

ANALYSIS MULTIPLE COUNTRIES RETAIL DATA



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Table of Contents

Table Of Figures	II
List Of Tables	III
1. Introduction	1
1.1 Business Problem	1
1.2 Business Impact	1
2 Data Analysis	1
2.1 Data	1
2.1.1 Data Information	1
2.1.2 Data Profile	1
2.2 Data Wrangling	2
2.2.1 Dealing With Missing Values	2
2.2.2 Change Columns Data Type	4
2.2.3 Update Columns	4
2.2.4 Create New Columns	4
2.2.5 Rename Columns	4
2.2.6 Map Quarter Numerical To Quarter Name	4
2.2.7 Rename Product Brand, Type And Category	4
2.2.8 Remove Redundant Columns	5
2.2.9 Remove Duplicate	5
2.2.10 Outliers	5
2.3 Data Information After Data Wrangling	5
2.4 Data Analysis	6
2.4.1 Univariate Data Analysis	6
2.4.2 Bivariate Data Analysis	10
2.4.3 Multivariate Analysis	19
3 Dashboards	75
3.1 Retail Total Amount Analysis Overview	75
3.3 Retail Quantity Sold Analysis Overview	75
3.4 Retail Orders Analysis Overview	76
4 Conclusion And Future Work	76

4.1 Conclusion _____ **76**

4.2 Future Works _____ **77**

Table Of Figures

FIGURE 1: UNIT PRICE DISTRIBUTION	6
FIGURE 2: COUNTRY DISTRIBUTION	6
FIGURE 3: GENDER DISTRIBUTION	7
FIGURE 4: ORDER STATUS DISTRIBUTION.....	7
FIGURE 5: PRODUCT CATEGORY DISTRIBUTION	8
FIGURE 6: RATING DISTRIBUTION.....	8
FIGURE 7: COUNT OF EACH AGE GROUP	9
FIGURE 8: PREFERRED PAYMENT METHOD BY COUNTRY.....	10
FIGURE 9: PREFERRED PRODUCT CATEGORY OF EACH COUNTRY	10
FIGURE 10: CUSTOMER SEGMENT COUNT BY COUNTRY	11
FIGURE 11: COUNT OF INCOME BY COUNTRY.....	11
FIGURE 12: TOTAL AMOUNT SPENT BY COUNTRY	12
FIGURE 13: COUNT OF EACH RATING VALUE BY COUNTRY	12
FIGURE 14: USA PREFERRED PRODUCT TYPE BY PRODUCT CATEGORY.....	13
FIGURE 15: CANADA PREFERRED PRODUCT TYPE BY PRODUCT CATEGORY	13
FIGURE 16: UK PREFERRED PRODUCT TYPE BY PRODUCT CATEGORY	14
FIGURE 17: GERMANY PREFERRED PRODUCT TYPE BY PRODUCT CATEGORY	14
FIGURE 18: AUSTRALIA PREFERRED PRODUCT TYPE BY PRODUCT CATEGORY	15
FIGURE 19: USA PREFERRED PRODUCT BRAND BY PRODUCT CATEGORY	15
FIGURE 20: CANADA PREFERRED PRODUCT BRAND BY PRODUCT CATEGORY	16
FIGURE 21: UK PREFERRED PRODUCT BRAND BY PRODUCT CATEGORY	16
FIGURE 22: GERMANY PREFERRED PRODUCT BRAND BY PRODUCT CATEGORY	17
FIGURE 23: AUSTRALIA PREFERRED PRODUCT BRAND BY PRODUCT CATEGORY	17
FIGURE 24: PREFERRED PURCHASE DAY BY AGE GROUP.....	18
FIGURE 25: PREFERRED PRODUCT CATEGORY BY AGE GROUP	18
FIGURE 26: MONTHLY TOTAL AMOUNT SPENT BY COUNTRY	19
FIGURE 27: DAILY TOTAL AMOUNT SPENT BY COUNTRY	19
FIGURE 28: SEASONALLY TOTAL AMOUNT SPENT BY COUNTRY	20
FIGURE 29: QUARTERLY TOTAL AMOUNT SPENT BY COUNTRY	20
FIGURE 30: TOTAL AMOUNT SPENT BY EACH CUSTOMER SEGMENT BY COUNTRY	21
FIGURE 31: TOTAL AMOUNT SPENT DEPENDING ON INCOME LEVEL BY COUNTRY	21
FIGURE 32: GENDER PREFERRED PRODUCT CATEGORY BY COUNTRY	22
FIGURE 33: PRODUCT CATEGORY AVERAGE RATING BY COUNTRY	22
FIGURE 34: PRODUCT CATEGORY AMOUNT SPENT BY COUNTRY	23
FIGURE 35: DAY OF MONTH TOTAL AMOUNT SPENT BY COUNTRY	24
FIGURE 36: NUMBER OF CUSTOMERS USA CITIES	48
FIGURE 37: NUMBER OF CUSTOMERS CANADIANS CITIES	49
FIGURE 38: NUMBER OF CUSTOMERS IN UK CITIES.....	50
FIGURE 39: NUMBER OF CUSTOMERS IN GERMAN CITIES.....	51
FIGURE 40: NUMBER OF CUSTOMERS IN AUSTRALIAN CITIES.....	52
FIGURE 41: PERCENTAGE OF LOW RATINGS IN USA CITIES	53
FIGURE 42: PERCENTAGE OF LOW RATINGS IN CANADIAN CITIES	54
FIGURE 43: PERCENTAGE OF LOW RATINGS IN GERMAN CITIES	55
FIGURE 44: PERCENTAGE OF LOW RATINGS IN UK CITIES.....	56
FIGURE 45: PERCENTAGE OF LOW RATINGS IN AUSTRALIAN CITIES	57

FIGURE 46: PERCENTAGE OF PENDING ORDERS IN USA CITIES	58
FIGURE 47: PERCENTAGE OF PENDING ORDERS IN CANADIAN CITIES	59
FIGURE 48: PERCENTAGE OF PENDING ORDERS IN GERMAN CITIES	60
FIGURE 49: PERCENTAGE OF PENDING ORDERS IN UK CITIES	61
FIGURE 50: PERCENTAGE OF PENDING ORDERS IN AUSTRALIAN CITIES	62
FIGURE 51: PREFERRED DAY IN EACH USA CITIES	63
FIGURE 52: PREFERRED DAY IN CANADIAN CITIES.....	64
FIGURE 53: PREFERRED DAY IN GERMAN CITIES.....	65
FIGURE 54: PREFERRED DAY IN UK CITIES.....	66
FIGURE 55: PREFERRED DAY IN AUSTRALIAN CITIES.....	67
FIGURE 56: TOTAL AMOUNT SPENT IN USA CITIES	68
FIGURE 57: TOTAL AMOUNT SPENT IN CANADIAN CITIES.....	69
FIGURE 58: TOTAL AMOUNT SPENT IN GERMAN CITIES.....	70
FIGURE 59: TOTAL AMOUNT SPENT IN UK CITIES.....	71
FIGURE 60: TOTAL AMOUNT SPENT IN AUSTRALIAN CITIES.....	72
FIGURE 61: GENDER TOTAL AMOUNT, TOTAL ORDERS, TOTAL QUANTITY BY COUNTRY	73
FIGURE 62: NUMBER OF RETURN CUSTOMER BY CUSTOMER SEGMENT BY COUNTRY	74

List Of Tables

TABLE 1: SEASONALLY MOST COMMON CHOCOLATE PRODUCTS BY COUNTRY.....	25
TABLE 2: SEASONALLY MOST COMMON COFFEE PRODUCTS BY COUNTRY	25
TABLE 3: SEASONALLY MOST COMMON WATER PRODUCTS BY COUNTRY	26
TABLE 4: SEASONALLY MOST COMMON SNACKS PRODUCTS BY COUNTRY.....	26
TABLE 5: SEASONALLY MOST COMMON JUICE PRODUCTS BY COUNTRY	27
TABLE 6: SEASONALLY MOST COMMON SOFT DRINK PRODUCTS BY COUNTRY	27
TABLE 7: HOURLY TOTAL AMOUNT SPENT BY COUNTRY	28
TABLE 8: PRODUCT CATEGORY MONTHLY PEAK TIME BY COUNTRY	29
TABLE 9: CLOTHING PEAK TIME BY PRODUCT BRAND BY COUNTRY.....	30
TABLE 10: ELECTRONICS PEAK TIME BY PRODUCT BRAND BY COUNTRY.....	31
TABLE 11: GROCERY PEAK TIME BY PRODUCT BRAND BY COUNTRY	32
TABLE 12: GENDER SEASONALLY PREFER CLOTHING PRODUCTS BY COUNTRY	33
TABLE 13: BRAND WITH HIGHEST PENDING ORDERS BY CATEGORY BY COUNTRY	34
TABLE 14: BRAND WITH HIGHEST LOW RATING BY CATEGORY BY COUNTRY.....	35
TABLE 15: HOUR OF THE DAY WITH THE HIGHEST LOW RATINGS BY MONTH FOR EACH COUNTRY	36
TABLE 16: WORST PAYMENT METHOD FOR EACH SHIPPING METHOD BY CATEGORY BY COUNTRY	37
TABLE 17: TOP 5 REGULAR CUSTOMERS IN EACH COUNTRY.....	38
TABLE 18: TOP 5 PREMIUM CUSTOMER	39
TABLE 19: TOP 5 NEW CUSTOMER IN EACH COUNTRY.....	40
TABLE 20: LOWEST SPENDING 5 NEW CUSTOMERS IN EACH COUNTRY	41
TABLE 21: PREFERRED DAY OF MONTH TO MAKE ORDERS BY COUNTRY	42
TABLE 22: DAY OF MONTH WITH THE HIGHEST LOW RATINGS BY COUNTRY	43
TABLE 23: DAY OF MONTH WITH HIGHEST PENDING ORDERS BY COUNTRY	44
TABLE 24: TOP 5 SMARTPHONES IN EACH COUNTRY	45
TABLE 25: TOP 5 LAPTOPS IN EACH COUNTRY	46
TABLE 26: TOP 5 TABLETS IN EACH COUNTRY	47
TABLE 27: NUMBER OF CUSTOMERS USA CITIES	48
TABLE 28: NUMBER OF CUSTOMERS CANADIAN CITIES	49
TABLE 29: NUMBER OF CUSTOMERS IN UK CITIES.....	50
TABLE 30: NUMBER OF CUSTOMER IN GERMAN CITIES	51

