

Terra Coffee Co.

Business Performance & Marketing Insights

2019-2022 Business Performance

Hamza Imtiaz - 2024

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Overview

Context

This project aims to optimize Terra Coffee Co.'s **product offerings, marketing strategies, and customer retention** efforts by **leveraging sales data insights to increase revenue** across key markets, improve customer satisfaction, and drive larger purchases through targeted campaigns and personalized offers.

The requirements for this project are as follows: Create a **dashboard within Excel** which displays total sales over time, sales by country, and sales by top customers and ensure that there are **filters/slicers** for roast type, package size, and loyalty members as well as a **timeline** slicer.

Data Source

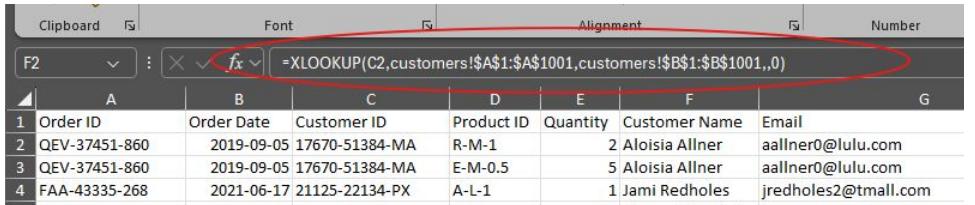
Data Source

- The dataset consisted of a single .csv file containing three tables:
- The orders table held order details, including order ID, date, and basic customer information
- The customer table stored customer data, such as customer ID, name, and contact details.
- The products table included information on the coffee products, such as product ID, size, roast type, and price

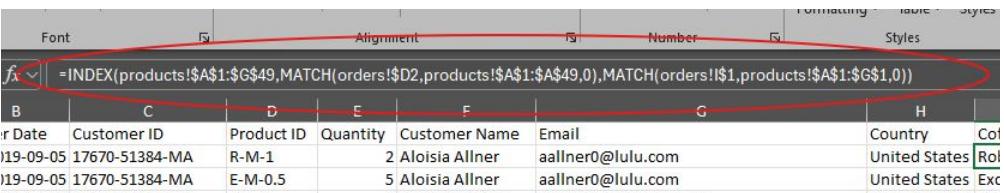
| | A | B | C | D | E |
|----|---------------|------------|----------------|------------|----------|
| 1 | Order ID | Order Date | Customer ID | Product ID | Quantity |
| 2 | QEY-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | |
| 3 | QEY-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | |
| 4 | FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | |
| 5 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | |
| 6 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | |
| 7 | CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | |
| 8 | IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | |
| 9 | SNZ-65340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | |
| 10 | EZT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | |
| 11 | NWQ-70061-912 | 2019-09-05 | 61021-27840-ZN | R-M-0.5 | |
| 12 | BKK-47233-845 | 2021-03-08 | 76239-90137-UQ | A-D-1 | |
| 13 | VQR-01002-970 | 2020-10-28 | 49315-21985-BB | E-L-2.5 | |
| 14 | SZW-48378-399 | 2022-07-02 | 34136-36674-OM | R-M-1 | |
| 15 | ITA-87418-783 | 2020-05-22 | 39396-12890-PE | R-D-2.5 | |
| 16 | GNZ-46006-527 | 2022-04-05 | 95875-73336-RG | L-D-0.2 | |
| 17 | FYQ-78248-319 | 2022-06-07 | 25473-43727-BY | R-M-2.5 | |
| 18 | VAU-44387-624 | 2019-03-20 | 99643-51048-IQ | A-M-0.2 | |
| 19 | RDW-33155-159 | 2019-10-19 | 62173-15287-CU | A-L-1 | |
| 20 | TDZ-59011-211 | 2019-06-13 | 57611-05522-ST | R-D-2.5 | |
| 21 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | A-M-0.2 | |
| 22 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | E-D-0.2 | |
| 23 | NUO-20013-488 | 2020-12-04 | 03090-88267-BQ | A-D-0.2 | |
| 24 | UQU-65630-479 | 2021-01-22 | 37651-47492-NC | R-M-2.5 | |
| 25 | FE0-11834-332 | 2022-02-11 | 95399-57205-HI | A-D-0.2 | |
| 26 | TKY-71558-096 | 2021-09-15 | 24010-66714-HW | A-M-1 | |
| 27 | OXY-65322-253 | 2020-10-24 | 07591-92789-UA | E-M-0.2 | |
| 28 | EVP-43500-491 | 2019-02-20 | 49231-44455-IC | A-M-0.5 | |
| 29 | WAG-26945-689 | 2019-10-08 | 50124-88608-EO | A-M-0.2 | |
| 30 | GUE-78005-367 | 2022-08-03 | 00000-74011-HZ | A-D-0.5 | |

Data Cleaning and Preparation

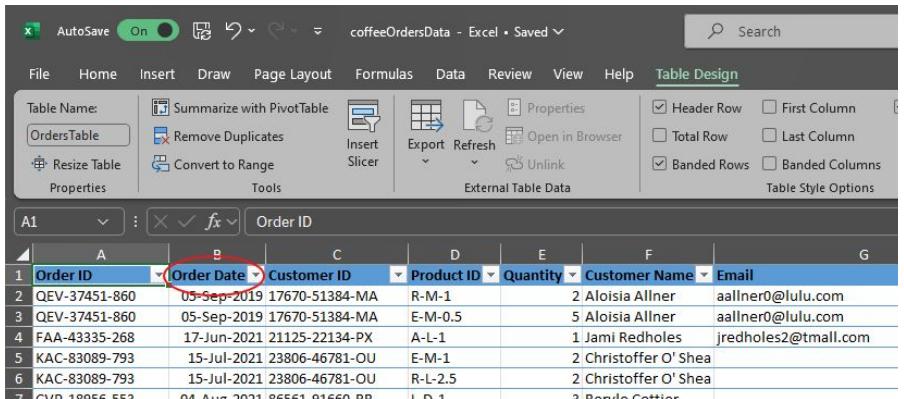
- Several columns in the orders table, including customer name, coffee type, size, and unit price, were missing data.
- To address this, XLOOKUP and INDEX functions were used to match and fill in the missing values from other tables (see appendix).
- Once the data was complete, the date and size columns were reformatted, and the orders table was converted into a pivot table for easier visualization and analysis.



| A | B | C | D | E | F | G |
|-----------------|------------|----------------|------------|----------|----------------|----------------------|
| 1 Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email |
| 2 QEV-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner0@lulu.com |
| 3 QEV-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner0@lulu.com |
| 4 FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@tmall.com |
| | | | | | ... | |



| B | C | D | E | F | G | H |
|------------|----------------|------------|----------|----------------|-------------------|---------------|
| Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country |
| 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner0@lulu.com | United States |
| 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner0@lulu.com | United States |



| A | B | C | D | E | F | G |
|-----------------|-------------|----------------|------------|----------|---------------------|----------------------|
| 1 Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email |
| 2 QEV-37451-860 | 05-Sep-2019 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner0@lulu.com |
| 3 QEV-37451-860 | 05-Sep-2019 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner0@lulu.com |
| 4 FAA-43335-268 | 17-Jun-2021 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@tmall.com |
| 5 KAC-83089-793 | 15-Jul-2021 | 23806-46781-OU | E-M-1 | 2 | Christoffer O' Shea | |
| 6 KAC-83089-793 | 15-Jul-2021 | 23806-46781-OU | R-L-2.5 | 2 | Christoffer O' Shea | |
| 7 CVD-10956-552 | 04-Aug-2021 | 01660-DB | I-D-1 | 2 | Randie Cottier | |

