sales Dashboard Visualize:**





## **Complete Dashboard:**