TABLE 31: NUMBER OF CUSTOMERS IN AUSTRALIAN CITIES.....	52
TABLE 32: PERCENTAGE OF LOW RATINGS IN USA CITIES.....	53
TABLE 33: PERCENTAGE OF LOW RATINGS IN CANADIAN CITIES	54
TABLE 34: PERCENTAGE OF LOW RATINGS IN GERMAN CITIES	55
TABLE 35: COUNT OF LOW RATINGS IN UK CITIES.....	56
TABLE 36: PERCENTAGE OF LOW RATINGS IN AUSTRALIAN CITIES	57
TABLE 37: PERCENTAGE OF PENDING ORDERS IN USA CITIES	58
TABLE 38: PERCENTAGE OF PENDING ORDERS IN CANADIAN CITIES	59
TABLE 39: PERCENTAGE OF PENDING ORDERS IN GERMAN CITIES	60
TABLE 40: PERCENTAGE OF PENDING ORDERS IN UK CITIES	61
TABLE 41: PERCENTAGE OF PENDING ORDERS IN AUSTRALIAN CITIES	62
TABLE 42: PREFERRED DAY IN EACH USA CITIES	63
TABLE 43: PREFERRED DAY IN CANADIAN CITIES	64
TABLE 44: PREFERRED DAY IN GERMAN CITIES.....	65
TABLE 45: PREFERRED DAY IN UK CITIES	66
TABLE 46: PREFERRED DAY IN AUSTRALIAN CITIES	67
TABLE 47: TOTAL AMOUNT SPENT IN USA CITIES	68
TABLE 48: TOTAL AMOUNT SPENT IN CANADIAN CITIES	69
TABLE 49: TOTAL AMOUNT SPENT IN GERMAN CITIES.....	70
TABLE 50: TOTAL AMOUNT SPENT IN UK CITIES	71
TABLE 51: TOTAL AMOUNT SPENT IN AUSTRALIAN CITIES	72
TABLE 52: GENDER TOTAL AMOUNT, TOTAL ORDERS, TOTAL QUANTITY BY COUNTRY	73
TABLE 53: NUMBER OF RETURN CUSTOMER BY CUSTOMER SEGMENT BY COUNTRY	74

1. Introduction

1.1 Business Problem

Understanding customer behavior and performing sales performance analysis are the most challenging tasks for retailers. To accomplish this, they need to identify which products are the most favored and which have the highest sales at different times (day, month, quarter, and season) to develop a strategy for supplying them. You not only recognize your current customer and offer them special deals, but you also need to provide incentives and discounts to new customers. For the returns from customers, it's essential to understand their favored shipping and payment methods. Determine the shipping methods with the highest ratings and highest delivered, along with the price range of top-selling products, helps in making important decisions that lead to returning the customers.

1.2 Business Impact

Once this data is analyzed, retailers will gain insights into the preferred products for every gender and age category. They also can identify the busiest hours for each day of every month, recognize the loyal customers. Additionally, they can determine the sales for every month and each quarter. Identify the preferred products and product category for every season. Know the average rating for every product, shipping method, and payment method. Gain insight into the quantity of ratings from each customer for every rating value. Recognize the count of feedback words corresponding to each rating value. Understand the count of order statuses associated with each shipping method. Determine the preferred payment method and delivery method.

2 Data Analysis

2.1 Data

2.1.1 Data Information

Name: new_retail_data.csv

Description: The dataset represents retail transactional data for 2023 and 2024

Details: 302010 rows and 30 columns

Size: 84920KB (84.92MB)

Source : [Kaggle](#)

Obtain The Dataset: Download From Kaggle

2.1.2 Data Profile

- Use the `.head()` and `.tail()` to preview the first and last five rows of the dataset.
- Determine the data types of each column by applying the `.dtypes()`.
- Use `.shape` to find the number of rows and columns.
- Count the number of unique values in each column using the `.nunique()`.
- Check number of missing values in each column with `.isnull().sum()`.
- Identify and count duplicated rows in the dataset using `.duplicated().sum()`.
- Generate summary statistics for numerical and categorical columns with the `.describe()`
- **Recorded Notes:**
 - 28 columns from 30 columns contain null values
 - Columns (Customer_ID, Age, Date, Total_Purchase, Time, and Ratings) their type should be converted
 - Columns (Total_Purchas, products and Amount) need to be renamed
 - Age and Total_Amount Distributed as **Skewed to Right (Positive Skewed)**
 - Total_Purchases and Amount **Uniform Skewed**

2.2 Data Wrangling

2.2.1 Dealing With Missing Values

2.2.1.1 Product Category

- Split the dataframes into two parts one for clean dataframes and other one for with missing values
- Identify the brand for every product category
- Locate the row with missing value in the **Product_Category** linked to any **Product_Brand** and complete that row with the corresponding **Product_Category**
- Finally combine the cleaned dataframes

2.2.1.2 Product Brand

- Split the dataframes into two parts one for clean dataframes and other one for with missing values
- Filter data with missing values depending on **Product_Category**
- Find the row that has a missing value in the **Product_Brand** and replace it with the most common brand associated with the **Product_Category** in the cleaned dataframe.
- Finally combine the cleaned dataframes

2.2.1.3 Amount

- Select rows with missing values by using `.loc` and `.isnull()`
- Fill the row of missing values in **Amount** by dividing **Total_Amount** by **Total_Purchases**

2.2.1.4 Total Amount

- Select rows with missing values by using `.loc` and `.isnull()`
- Fill the row of missing values in **Total_Amount** by multiplication **Total_Purchase** by **Amount**.
- Use `.dropna()` to remove one row with a missing value in the amount and total amount. They don't remove because the missing value is in the same row.

2.2.1.5 Total Purchases

- Select rows with missing values by using `.loc` and `.isnull()`
- Fill the row of missing values in **Total_Purchase** by dividing **Total_Amount** by **Amount**

2.2.1.6 Ratings

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.7 Age

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.8 Customer ID

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.9 Gender

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.10 Income

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.11 Customer Segment

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.12 Date

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.13 Time

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.14 Shipping Method

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.15 Payment Method

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.16 Order Status

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.1.17 Country

- Create list of cities for each country
- Verify if the **City** is within a defined list of cities and that the **Country** has missing values, then fill in the missing values with the appropriate country name based on the city.

2.2.1.18 City

- Split the dataframes into two parts one for clean dataframes and other one for with missing values
- Filter data with missing values depending on **Country**

- Find the row that has a missing value in the **City** and replace it with the most common city associated with the Country in the cleaned dataframe.
- Finally combine the cleaned dataframes

2.2.1.19 Name

- Using `.fillna()` with `ffill` method
- `ffill`(forward fill): This method fills the missing value with the last valid value before that missing value in the data sequence

2.2.2 Change Columns Data Type

- Use `pd.to_datetime()` to change **Date** to `datetime64[ns]`
- Use `datetime.strptime()` to transform **Time** into **time format**
- Change **Age** to an **integer** by using `.astype(int)`
- Change **Customer_ID** to an **integer** with `.astype(int)`
- Change **Total_Purchases** to an **integer** by using `.astype(int)`
- Change **Ratings** to integer by utilizing `.astype(int)`

2.2.3 Update Columns

- Update a **Month** column use the cleaned Date column using `.dt.month_name()`
- Update a **Year** column use the cleaned Date column using `.dt.year`
- Update **Customer_ID**, **Gender**, **Age**, **Name**, **Customer_Segment**, and **City** using `groupby` and `mode`
- Create dictionary contain city and linked state. Use for loop over the dictionary to get the city and his state, if **City** in data match city name in dictionary, modify the **State** in data with the state name in dictionary, and in

2.2.4 Create New Columns

- Generate **Day** column based on **Date** column utilizing `.dt.day_name()`
- Generate a **Quarter** column based on the **Date** column utilizing `.dt.quarter`
- Generate **Hour** column based on **Time** column using lambda and `.hour`
- Generate a **Season** column based on the **Month** column utilizing a `list` and a `for loop`
- Generate an **Age_Group** column based on the **Age** column utilizing a `list` and a `for loop`

2.2.5 Rename Columns

- Rename **Total_Purchases** column to **Quantity** using `.rename()`
- Rename **Amount** column to **UnitPrice** using `.rename()`
- Rename **products** column to **Products** using `.rename()`

2.2.6 Map Quarter Numerical To Quarter Name

- Change **Quarter** from numerical (1, 2, 3, 4) to quarter name (First, Second, Third, and Fourth) utilizing `.map()`

2.2.7 Rename Product Brand, Type And Category

- Utilize `.loc` to choose rows where **Product_Brand** is **Mitsubhisi** and update to **Mitsubishi**
- Utilize `.loc` to choose rows where **Product_Brand** is **Pepsi** and substitute with **PepsiCo**
- Utilize `.loc` to choose rows where **Product_Type** is **Chocolate** and make the **Product_Brand** Nestle
- Utilize `.loc` to select rows where **Product_Category** is **Home Decor** and replace it with **Home And Living**
- Utilize `.loc` to choose rows where **Product_Type** is **Mitsubishi 1.5 Ton 3 Star Split AC** or **BlueStar AC** and replace them with **AC**
- Create a list of brands, Utilize a for loop to go through the brand list, Verify if the product name includes the brand name, If it does, modify the **Product_Brand** to the brand name, and if contains **iPhone**, **iPad**, **MacBook**, modify **Product_Brand** with **Apple**

- Generate a list of Zara items, Use a for loop to iterate through the Zara list, Check if the product name contains the Zara product name, If so, update the Product_Brand to Zara.
- Generate a list of Female Products, Use a for loop to iterate through the Female Products list, Check if the product name contains the Female Products name, If so, update the Gender to Female.