Insights Deep-Dive

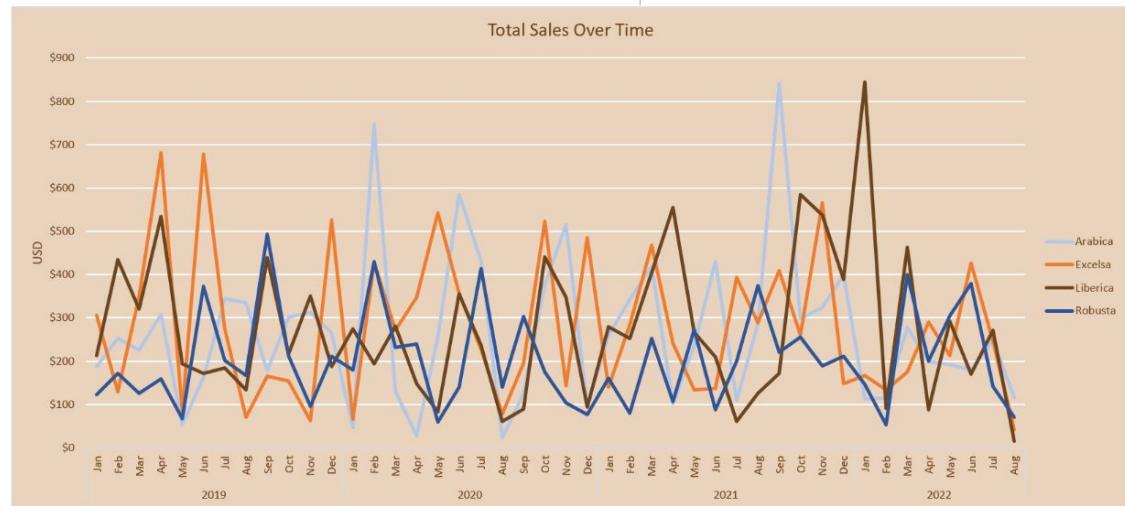
Sales trends by coffee bean type (Arabica, Liberica, Robusta, Excelsa) over time

Arabica shows **more consistent sales**, peaking during the middle of each year.

Excelsa and Liberica have higher volatility, with sharp peaks and dips.

Sales for Robusta appear more stable but have **fewer spikes** in revenue.

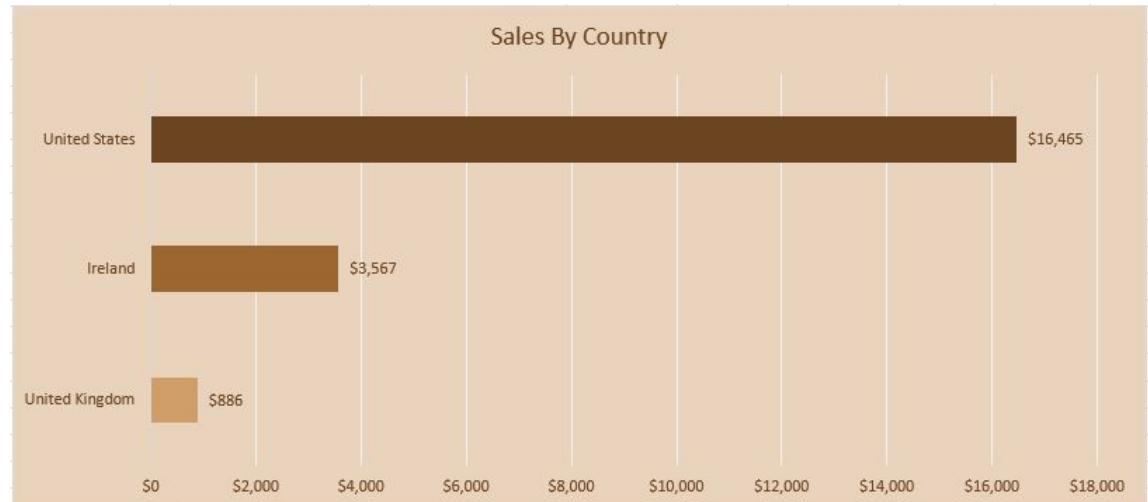
Peak sales months are generally observed in the middle of the year (summer), with fluctuations during other periods.



Geographic sales distribution by country

The majority of sales come from the United States, far outpacing other countries (\$35.6k), Ireland follows at \$6.6k, and the United Kingdom contributes the least at \$2.7k.

This suggests a **strong presence in the U.S. market**, with room for growth in international markets.

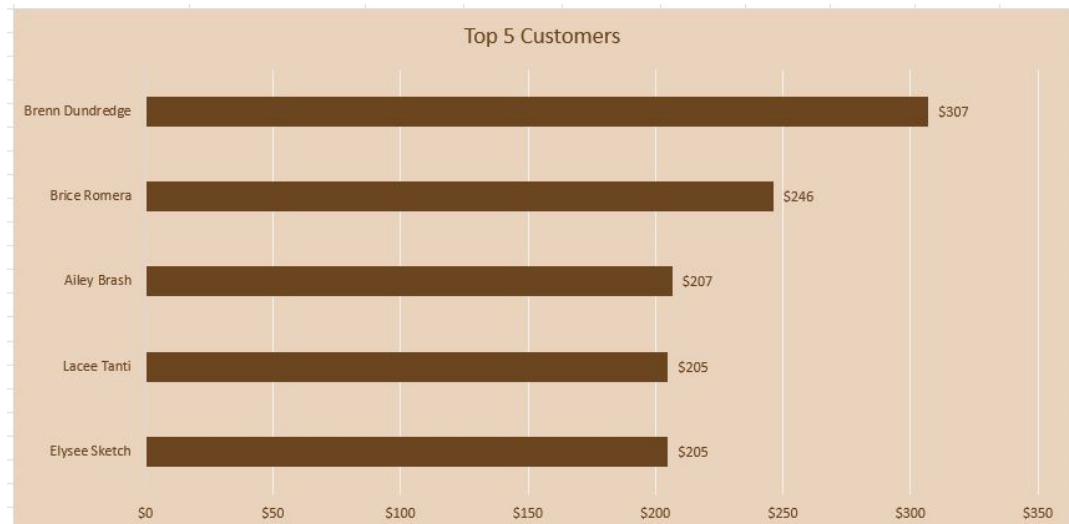


Customer-driven performance with a focus on top 5 customers

The top customer, Allis Wilmore, contributed \$317, with other top customers contributing between \$278 and \$307.

Customer sales are relatively close in value, suggesting the top customers are spread out in their purchases.

This indicates the potential for a loyalty program or marketing strategy to encourage repeat purchases from high-value customers.



Filtering by roast type, size, and loyalty program participation

Roast preferences vary significantly across countries, suggesting the need for region-specific marketing strategies (light roast for the U.S. market, dark roast for the Irish market, medium roast for the U.K. market)

There is a clear trend that larger package sizes drive higher sales, making it worthwhile to promote larger sizes to increase revenue in all regions and among key customers.

The United States is the strongest market for both loyalty and non-loyalty members, but non-loyalty members contribute more to overall sales.

Loyalty members contribute to more stable sales over time, while non-loyalty members drive larger but less frequent purchases.

Ireland shows a slightly stronger response from loyalty members, suggesting a potential growth opportunity in this market.

Recommendations

Key Recommendations

Tailor Marketing and Product Offerings by Region

- Develop region-specific campaigns (e.g., special promotions, influencer marketing, localized ads) that highlight the most popular roast in each country.

Promote Larger Package Sizes to Boost Sales

- Expand the range of larger package options and make them more prominent in both online and in-store displays.
- Highlight savings or value-added offers for larger sizes to push customers toward higher-volume purchases.

Strengthen Loyalty Program

- Strengthen the loyalty program to increase membership revenue and boost sales by introducing exclusive benefits for members, such as:
 - Early access to new roasts or limited editions.
 - Tiered rewards for more frequent or high-volume purchases.
 - Personalized offers based on purchase history (e.g., discounts on their favorite roast or size).