2.2.8 Remove Redundant Columns

- Remove unused features (Email, Phone, Address, Zipcode, Year, Name, Transaction_ID, Feedback, Age, Date, Time) use `.drop()`
- After removing redundant features, the shape of data converts to (302010, 26)

2.2.9 Remove Duplicate

- Remove duplicates values form the dataset by applying `.drop_duplicates()`
- After remove duplicates the shape of data convert to (301980, 26)

2.2.10 Outliers

- Utilize boxplots and the interquartile range to identify the outliers.
- The dataset includes 3905 anomalous values
- Due to the few outliers present, they therefore are not removed

2.3 Data Information After Data Wrangling

Column	Data Type	Description
City	String	City where the customer resides
Country	String	Country where the customer resides
Gender	String	Gender of the customer
Income	String	Income level of Customer
Customer_Segment	String	Segment of the customer (e.g., Premium, Regular, New)
Year	Integer	Year of purchase
Month	String	Month of purchase
Quantity	Integer	Quantity of items for purchase
Unit Price	Float	Price of purchase product
Total Amount	Float	Total amount spent
Product Category	String	Category of purchased product
Product_Brand	String	Brand of purchased product
Product_Type	String	Type of purchased product
Feedback	String	Customer review
Shipping_Method	String	Method used for shipping the product
Payment_Method	String	Method used for payment
Order_Status	String	Status of the order
Ratings	Integer	Rating given by customer
Products	String	Different products
Day	String	Day of purchase (taken from date of purchase)
Hour	Integer	Hour of purchase (taken from time of purchase)
Quarter	String	Quarter of purchase (taken from date of purchase)
Season	String	Season of purchase (depending on month of purchase)
Age_Group	String	Group of customer age (youth, Twenties, ..)
Customer_ID	Integer	Unique ID Of customer
State	String	State of Customer

Table 1: Data Type And Description

- Use `is_string_dtype` to verify that all columns of type string are indeed strings
- After clean data the size of data decrease to **65800KB (65.8MB)**
- Python Notebook : [DataCuration.ipynb](#)

2.4 Data Analysis

2.4.1 Univariate Data Analysis

2.4.1.1 Unit Price Distribution

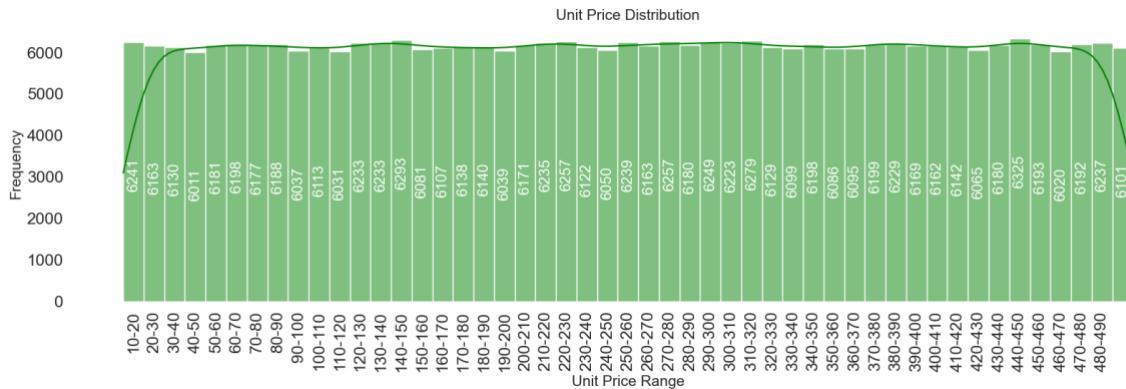


Figure 1: Unit Price Distribution

Figure 1 illustrates that the unit price ranges from 10 to 500. The data follows a uniform distribution, indicating that most ranges have approximately equal frequencies or counts, although some ranges exhibit slightly higher counts or frequencies.

2.4.1.2 Country Distribution

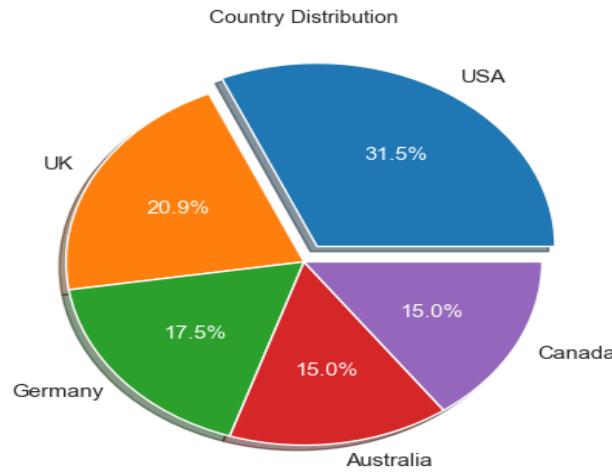


Figure 2: Country Distribution

Figure 2 illustrates the distribution of customers based on their country. The USA leads with 31.5% of the customers, followed by the UK with 20.9%, Germany with 17.5%, Australia with 15%, and Canada with 15%.

2.4.1.3 Gender Distribution

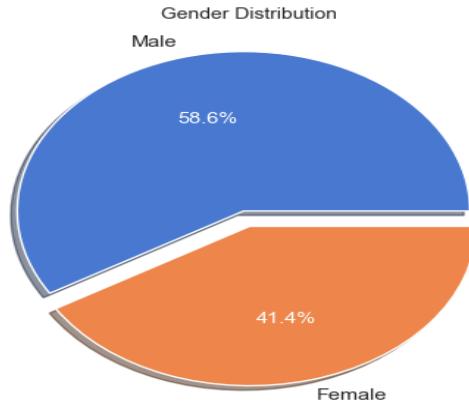


Figure 3: Gender Distribution

Figure 3 illustrates the proportion of male customers compared to female customers. The proportion of male customers is 58.6%, while the proportion of female customers is 41.4%. Understanding the gender distribution of customers aids in creating strategies to draw in more female customers in the future.

2.4.1.4 Order Status Distribution

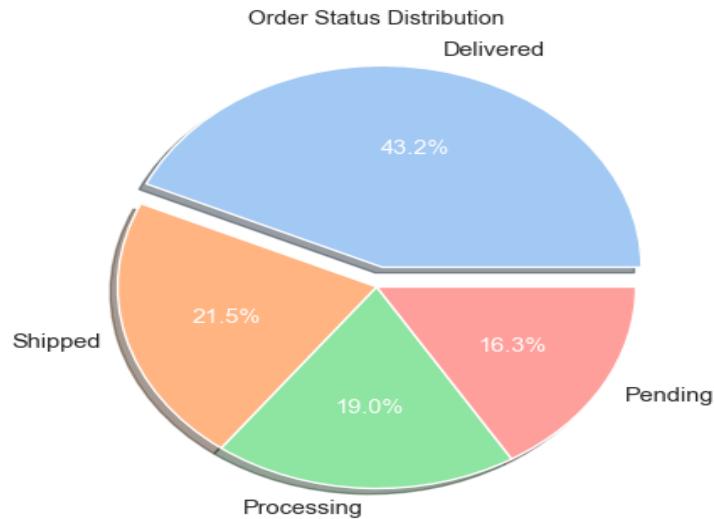


Figure 4: Order Status Distribution

Understanding the percentage of orders that have been delivered, are still pending, have been processed, and have been shipped to the customer, as illustrated in **Figure 4**, is crucial. This enables understanding the reasons customers do not return and attempts to identify solutions to prevent these issues.

2.4.1.5 Product Category Distribution

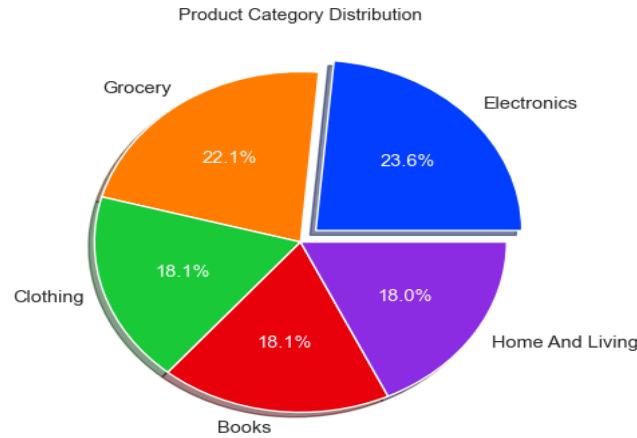


Figure 5: Product Category Distribution

As illustrated in **Figure 5**, the product categories are relatively evenly distributed, but there is a minor rise for electronics and groceries, with electronics at 23.6%, groceries at 22.1%, and clothing, books, and home and living items at 18.1%, 18.1%, and 18%, respectively.

2.4.1.6 Rating Distribution

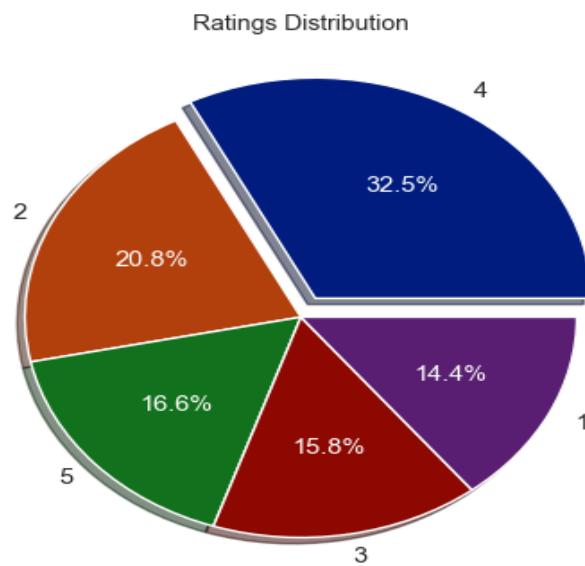


Figure 6: Rating Distribution

Understanding the distribution of each rating illustrated in **Figure 6**, where the most frequent rating is 4 and the least frequent is 1, is crucial for grasping customer opinions, which aids in resolving issues to motivate them to return.

2.4.1.7 Age Group Count

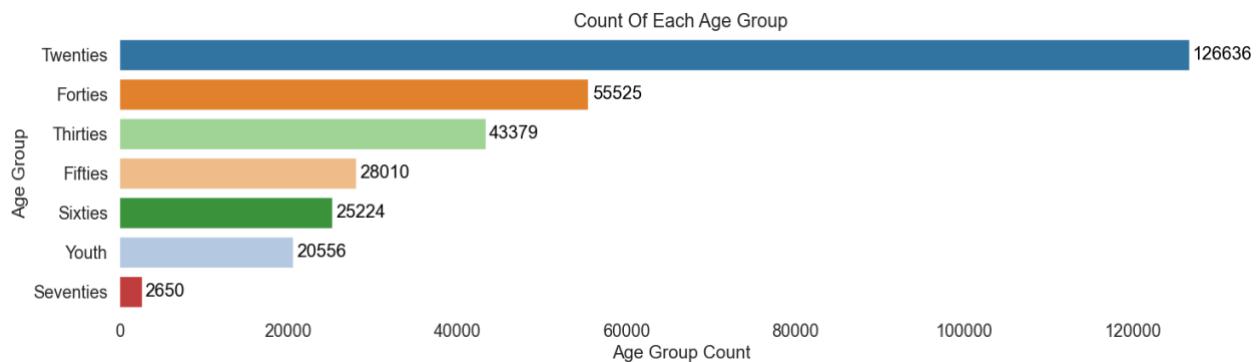


Figure 7: Count Of Each Age Group

According to **Figure 7**, most customers are in their twenties, followed by customers in their thirties and forties, with the fewest being youth and those in their seventies. Understanding the ages of customers aids in identifying the type of customer.