Conclusion: By focusing on regional preferences, promoting larger sizes, and optimizing the loyalty program, Terra Coffee Co. can continue to grow sales and better meet customer needs. Leveraging these data-driven insights will help create more personalized marketing efforts, boost customer retention, and expand the company's reach in underperforming markets.

Appendix

Technical Process

Dataset stats:

- Orders tab has 1000 unique rows
- Customers tab has 1000 unique rows
- Products tab has 48 unique rows
- Data ranges from 2019 to 2022

The analysis used a orders table with the following key dimensions:

- **Coffee Type:** arabica, excelsa, liberica, robusta
- **Roast Type:** light, medium, dark
- **Country:** United States, Ireland, United Kingdom
- **Product ID**
- **Customer ID**

The technical process included:

- Cleaning and preparing the data in **Excel**
- Calculating metrics and extracting insights in **Excel**
- Building a self-service dashboard for visualization in **Excel**

Appendix A

The customer info in the raw data file was empty so I needed to populate these columns manually.

The XLOOKUP function was used to match and populate the customer info data. Customer ID was used as the primary key in the function to match the data from the other tabs.

| | A | B | C | D | E | F | G | H |
|----|----------------|------------|----------------|------------|----------|---------------|-------|---------|
| 1 | Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country |
| 2 | QE-V-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | | | |
| 3 | QE-V-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | | | |
| 4 | FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | | | |
| 5 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | 2 | | | |
| 6 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | 2 | | | |
| 7 | CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | 3 | | | |
| 8 | IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | 3 | | | |
| 9 | SNZ-65340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | 1 | | | |
| 10 | EZT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | 3 | | | |
| 11 | NWQ-70061-912 | 2019-09-05 | 61021-27840-ZN | R-M-0.5 | 1 | | | |
| 12 | BKK-47233-845 | 2021-03-08 | 76239-90137-UQ | A-D-1 | 4 | | | |
| 13 | VQR-01002-970 | 2020-10-28 | 49315-21985-BB | E-L-2.5 | 5 | | | |
| 14 | SZV-48378-399 | 2022-07-02 | 34136-36674-OM | R-M-1 | 5 | | | |
| 15 | ITA-87418-783 | 2020-05-22 | 39396-12890-PE | R-D-2.5 | 2 | | | |
| 16 | GNZ-46006-527 | 2022-04-05 | 95875-73336-RG | L-D-0.2 | 3 | | | |
| 17 | FYQ-78248-319 | 2022-06-07 | 25473-43727-BY | R-M-2.5 | 5 | | | |
| 18 | VAU-44387-624 | 2019-03-20 | 99643-51048-IQ | A-M-0.2 | 6 | | | |
| 19 | RDW-33155-159 | 2019-10-19 | 62173-15287-CU | A-L-1 | 6 | | | |
| 20 | TDZ-59011-211 | 2019-06-13 | 57611-05522-ST | R-D-2.5 | 4 | | | |
| 21 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | A-M-0.2 | 5 | | | |
| 22 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | E-D-0.2 | 4 | | | |
| 23 | NUO-20013-488 | 2020-12-04 | 03090-88267-BQ | A-D-0.2 | 6 | | | |
| 24 | UQU-65630-479 | 2021-01-22 | 37651-47492-NC | R-M-2.5 | 4 | | | |
| 25 | FEO-11834-332 | 2022-02-11 | 95399-57205-HI | A-D-0.2 | 4 | | | |
| 26 | TKY-71558-098 | 2021-09-15 | 24010-66714-HW | A-M-1 | 1 | | | |
| 27 | OXY-65322-253 | 2020-10-24 | 07591-92789-UA | E-M-0.2 | 3 | | | |
| 28 | EVP-43500-491 | 2019-02-20 | 49231-44455-IC | A-M-0.5 | 4 | | | |
| 29 | WAG-26945-689 | 2019-10-08 | 50124-88608-EO | A-M-0.2 | 5 | | | |
| 30 | GUE-38005-357 | 2022-02-03 | 80080-74014-HZ | A-D-0.5 | 2 | | | |

| | A | B | C | D | E | F | G | H |
|----|----------------|------------|----------------|------------|----------|--------------------|-------------------------------|---------------|
| 1 | Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country |
| 2 | QE-V-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner@lulu.com | United States |
| 3 | QE-V-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner@lulu.com | United States |
| 4 | FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@mail.com | United States |
| 5 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | 2 | Christoffer O'Shee | | Ireland |
| 6 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | 2 | Christoffer O'Shee | | Ireland |
| 7 | CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | 3 | Berlye Cottier | | United States |
| 8 | IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | 3 | Shaylyn Lobe | slobe6@nifty.com | United States |
| 9 | SNZ-65340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | 1 | Melvin Wharfe | | Ireland |
| 10 | EZT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | 3 | Guthrey Petracci | gpetracci@livejournal.com | United States |
| 11 | NWQ-70061-912 | 2019-09-05 | 61021-27840-ZN | R-M-0.5 | 1 | Rodger Raven | raven7@ed.gov | United States |
| 12 | BKK-47233-845 | 2021-03-08 | 76239-90137-UQ | A-D-1 | 4 | Ferrell Ferber | fieber@businesswire.com | United States |
| 13 | VQR-01002-970 | 2020-10-28 | 49315-21985-BB | E-L-2.5 | 5 | Duky Phizackerly | dphizackerly@utexas.edu | United States |
| 14 | SZV-48378-399 | 2022-07-02 | 34136-36674-OM | R-M-1 | 5 | Rosalene Scholar | rscholar@nyu.edu | United States |
| 15 | ITA-87418-783 | 2020-05-22 | 39396-12890-PE | R-D-2.5 | 2 | Terence Vanyutin | tvanyutin@wix.com | United States |
| 16 | GNZ-46006-527 | 2022-04-05 | 95875-73336-RG | L-D-0.2 | 3 | Patrice Trobe | ptrobee@wunderground.com | United States |
| 17 | FYQ-78248-319 | 2022-06-07 | 25473-43727-BY | R-M-2.5 | 5 | Llywelyn Oscroft | loscroff@ebay.co.uk | United States |
| 18 | VAU-44387-624 | 2019-03-20 | 99643-51048-IQ | A-M-0.2 | 6 | Minni Alabaster | malabaster@hexun.com | United States |
| 19 | RDW-33155-159 | 2019-10-19 | 62173-15287-CU | A-L-1 | 6 | Rhianon Broxup | rbroxup@jimdo.com | United States |
| 20 | TDZ-59011-211 | 2019-06-13 | 57611-05522-ST | R-D-2.5 | 4 | Pall Redford | predford@ow.ly | Ireland |
| 21 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | A-M-0.2 | 5 | Aurea Corradino | accorradino@harvard.edu | United States |
| 22 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | E-D-0.2 | 4 | Aurea Corradino | accorradino@harvard.edu | United States |
| 23 | NUO-20013-488 | 2020-12-04 | 03090-88267-BQ | A-D-0.2 | 6 | Avrit Davidowsky | adavidowsky@netvibes.com | United States |
| 24 | UQU-65630-479 | 2021-01-22 | 37651-47492-NC | R-M-2.5 | 4 | Annabel Antuk | aantukm@kickstarter.com | United States |
| 25 | FEO-11834-332 | 2022-02-11 | 95399-57205-HI | A-D-0.2 | 4 | Jorge Kleinetert | jkleinetert@timesonline.co.uk | United States |
| 26 | TKY-71558-098 | 2021-09-15 | 24010-66714-HW | A-M-1 | 1 | Chrisy Blofeld | cblofeldo@amazon.co.uk | United States |
| 27 | OXY-65322-253 | 2020-10-24 | 07591-92789-UA | E-M-0.2 | 3 | Culley Farris | | United States |
| 28 | EVP-43500-491 | 2019-02-20 | 49231-44455-IC | A-M-0.5 | 4 | Seleny Shales | sshalesq@umich.edu | United States |
| 29 | WAG-26945-689 | 2019-10-08 | 50124-88608-EO | A-M-0.2 | 5 | Vivie Danneil | vdanneil@mtv.com | Ireland |
| 30 | GUE-38005-357 | 2022-02-03 | 80080-74014-HZ | A-D-0.5 | 2 | Tristan Tuck | | United States |

Appendix B

Additionally, the product info in the raw data file was empty so I needed to populate these columns manually.