2.4.2 Bivariate Data Analysis

2.4.2.1 Preferred Payment Method By Country

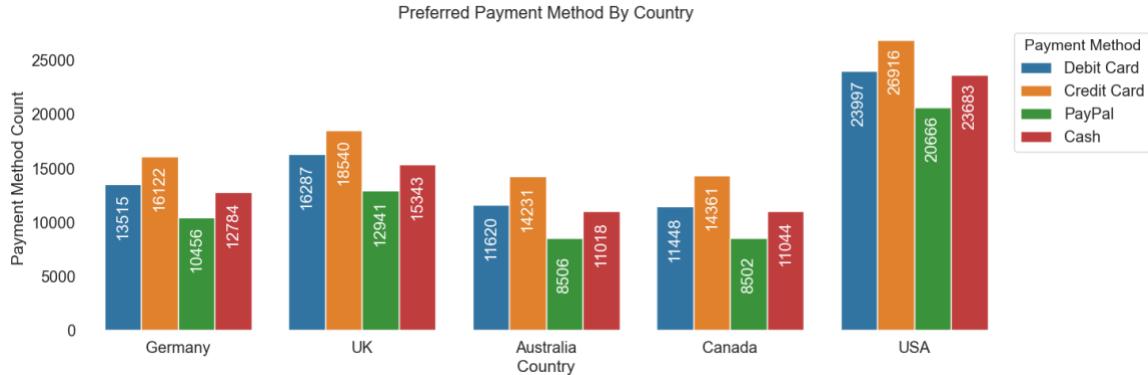


Figure 8: Preferred Payment Method By Country

According to **Figure 8**, it is clear that most customers in the USA, Canada, Germany, Australia, and the UK favor credit cards, with debit cards as the second option, then cash, and finally, *paypal* as the least preferred choice. This assists in focusing discounts on preferred payment methods and promotions for alternative payment options.

2.4.2.2 Preferred Product Category Of Each Country

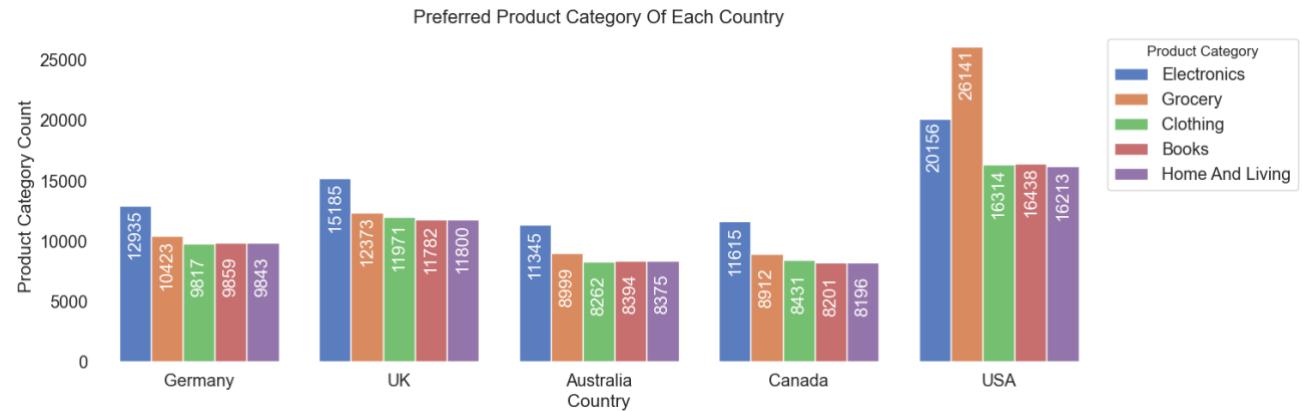


Figure 9: Preferred Product Category Of Each Country

In **Figure 9**, US customers show a clear preference for grocery products, with electronics coming next, followed by books, clothing, and home and living products at similar levels. In contrast, customers in Germany, Canada, Australia, and the UK lean more towards electronics, with groceries in second place, and clothing, books, and home and living products showing nearly equal preference. This aids the business in developing future strategies to boost sales across all product categories.

2.4.2.3 Customer Segment Count By Country

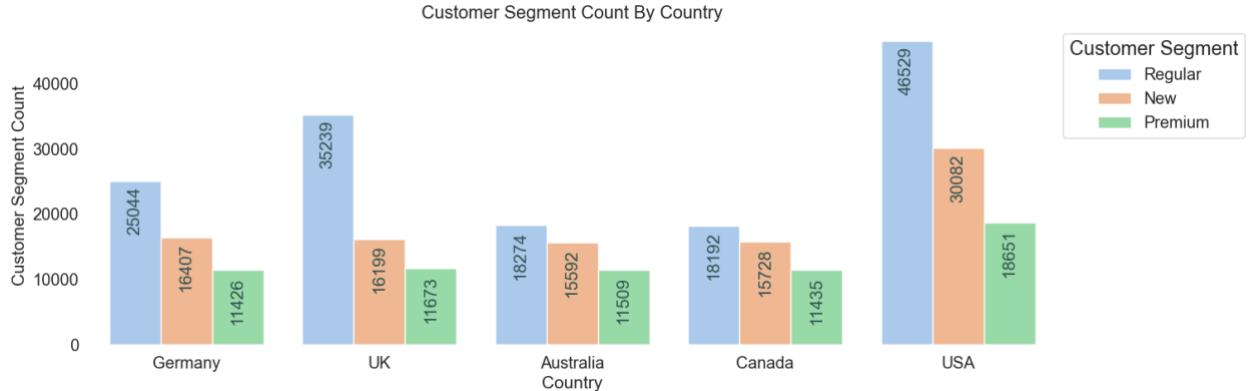


Figure 10: Customer Segment Count By Country

Hypothesis suggests that customers are divided nearly equally into regular and premium customers, along with some new customers. However, **Figure 10** indicates a different trend, showing that the majority of customers are regular, followed by new customers and a smaller proportion of premium customers.

2.4.2.4 Count Of Income By Country

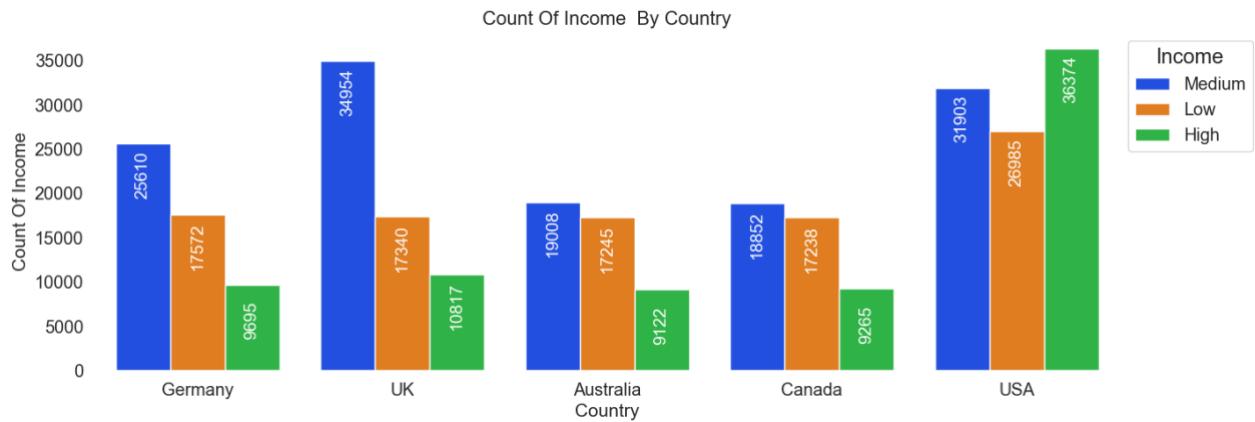


Figure 11: Count Of Income By Country

Figure 11 reveals that in the USA, most customers are the high-income group, followed by medium-income and low-income, which seems typical. However, in Canada, Germany, Australia, and the UK, the majority are medium income, followed by low-income and high-income, which feels unusual.

2.4.2.5 Total Amount Spent By Country

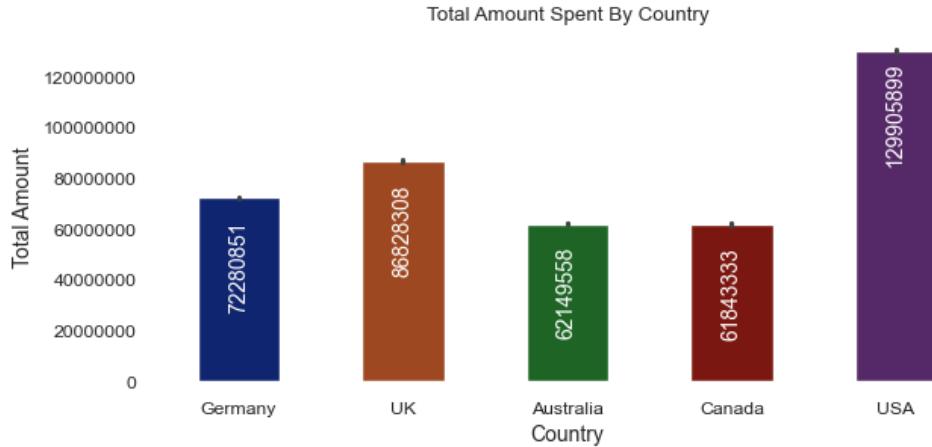


Figure 12: Total Amount Spent By Country

Figure 12 indicates that customers in the US are the top spenders at 129 million USD, with the UK next at 86 million GBP, followed by Germany at 72 million euros, and Canada and Australia at 61 million CAD and 62 million AUD, respectively.