The INDEX function was used to populate the customer information columns using Customer ID once again as the primary key to match between tabs.

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|------------------|------------|----------------|------------|----------|--------------------|----------------------------|---------------|-------------|------------|------|------------|-------|
| 1 Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country | Coffee Type | Roast Type | Size | Unit Price | Sales |
| 2 QEV-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner@lulu.com | United States | Rob | M | 1 | 9.95 | |
| 3 QEV-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner@lulu.com | United States | | | | | 0.5 |
| 4 FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@gmail.com | United States | Exc | M | 1 | 12.95 | |
| 5 KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | 2 | Christoffer O'Shea | | Ireland | | | | | 1 |
| 6 KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | 2 | Christoffer O'Shea | | Ireland | Ara | L | 2.5 | 27.485 | |
| 7 CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | 3 | Beryle Cottier | | United States | | | | | Lib |
| 8 IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | 3 | Shaylynn Lobe | slobe6@nifty.com | United States | Lib | D | 1 | 12.95 | |
| 9 SNZ-65340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | 1 | Melvin Wharfe | | Ireland | | | | | Exc |
| 10 EJT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | 3 | Guthrey Petracci | gpetracci8@livejournal.com | United States | Rob | M | 0.5 | 7.29 | |
| | | | | | | | | | | | | |

coffeeOrdersData - Excel - Saved

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

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|------------------|------------|----------------|------------|----------|--------------------|----------------------------|---------------|-------------|------------|------|------------|-------|
| 1 Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country | Coffee Type | Roast Type | Size | Unit Price | Sales |
| 2 QEV-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner@lulu.com | United States | Rob | M | 1 | 9.95 | |
| 3 QEV-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner@lulu.com | United States | Exc | M | 0.5 | 8.25 | |
| 4 FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@gmail.com | United States | Ara | L | 1 | 12.95 | |
| 5 KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | 2 | Christoffer O'Shea | | Ireland | Exc | M | 1 | 13.75 | |
| 6 KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | 2 | Christoffer O'Shea | | Ireland | Rob | L | 2.5 | 27.485 | |
| 7 CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | 3 | Beryle Cottier | | United States | Lib | D | 1 | 12.95 | |
| 8 IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | 3 | Shaylynn Lobe | slobe6@nifty.com | United States | Exc | D | 0.5 | 7.29 | |
| 9 SNZ-65340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | 1 | Melvin Wharfe | | Ireland | Lib | L | 0.2 | 4.755 | |
| 10 EJT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | 3 | Guthrey Petracci | gpetracci8@livejournal.com | United States | Rob | M | 0.5 | 5.97 | |
| 11 NWQ-70061-912 | 2019-09-05 | 61021-27840-ZN | R-M-0.5 | 1 | Rodger Raven | raven9@ed.gov | United States | Rob | M | 0.5 | 5.97 | |
| 12 BKK-47233-845 | 2021-03-08 | 76239-90137-UQ | A-D-1 | 4 | Ferrell Ferber | fferbera@businesswire.com | United States | Ara | D | 1 | 9.95 | |

Appendix C

A simple unit price x quantity sold calculation was performed to populate the sales column.

The screenshot shows a Microsoft Excel spreadsheet titled "coffeeOrdersData". The table contains columns for Order ID, Order Date, Customer ID, Product ID, Quantity, Customer Name, Email, Country, Coffee Type, Roast Type, Size, Unit Price, and Sales. A formula, $=L2 * E2$, is highlighted in the Sales column, indicating the calculation used to populate the values. The Sales column header has a red arrow pointing to it.

| Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country | Coffee Type | Roast Type | Size | Unit Price | Sales |
|---------------|------------|-----------------|------------|----------|---------------------|------------------------------|---------------|-------------|------------|------|------------|----------|
| QEY-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner0@lulu.com | United States | Rob | M | 11 | 9.95 | =L2 * E2 |
| QEY-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner0@lulu.com | United States | Exc | M | 0.5 | 8.25 | 41.25 |
| FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@tmall.com | United States | Ara | L | 1 | 12.95 | 12.95 |
| KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | 2 | Christoffer O'Shea | | Ireland | Exc | M | 1 | 13.75 | 27.5 |
| KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | 2 | Christoffer O'Shea | | Ireland | Rob | L | 2.5 | 27.485 | 54.97 |
| CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | 3 | Beryle Cottier | | United States | Lib | D | 1 | 12.95 | 38.85 |
| IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | 3 | Shayllyn Lobs | slobe6@nifty.com | United States | Exc | D | 0.5 | 7.29 | 21.87 |
| SNZ-46340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | 1 | Melvin Wharfe | | Ireland | Lib | L | 0.2 | 4.755 | 4.755 |
| EZT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | 3 | Guthrey Petracci | gpetracci8@livejournal.com | United States | Rob | M | 0.5 | 5.97 | 17.91 |
| NWQ-70061-912 | 2019-09-05 | 61021-27840-ZN | R-M-0.5 | 1 | Rodger Raven | rraven9@ed.gov | United States | Rob | M | 0.5 | 5.97 | 5.97 |
| BKK-44387-845 | 2021-03-08 | 76239-90137-UQ | A-A-1 | 4 | Ferrell Ferber | fferbera@businesswire.com | United States | Ara | D | 1 | 9.95 | 39.8 |
| VQR-01002-970 | 2020-10-28 | 49315-21985-BB | E-L-2.5 | 5 | Duky Phizackerly | dphizackerlyb@utexas.edu | United States | Exc | L | 2.5 | 34.155 | 170.8 |
| SZW-48378-399 | 2022-07-02 | 34136-36674-OM | R-M-1 | 5 | Rosalene Scholar | rscholarc@nyu.edu | United States | Rob | M | 1 | 9.95 | 49.75 |
| ITA-87418-783 | 2020-05-22 | 39396-12890-PF | R-D-2.5 | 2 | Terence Vanyutin | tvanyutin@wix.com | United States | Rob | D | 2.5 | 20.585 | 41.17 |
| GNZ-46006-527 | 2022-04-05 | 95875-73336-RG | L-D-0.2 | 3 | Patrice Trobe | ptrobee@wunderground.com | United States | Lib | D | 0.2 | 3.885 | 11.66 |
| FYQ-78248-319 | 2022-06-07 | 25473-43727-BY | R-M-2.5 | 5 | Lillywellyn Oscroft | loscroft@ebay.co.uk | United States | Rob | M | 2.5 | 22.885 | 114.4 |
| VAU-44387-624 | 2019-03-20 | 99643-51048-IQ | A-M-0.2 | 6 | Minni Alabaster | malabaster@hexun.com | United States | Ara | M | 0.2 | 3.375 | 20.25 |
| RDW-33155-159 | 2019-10-19 | 612173-15287-CU | A-L-1 | 6 | Rhianon Broxup | rbroxup@jimdo.com | United States | Ara | L | 1 | 12.95 | 77.7 |
| TDZ-59011-211 | 2019-06-13 | 57611-05522-ST | R-D-2.5 | 4 | Pall Redford | predfordi@ow.ly | Ireland | Rob | D | 2.5 | 20.585 | 82.34 |
| IDU-25793-399 | 2020-12-04 | 76664-37050-DT | A-M-0.2 | 5 | Aurea Corradino | acorradino@harvard.edu | United States | Ara | M | 0.2 | 3.375 | 16.88 |
| IDU-25793-399 | 2020-12-04 | 76664-37050-DT | E-D-0.2 | 4 | Aurea Corradino | acorradino@harvard.edu | United States | Exc | D | 0.2 | 3.645 | 14.58 |
| NUO-20013-488 | 2020-12-04 | 03090-98267-BQ | A-D-0.2 | 6 | Avrit Davidowsky | adavidowsky@netvibes.com | United States | Ara | D | 0.2 | 2.985 | 17.91 |
| UQU-65630-479 | 2021-01-22 | 37651-47492-NC | R-M-2.5 | 4 | Annabel Antuk | aatunkt@kickstarter.com | United States | Rob | M | 2.5 | 22.885 | 91.54 |
| FEO-11834-332 | 2022-02-11 | 95399-57205-HI | A-D-0.2 | 4 | Iorgo Kleinert | ikleinertn@timesonline.co.uk | United States | Ara | D | 0.2 | 2.985 | 11.94 |
| TKY-71558-096 | 2021-09-15 | 24010-66714-HW | A-M-1 | 1 | Chrysie Blofeld | cblofeldo@amazon.co.uk | United States | Ara | M | 1 | 11.25 | 11.25 |
| OXY-65322-253 | 2020-10-24 | 70591-92789-UA | E-M-0.2 | 3 | Culley Farris | | United States | Exc | M | 0.2 | 4.125 | 12.38 |
| EVP-43500-491 | 2019-02-20 | 49231-44455-IC | A-M-0.5 | 4 | Selene Shales | sshalesq@umich.edu | United States | Ara | M | 0.5 | 6.75 | 27 |
| WAG-26945-689 | 2019-10-08 | 50124-88608-EO | A-M-0.2 | 5 | Vivie Dannell | vdannell@mtv.com | Ireland | Ara | M | 0.2 | 3.375 | 16.88 |
| GHE-70005-767 | 2020-09-02 | 90099-70104-HZ | A-D-0.5 | 2 | Theo Nilsen | tnilsen@bluehost.com | Ireland | Ara | M | 0.5 | 5.67 | 17.04 |