2.4.2.6 Count of Each Rating Value by Country

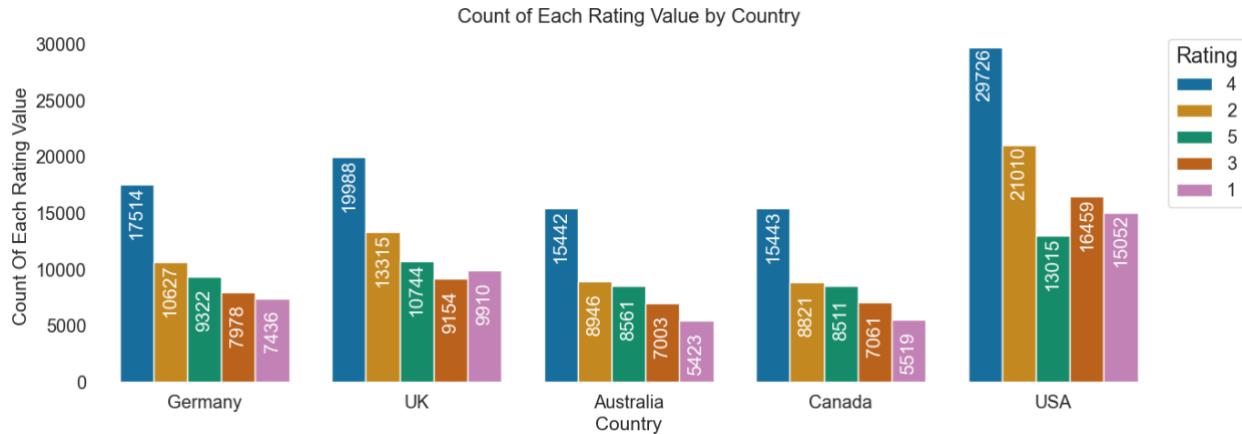


Figure 13: Count of Each Rating Value by Country

In the U.S., the most common rating is 4, followed by 2, 3, 1, and 5. In Canada, it's 4, 2, 5, 3, and 1. In Australia, the order is 4, 2, 5, 2, and 1. In Britain, ratings go 4, 2, 5, 1, and 3. In Germany, the pattern is 4, 2, 5, 3, and 1. This is also shown in the **Figure 13**.

2.4.2.7 Preferred Product Type By Product Category

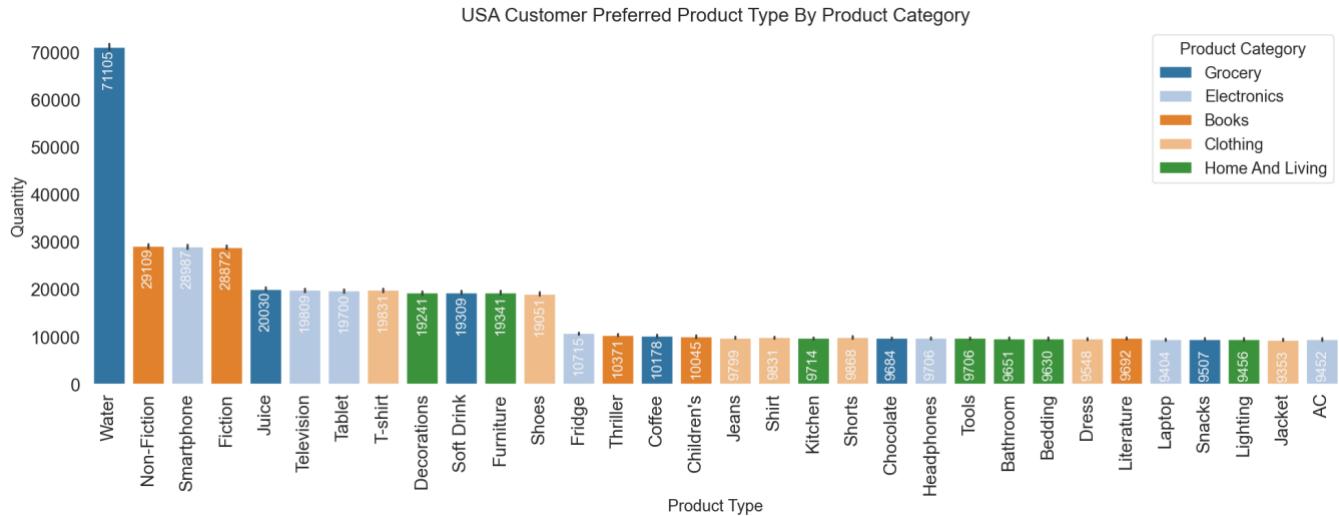


Figure 14: USA Preferred Product Type By Product Category

In the USA based on **Figure 14**, water is the top-selling grocery item, while snacks sell the least. In electronics, smartphones lead in sales, with AC at the bottom. Fiction books are the most popular, and literature books sell the least. For clothing, t-shirts are the best-sellers, while jackets lag behind. In home and living, decorations are the top choice, but lighting products sell the least. This allows the business to develop future strategies to boost sales of product types that have a low number of orders.

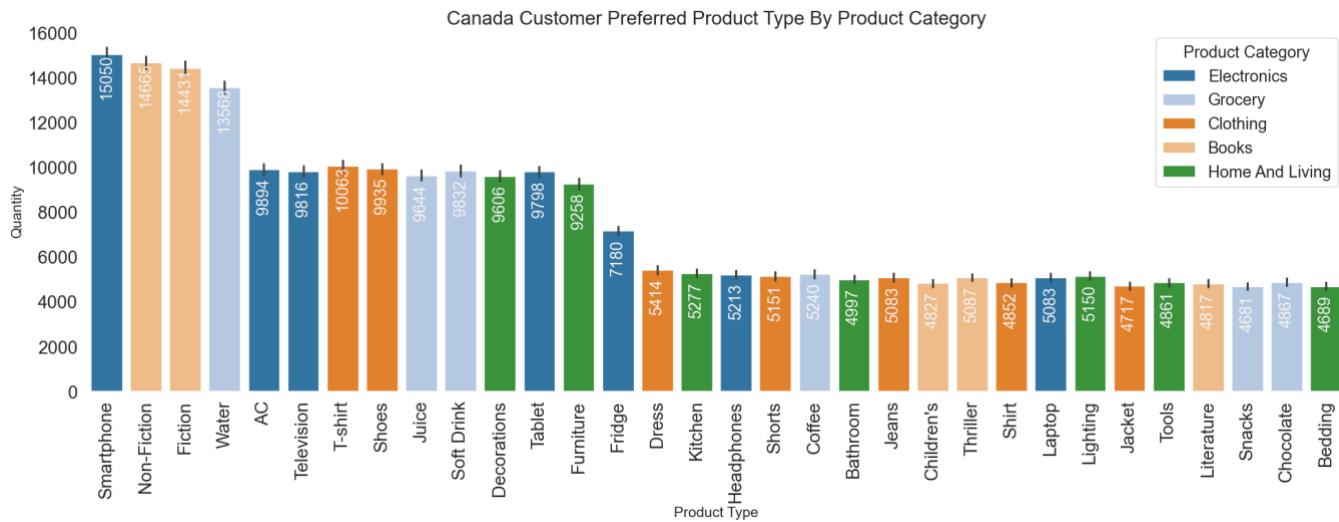


Figure 15: Canada Preferred Product Type By Product Category

In Canada, based on **Figure 15**, water is the top-selling grocery item, while chocolates sell the least. In electronics, smartphones lead in sales, with laptops at the bottom. Non-fiction books are the most popular, and literature books sell the least. For clothing, t-shirts are the best sellers, while jackets lag behind. In home and living, decorations are the top choice, but bedding products sell the least. This allows the business to develop future strategies to boost sales of product types that have a low number of orders.

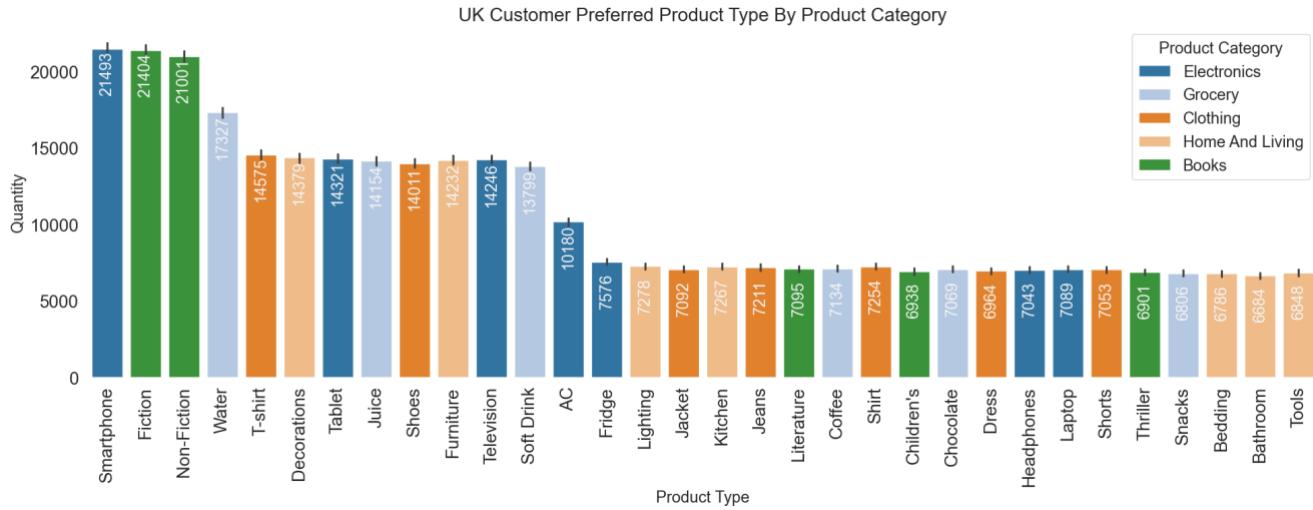


Figure 16: UK Preferred Product Type By Product Category

In the UK, based on **Figure 16**, water is the top-selling grocery item, while snacks sell the least. In electronics, smartphones lead in sales, with laptops at the bottom. Fiction books are the most popular, and thriller books sell the least. For clothing, t-shirts are the best sellers, while shoes lag behind. In home and living, decorations are the top choice, but tool products sell the least. This allows the business to develop future strategies to boost sales of product types that have a low number of orders.

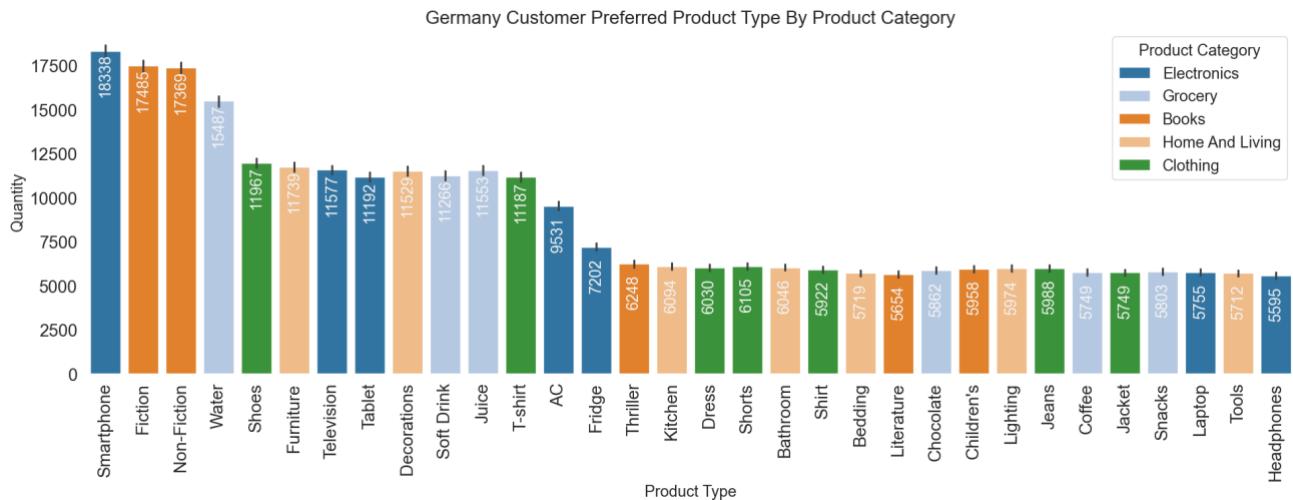


Figure 17: Germany Preferred Product Type By Product Category

In Germany, based on **Figure 17**, water is the top-selling grocery item, while snacks sell the least. In electronics, smartphones lead in sales, with headphones at the bottom. Fiction books are the most popular, and children's books sell the least. For clothing, shoes are the best sellers, while jackets lag behind. In home and living, furniture is the top choice, but tool products sell the least. This allows the business to develop future strategies to boost sales of product types that have a low number of orders.

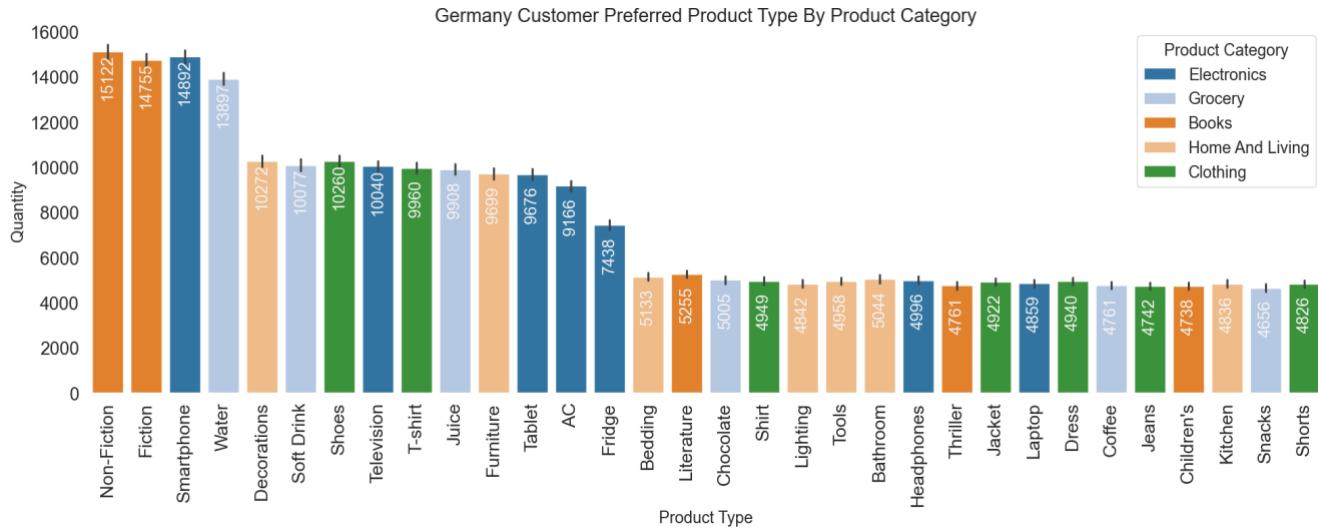


Figure 18: Australia Preferred Product Type By Product Category

In Australia, as shown in **Figure 18**, water ranks as the highest-selling grocery product, whereas snacks have the lowest sales. In electronics, smartphones rank highest in sales, while laptops occupy the lowest position. Non-Fiction titles are the most sought after, while children's books rank as the least sold. In clothing, shoes are the top sellers, whereas shorts autumn short. In home and living, decorations are the most popular option, while kitchen products have the lowest sales. This allows the business to develop future strategies to boost sales of product types that have a low number of orders.

2.4.2.8 Preferred Product Brand By Product Category



Figure 19: USA Preferred Product Brand By Product Category

In the USA, PepsiCo is the top-selling grocery brand, while Coca-Cola has the lowest sales. In electronics, Sony leads in sales, but HP sells the least. HarperCollins is the most popular in books, while Random House has the fewest sales. For clothing, Zara is the best seller, while Adidas sells the least. In home and living, Bed Bath & Beyond is the favorite, while Ikea has the lowest sales, as shown in **Figure 19**. This allows the business to focus on brands with a low number of orders by offering promotion discounts.

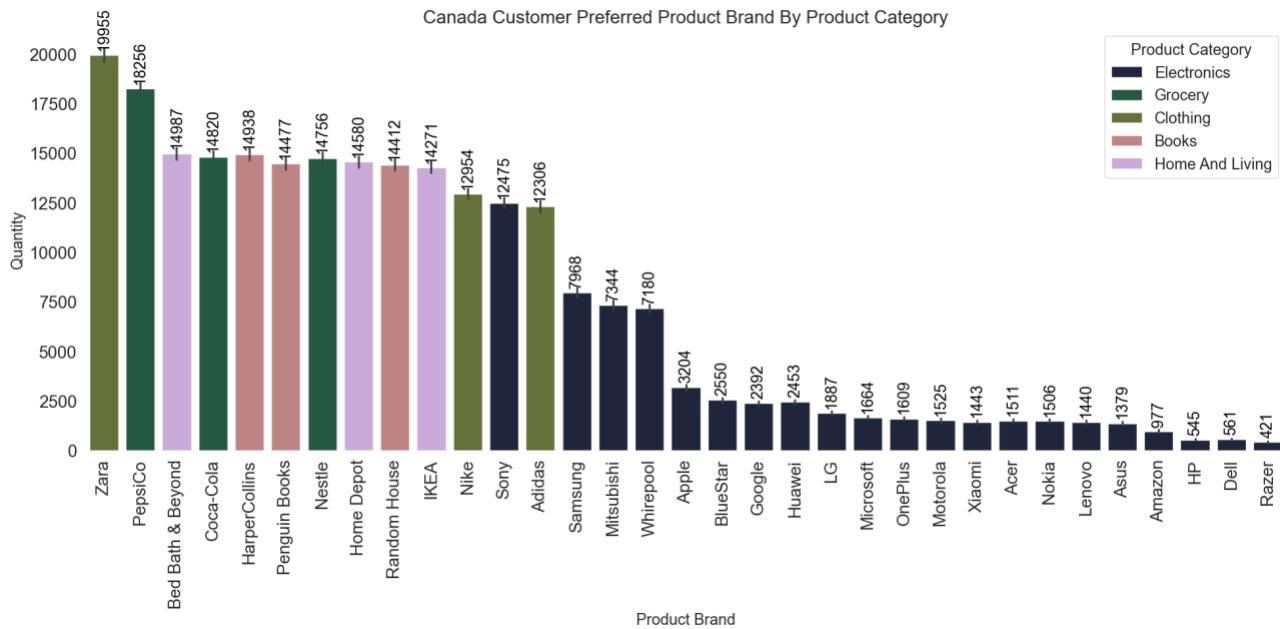


Figure 20: Canada Preferred Product Brand By Product Category

In Canada, PepsiCo is the top-selling grocery brand, while Nestle has the lowest sales. In electronics, Sony leads in sales, but Razer sells the least. HarperCollins is the most popular in books, while Random House has the fewest sales. For clothing, Zara is the best seller, while Adidas sells the least. In home and living, Bed Bath & Beyond is the favorite, while Ikea has the lowest sales, as shown in **Figure 20**. This allows the business to focus on brands with a low number of orders by offering promotion discounts.

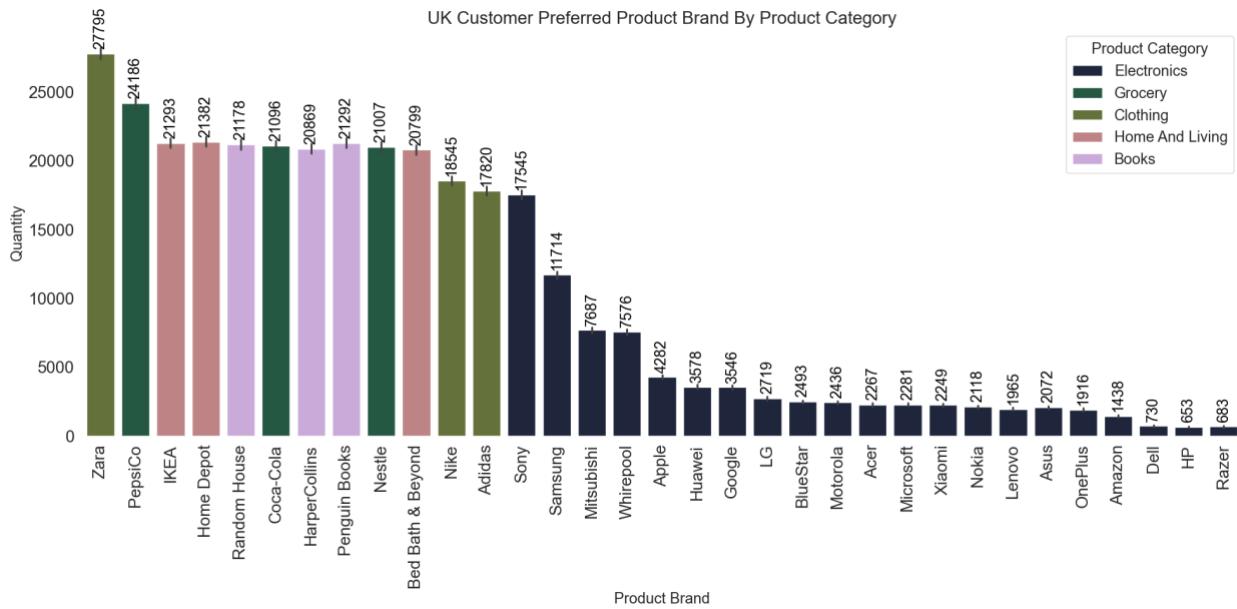


Figure 21: UK Preferred Product Brand By Product Category

In the UK, PepsiCo is the top-selling grocery brand, while Nestle has the lowest sales. In electronics, Sony leads in sales, but Razer sells the least. Random House is the most popular in books, while Penguin Books has the fewest sales. For clothing, Zara is the best seller, while Adidas sells the least. In home and living, Ikea is the favorite, while Bed Bath & Beyond has the lowest sales, as shown in **Figure 21**. This allows the business to focus on brands with a low number of orders by offering promotion discounts.