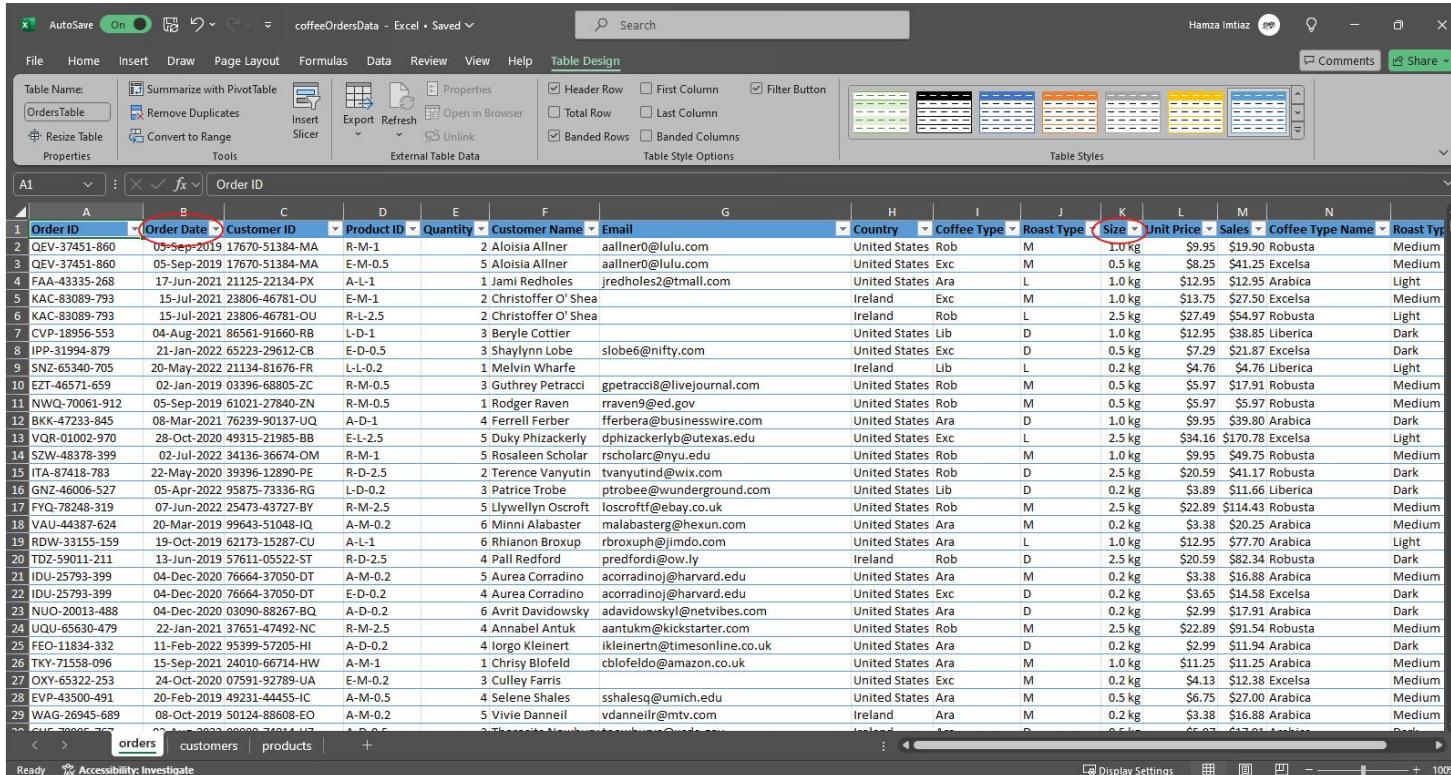
Appendix D

A series of IF functions were used to convert abbreviations in the columns to their full names.

| N | Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country | Coffee Type | Roast Type | Size | Unit Price | Sale! | Coffee Type Name | Roast Type Name |
|----|----------------|------------|----------------|------------|----------|---------------------------------|-----------------------------|---------------|-------------|------------|------|------------|-------|------------------|-----------------|
| 1 | QEY-37451-860 | 2019-09-05 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner@lulu.com | United States | Rob | M | 1 | 9.95 | 19.9 | Robusta | Medium |
| 2 | QEY-37451-860 | 2019-09-05 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner@lulu.com | United States | Exc | M | 0.5 | 8.25 | 41.25 | Excelsa | Medium |
| 3 | FAA-43335-268 | 2021-06-17 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@mail.com | United States | Ara | L | 1 | 12.95 | 12.95 | Arabica | Light |
| 4 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | E-M-1 | 2 | Christoffer O' Shee | | Ireland | Exc | M | 1 | 13.75 | 27.5 | Excelsa | Medium |
| 5 | KAC-83089-793 | 2021-07-15 | 23806-46781-OU | R-L-2.5 | 2 | Christoffer O' Shee | | Ireland | Rob | L | 2.5 | 27.485 | 54.97 | Robusta | Light |
| 6 | CVP-18956-553 | 2021-08-04 | 86561-91660-RB | L-D-1 | 3 | Berlyle Cottier | | United States | Lib | D | 1 | 12.95 | 38.85 | Liberica | Dark |
| 7 | IPP-31994-879 | 2022-01-21 | 65223-29612-CB | E-D-0.5 | 3 | Shaylynn Lobe | slobe6@nifty.com | United States | Exc | D | 0.5 | 7.29 | 21.87 | Excelsa | Dark |
| 8 | SNZ-65340-705 | 2022-05-20 | 21134-81676-FR | L-L-0.2 | 1 | Melvin Wharfe | | Ireland | Lib | L | 0.2 | 4.755 | 4.755 | Liberica | Light |
| 9 | EZT-46571-659 | 2019-01-02 | 03396-68805-ZC | R-M-0.5 | 3 | Guthrey Petracci | gpetracci8@livejournal.com | United States | Rob | M | 0.5 | 5.97 | 17.91 | Robusta | Medium |
| 10 | NWO-70061-912 | 2019-09-05 | 61021-27840-ZN | R-M-0.5 | 1 | Rodger Raven | rraven9@ed.gov | United States | Rob | M | 0.5 | 5.97 | 5.97 | Robusta | Medium |
| 11 | BKWR-47233-845 | 2021-03-08 | 76239-90137-UQ | A-D-1 | 4 | Ferrell Ferber | fferber@businesswire.com | United States | Ara | D | 1 | 9.95 | 39.8 | Arabica | Dark |
| 12 | VQR-01002-970 | 2020-10-28 | 49315-21985-BB | E-L-2.5 | 5 | Duky Phizackerly | dphizackerly@utexas.edu | United States | Exc | L | 2.5 | 34.155 | 170.8 | Excelsa | Light |
| 13 | SZW-48378-399 | 2022-07-02 | 34136-36674-OM | R-M-1 | 5 | Rosalene Scholar | rscolarc@nyu.edu | United States | Rob | M | 1 | 9.95 | 49.75 | Robusta | Medium |
| 14 | ITA-87418-783 | 2020-05-22 | 39396-12890-PE | R-D-2.5 | 2 | Terence Vanyutin | tvanyutin@wix.com | United States | Rob | D | 2.5 | 20.585 | 41.17 | Robusta | Dark |
| 15 | GNZ-46006-527 | 2022-04-05 | 95875-73336-RG | L-D-0.2 | 3 | Patrice Trobe | petrobe@underground.com | United States | Lib | D | 0.2 | 3.885 | 11.66 | Liberica | Dark |
| 16 | FYQ-78248-319 | 2022-06-07 | 25473-43727-BY | R-M-2.5 | 5 | Llywelyn Oscroft | loscroft@ebay.co.uk | United States | Rob | M | 2.5 | 22.885 | 114.4 | Robusta | Medium |
| 17 | VAU-44387-624 | 2019-03-20 | 99643-51048-IQ | A-M-0.2 | 6 | Minni Alabaster | malabasterg@hexun.com | United States | Ara | M | 0.2 | 3.375 | 20.25 | Arabica | Medium |
| 18 | RDW-33155-159 | 2019-10-19 | 62173-15287-CU | A-L-1 | 6 | Rhianon Broxup | rbroxup@jimdo.com | United States | Ara | L | 1 | 12.95 | 77.7 | Arabica | Light |
| 19 | TDZ-59011-211 | 2019-06-13 | 57611-05522-ST | R-D-2.5 | 4 | Pall Redford | predord@ow.ly | Ireland | Rob | D | 2.5 | 20.585 | 82.34 | Robusta | Dark |
| 20 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | A-M-0.2 | 5 | Aurea Corradino | acorradinoj@harvard.edu | United States | Ara | M | 0.2 | 3.375 | 16.88 | Arabica | Medium |
| 21 | IDU-25793-399 | 2020-12-04 | 76664-37050-DT | E-D-0.2 | 4 | Aurea Corradino | acorradinoj@harvard.edu | United States | Exc | D | 0.2 | 3.645 | 14.58 | Excelsa | Dark |
| 22 | NUO-20013-488 | 2020-12-04 | 03090-88267-BQ | A-D-0.2 | 6 | Arvit Davidowsky | adavidowsky@netvibes.com | United States | Ara | D | 0.2 | 2.985 | 17.91 | Arabica | Dark |
| 23 | UQU-65630-479 | 2021-01-22 | 37651-47492-NC | R-M-2.5 | 4 | Annabel Antuk | aantukm@kickstarter.com | United States | Rob | M | 2.5 | 22.885 | 91.54 | Robusta | Medium |
| 24 | FEO-11834-332 | 2022-02-11 | 95399-57205-HI | A-D-0.2 | 4 | Iorgo Kleinert | ikleinert@timesonline.co.uk | United States | Ara | D | 0.2 | 2.985 | 11.94 | Arabica | Dark |
| 25 | TKY-71558-096 | 2021-05-19 | 24010-66714-HW | A-M-1 | 1 | Chrisy Blofeld | cblofeld@amazon.co.uk | United States | Ara | M | 1 | 11.25 | 11.25 | Arabica | Medium |
| 26 | OXY-65322-253 | 2020-10-24 | 07591-92789-UA | E-M-0.2 | 3 | Culley Farris | | United States | Exc | M | 0.2 | 4.125 | 12.38 | Excelsa | Medium |
| 27 | EVP-43500-491 | 2019-02-20 | 49231-44455-IC | A-M-0.5 | 4 | Selene Shales | sshalesq@umich.edu | United States | Ara | M | 0.5 | 6.75 | 27 | Arabica | Medium |
| 28 | WAG-26945-689 | 2019-10-08 | 50124-88608-EO | A-M-0.2 | 5 | Vivie Danneil | vdanneil@mtv.com | Ireland | Ara | M | 0.2 | 3.375 | 16.88 | Arabica | Medium |
| 29 | GLW-70095-767 | 2022-09-03 | 00000-74014-HZ | A-D-0.5 | 3 | The Sassafras Newbury Acoustics | newbury@outlook.com | Ireland | Rob | D | 0.5 | 5.07 | 17.01 | Arabica | Dark |

Appendix E

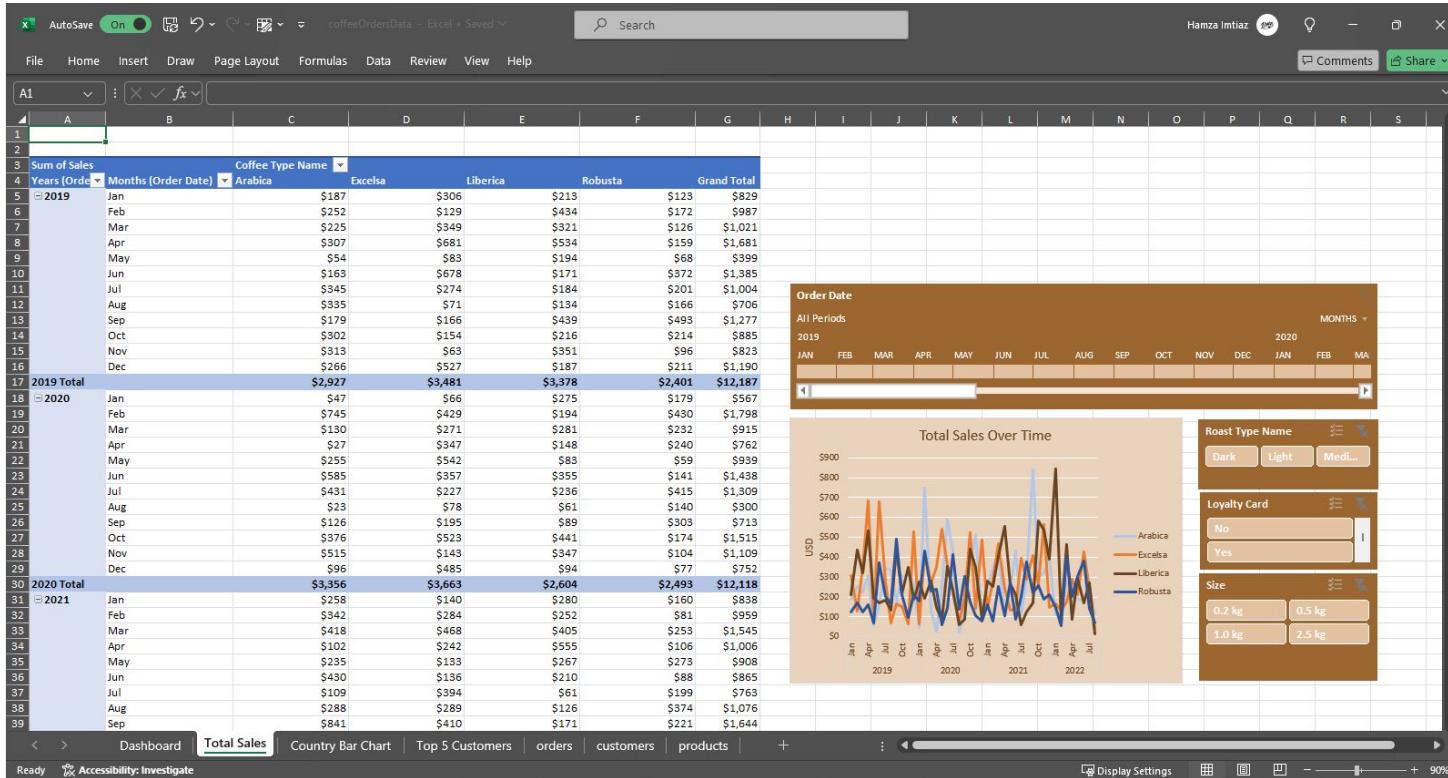
The date and size columns were re-formatted for viewer ease and the data was formatted into a table to facilitate the creation of pivot table visualizations.