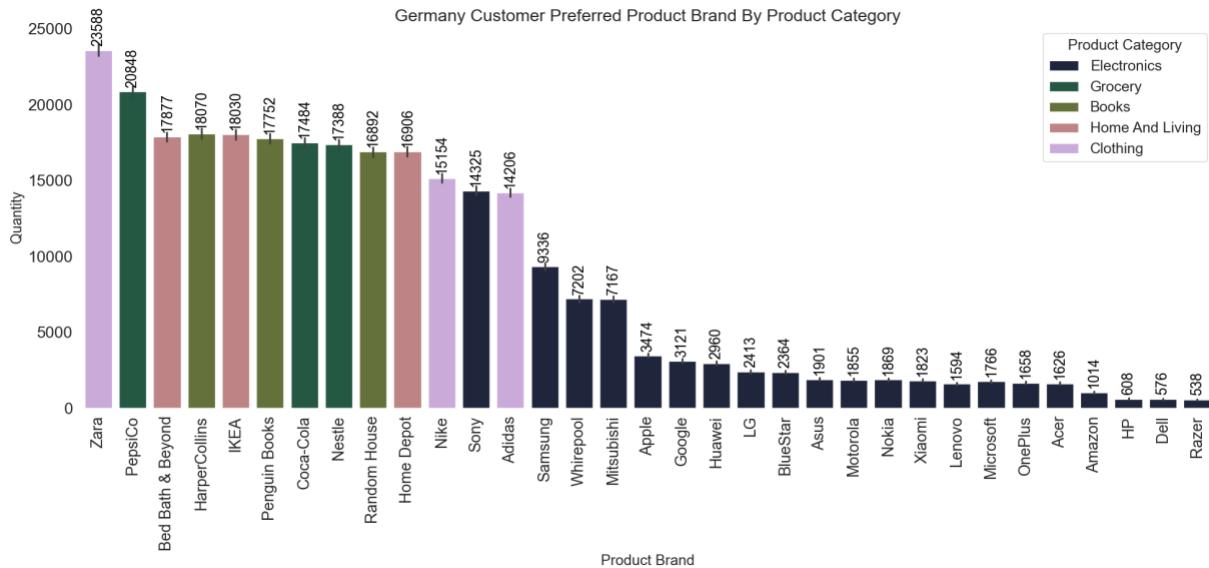


Figure 22: Germany Preferred Product Brand By Product Category

In Germany, PepsiCo is the top-selling grocery brand, while Nestle has the lowest sales. In electronics, Sony leads in sales, but Razer sells the least. HarperCollins is the most popular in books, while Random House has the fewest sales. For clothing, Zara is the best seller, while Adidas sells the least. In home and living, Bed Bath & Beyond is the favorite, while Home Depot has the lowest sales, as shown in **Figure 22**. This allows the business to focus on brands with a low number of orders by offering promotion discounts.



Figure 23: Australia Preferred Product Brand By Product Category

In Australia, PepsiCo is the top-selling grocery brand, while Nestle has the lowest sales. In electronics, Sony leads in sales, but Dell sells the least. Random House is the most popular in books, while Penguin Books has the fewest sales. For clothing, Zara is the best seller, while Nike sells the least. In home and living, Home Depot is the favorite, while IKEA has the lowest sales, as shown in **Figure 23**. This allows the business to focus on brands with a low number of orders by offering promotion discounts.

2.4.2.9 Preferred Purchase Day By Age Group

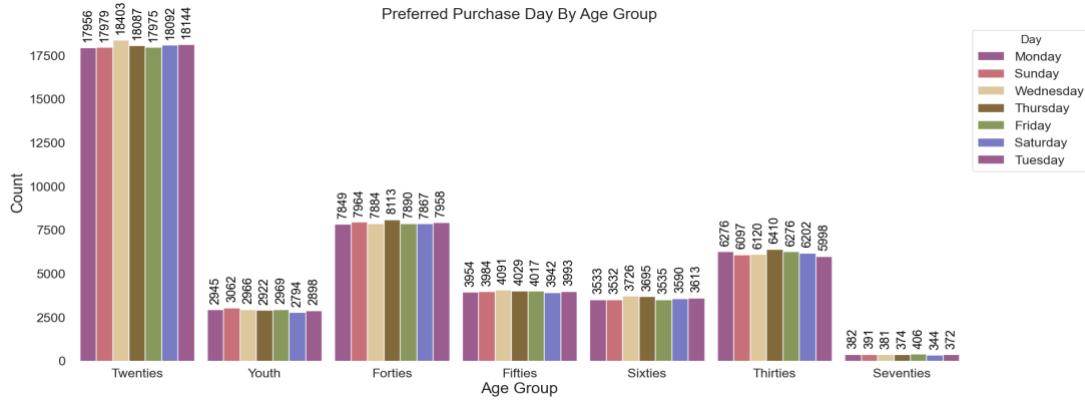


Figure 24: Preferred Purchase Day By Age Group

Figure 24 indicates that shoppers in their 20s, 50s, and 60s favor shopping every day, with a small rise on Wednesdays. Individuals in their 30s and 40s usually shop throughout the week, with a small rise on Thursdays, whereas shoppers in their 70s favor shopping every day, showing a slight preference for Fridays. Finally, younger shoppers prefer to buy every day, with a small uptick on Sundays. This assists the business in providing daily target discounts depending on age.

2.4.2.10 Preferred Product Category By Age Group

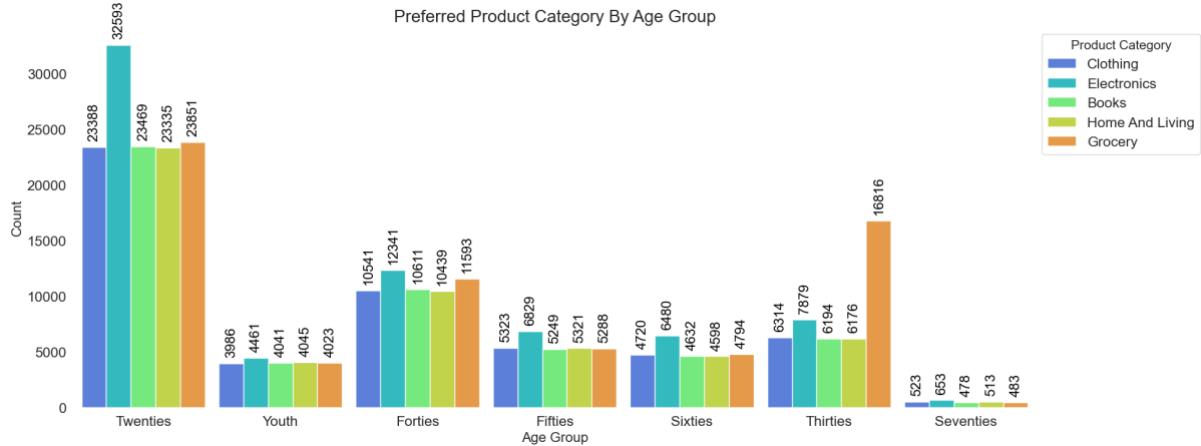


Figure 25: Preferred Product Category By Age Group

Figure 25 illustrates that customers in their 20s favor purchasing electronics, books, groceries, and clothing, as well as home and living items. Customers in their 40s favor purchasing electronics, groceries, books, clothing, and home and living. In contrast, younger customers are purchasing electronics, home and living, groceries, books, and clothing. Customers in their 50s favor purchasing electronics, clothing, home and living, groceries, and books. Customers in their 60s favor purchasing electronics, groceries, clothing, books, and home and living items. Customers in their 30s enjoy purchasing groceries, electronics, clothing, books, and home and living items. Customers in their 70s favor purchasing electronics, clothing, home and living items, groceries, and books. This assists the business in providing target discounts depending on age.

2.4.3 Multivariate Analysis

2.4.3.1 Charts

2.4.3.1.1 Monthly Total Amount Spent By Country

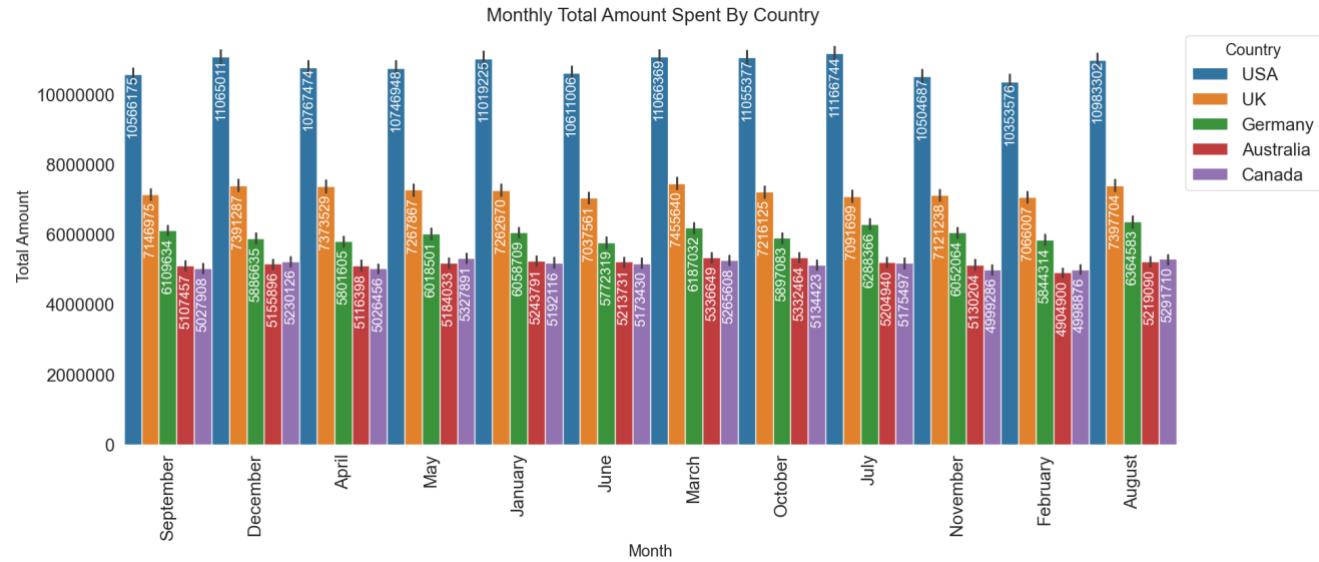


Figure 26: Monthly Total Amount Spent By Country

Figure 26 shows that customers in the US spent 11 million USD in December, January, March, October, and July. They spent 10 million USD in September, April, May, July, November, February, and August. In the UK, customers spent 7 million GBP each month. In Germany, customers spent 6 million euros in September, May, January, March, July, November, and August, and spent 5 million euros on February, April, June, October, and December. In Australia, customers spent 5 million AUD in each month except February, and in Canada, customers spent 5 million CAD each month except February and November. This helps the business in their future strategies to concentrate on certain months and give additional attention to others.