| Order ID | Order Date | Customer ID | Product ID | Quantity | Customer Name | Email | Country | Coffee Type | Roast Type | Size | Unit Price | Sales | Coffee Type Name | Roast Type |
|---------------|-------------|----------------|------------|----------|---------------------|------------------------------|---------------|-------------|------------|--------|------------|----------|------------------|------------|
| QEY-37451-860 | 03-Sep-2019 | 17670-51384-MA | R-M-1 | 2 | Aloisia Allner | aallner0@lulu.com | United States | Rob | M | 1.0 kg | \$9.95 | \$19.90 | Robusta | Medium |
| QEY-37451-860 | 05-Sep-2019 | 17670-51384-MA | E-M-0.5 | 5 | Aloisia Allner | aallner0@lulu.com | United States | Exc | M | 0.5 kg | \$8.25 | \$41.25 | Excelsa | Medium |
| FAA-43353-268 | 17-Jun-2021 | 21125-22134-PX | A-L-1 | 1 | Jami Redholes | jredholes2@tmall.com | United States | Ara | L | 1.0 kg | \$12.95 | \$12.95 | Arabica | Light |
| KAC-83089-793 | 15-Jul-2021 | 23806-46781-OU | E-M-1 | 2 | Christoffer O' Shea | | Ireland | Exc | M | 1.0 kg | \$13.75 | \$27.50 | Excelsa | Medium |
| 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 | \$54.97 | Robusta | Light |
| CVP-18956-553 | 04-Aug-2021 | 86561-91660-RB | L-D-1 | 3 | Berlye Cottier | | United States | Lib | D | 1.0 kg | \$12.95 | \$38.85 | Liberica | Dark |
| 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 | \$21.87 | Excelsa | Dark |
| SNZ-65340-705 | 20-May-2022 | 21134-81676-FR | F-L-0.2 | 1 | Melvin Wharfe | | Ireland | Lib | L | 0.2 kg | \$4.76 | \$4.76 | Liberica | Light |
| 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 | \$17.91 | Robusta | Medium |
| NWQ-70061-912 | 05-Sep-2019 | 61021-7840-ZN | R-M-0.5 | 1 | Rodger Raven | rragen9@ed.gov | United States | Rob | M | 0.5 kg | \$5.97 | \$5.97 | Robusta | Medium |
| BKK-47233-845 | 08-Mar-2021 | 76239-90137-UQ | A-D-1 | 4 | Ferrill Ferber | fferber@businesswire.com | United States | Ara | D | 1.0 kg | \$9.95 | \$39.80 | Arabica | Dark |
| 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 | \$170.78 | Excelsa | Light |
| SZW-25793-399 | 02-Jul-2022 | 34136-36674-DM | R-M-1 | 5 | Rosalene Scholar | rscholarac@nyu.edu | United States | Rob | M | 1.0 kg | \$9.95 | \$49.75 | Robusta | Medium |
| ITA-87418-783 | 22-May-2020 | 39396-12890-PE | R-D-2.5 | 2 | Terence Vanyutin | tvanyutind@wix.com | United States | Rob | D | 2.5 kg | \$20.59 | \$41.17 | Robusta | Dark |
| 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 | \$11.66 | Liberica | Dark |
| FYQ-78248-319 | 07-Jun-2022 | 25473-43272-BY | R-M-2.5 | 5 | Llywelyn Oscroft | loscroft@ebay.co.uk | United States | Rob | M | 2.5 kg | \$22.89 | \$114.43 | Robusta | Medium |
| 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 | \$20.25 | Arabica | Medium |
| RDW-33155-159 | 19-Oct-2019 | 62173-15287-CU | A-L-1 | 6 | Rhianon Broxup | rbroxup@jimdo.com | United States | Ara | L | 1.0 kg | \$12.95 | \$77.70 | Arabica | Light |
| TDZ-59011-211 | 13-Jun-2019 | 57611-05522-ST | R-D-2.5 | 4 | Pall Redford | predford@ow.ly | Ireland | Rob | D | 2.5 kg | \$20.59 | \$82.34 | Robusta | Dark |
| 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 | \$16.88 | Arabica | Medium |
| 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 | \$14.58 | Excelsa | Dark |
| NNU-20013-488 | 04-Dec-2020 | 03090-88267-BQ | A-D-0.2 | 6 | Arvit Davidowsky | adavidowsky@netvibes.com | United States | Ara | D | 0.2 kg | \$2.99 | \$17.91 | Arabica | Dark |
| UUQ-65630-479 | 22-Jan-2021 | 37651-47492-NC | R-M-2.5 | 4 | Annabel Antuk | aantukm@kickstarter.com | United States | Rob | M | 2.5 kg | \$22.89 | \$91.54 | Robusta | Medium |
| FEQ-11834-332 | 11-Feb-2022 | 95395-57205-HI | A-D-0.2 | 4 | Iorgo Kleinetn | ikleinertn@timesonline.co.uk | United States | Ara | D | 0.2 kg | \$2.99 | \$11.94 | Arabica | Dark |
| TKY-71558-096 | 15-Sep-2021 | 24010-66714-HW | A-M-1 | 1 | Chrisy Blofeld | cblofeld@amazon.co.uk | United States | Ara | M | 1.0 kg | \$11.25 | \$11.25 | Arabica | Medium |
| OXY-65322-253 | 24-Oct-2020 | 07591-92789-UA | E-M-0.2 | 3 | Culley Farris | | United States | Exc | M | 0.2 kg | \$4.13 | \$12.38 | Excelsa | Medium |
| EVP-43500-491 | 20-Feb-2019 | 49231-44455-IC | A-M-0.5 | 4 | Selenie Shales | sshalesq@umich.edu | United States | Ara | M | 0.5 kg | \$6.75 | \$27.00 | Arabica | Medium |
| WAG-26945-689 | 08-Oct-2019 | 50124-88608-EO | A-M-0.2 | 5 | Vivie Danneil | vdanneilr@mtv.com | Ireland | Ara | M | 0.2 kg | \$3.38 | \$16.88 | Arabica | Medium |

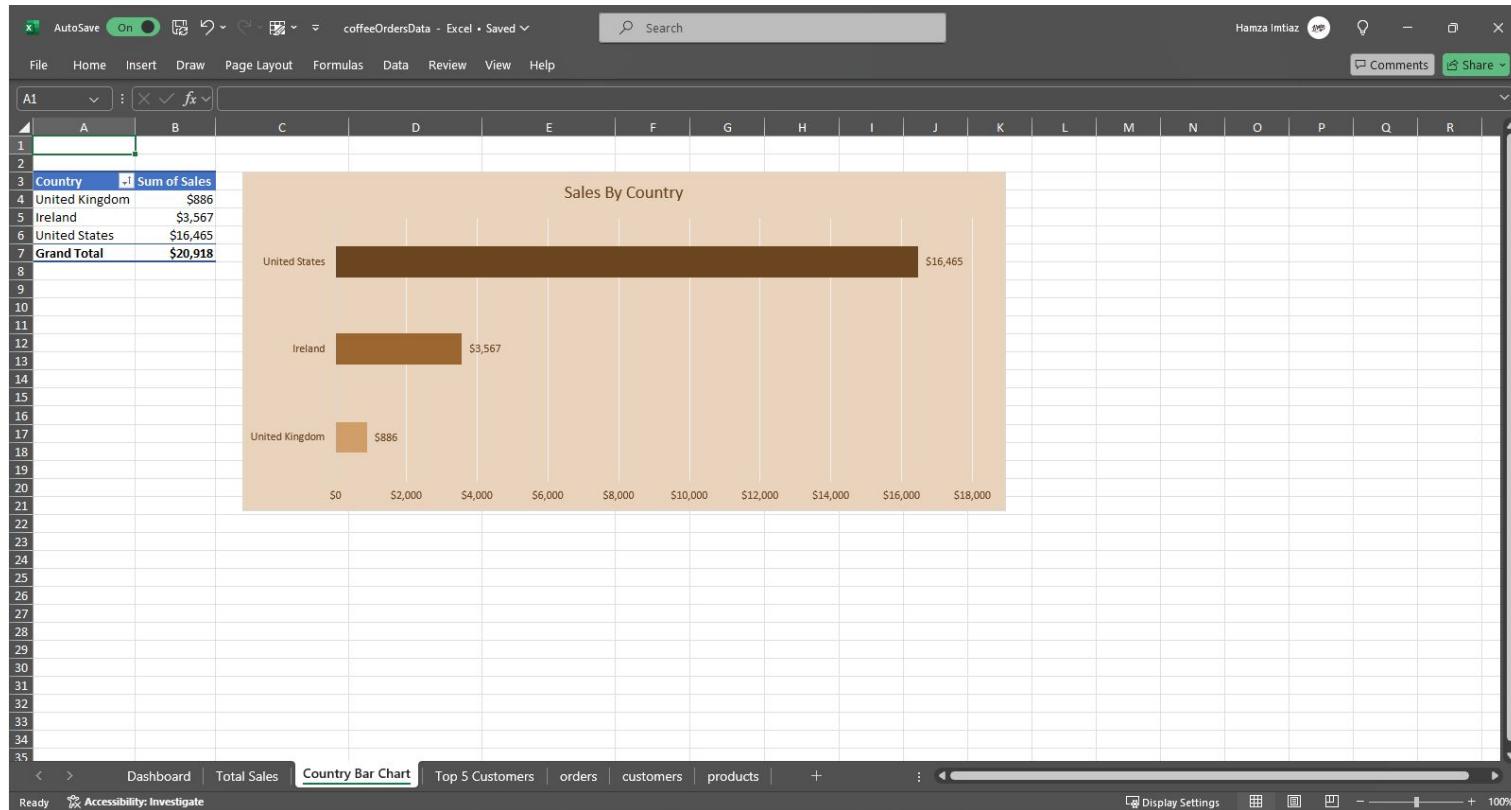
Appendix D

This screenshot captures the total sales tab which holds the pivot table and visualizations including two sliders, a timeline, and a line chart.



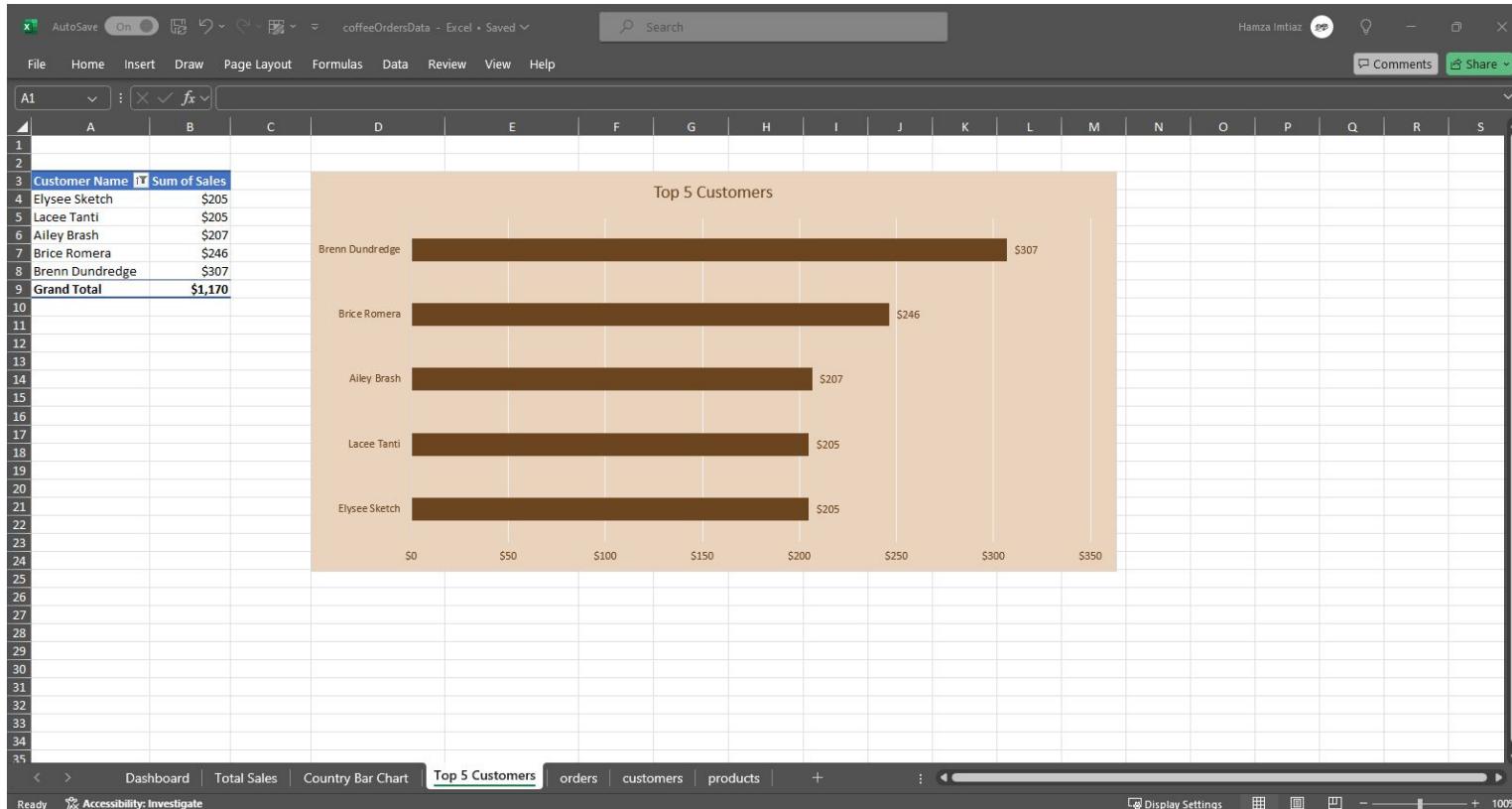
Appendix E

This screenshot captures the sales by country tab which holds the pivot table and a bar chart.



Appendix F

This screenshot captures the top 5 customers tab which holds the pivot table and a bar chart.



Thank you!