2.4.3.1.2 Daily Total Amount Spent By Country

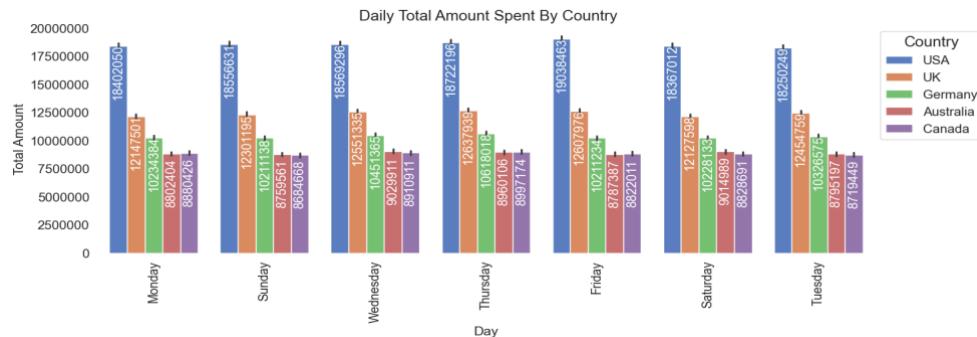


Figure 27: Daily Total Amount Spent By Country

Customers in the USA showed a preference for shopping on Friday, as illustrated in **Figure 27**, where they spent 19 million USD on purchases. UK And Germany is the same throughout the days, with a slight increase on Thursday. On the other hand, Canada is the same throughout the days, with a slight increase on Wednesday and Thursday, with 9 million AUD spent on purchases on Saturday and Wednesday in Australia. This helps focus on days with lower spending by offering special discounts to encourage customers to spend more on those days.

2.4.3.1.3 Seasonally Total Amount Spent By Country

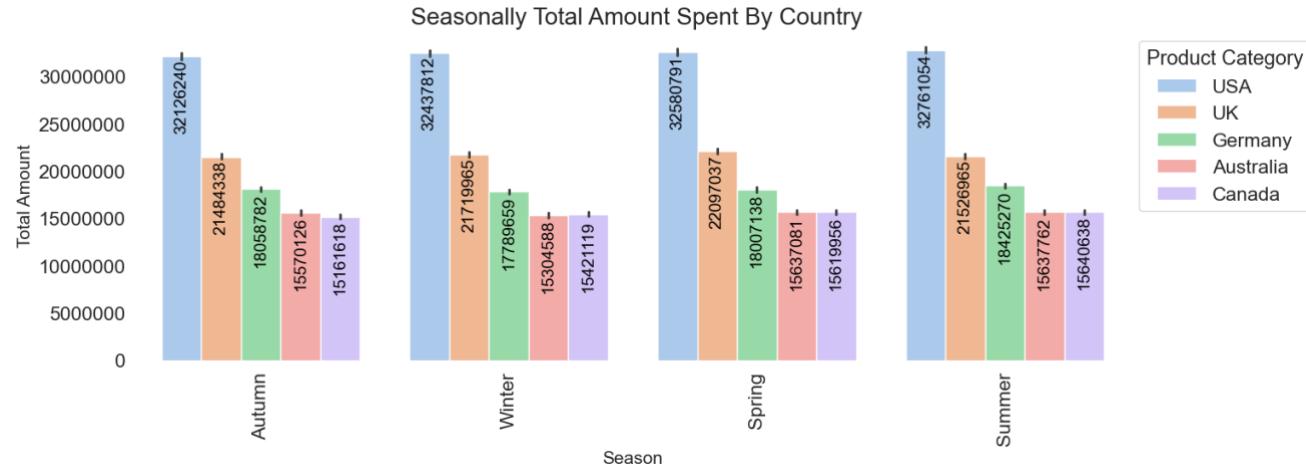


Figure 28: Seasonally Total Amount Spent By Country

Figure 28 indicates that, in the USA, spending stayed pretty steady all year, with a small bump in summer. The UK saw the highest spending in spring, while autumn, summer, and winter were about the same, with a slight rise in winter. In Germany, spending was similar in autumn, spring, and summer, with a small increase in summer, but it dropped in winter. Australia's spending remained steady, with a slight summer increase. Canada followed the same pattern—consistent spending with a small summer boost. This helps to offer special seasonal offers to encourage customers to spend more.

2.4.3.1.4 Quarterly Total Amount Spent By Country

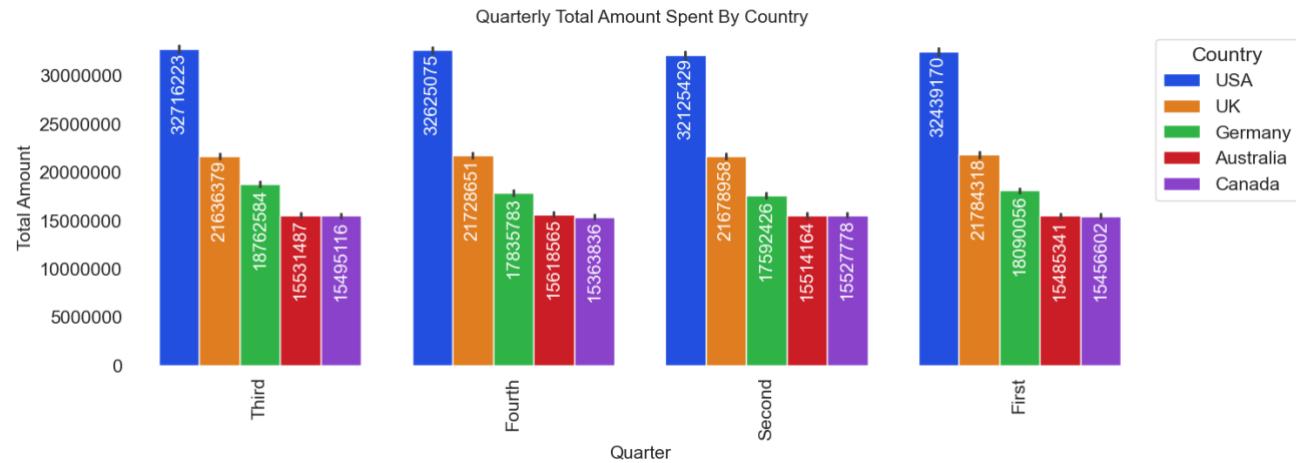


Figure 29: Quarterly Total Amount Spent By Country

In the US, the amount spent stayed almost the same throughout the year, with a slight increase in the third quarter. The UK followed a different pattern, peaking slightly in the first quarter. Germany spent the most during the third quarter, Australia spent the most during the fourth quarter, and Canada's amount spent stayed almost the same throughout the year, with a slight increase in the fourth quarter, as shown in **Figure 29**. This provides a business overview of the quarterly revenue and assists in future strategies to enhance the revenue for all quarters.

2.4.3.1.5 Total Amount Spent By Each Customer Segment By Country

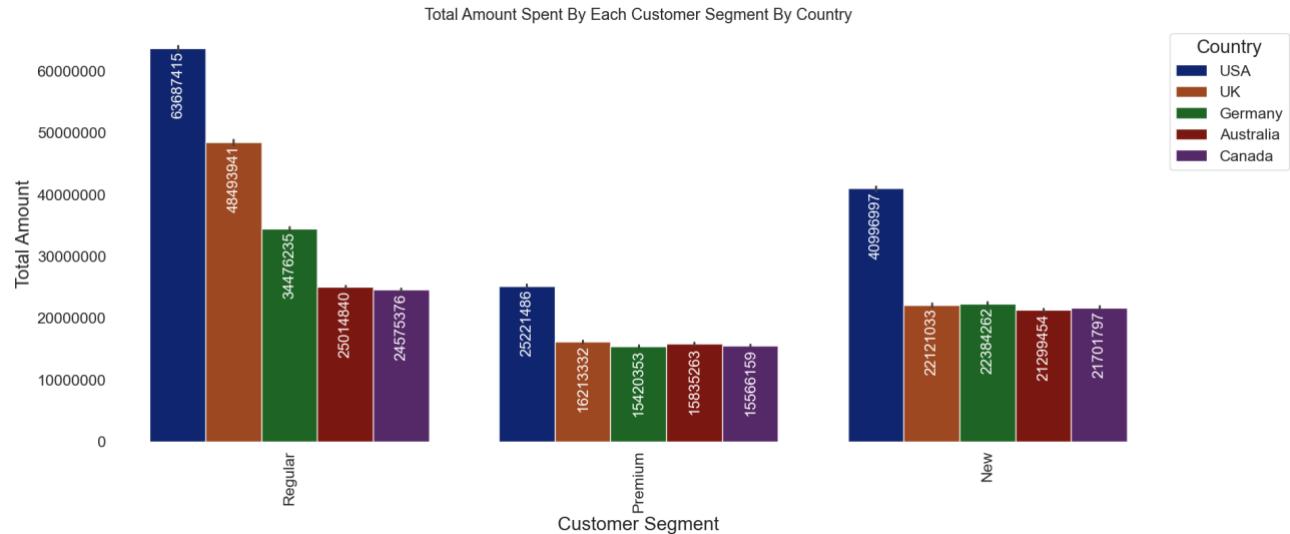


Figure 30: Total Amount Spent By Each Customer Segment By Country

Figure 30 highlights that regular and new customers spent more than premium customers. In the US, regular customers spent 63 million USD, new customers 40 million USD, and premium customers 25 million USD. In the UK, spending was 48 million GBP for regular customers, 22 million GBP for new customers, and 16 million GBP for premium customers. In Germany, Australia, and Canada, regular customers spent 35 million Euro, 25 million AUD, and 24 million CAD, while new customers spent 22 million Euro, 21 million AUD, and 21 million CAD. Premium customers in these countries spent 15 million euros, 15 million AUD, and 15 million CAD, respectively. It is crucial the business to analyze and comprehend why the new and regular customers expend more than the premium customers.

2.4.3.1.6 Total Amount Spent Depending On Income Level By Country

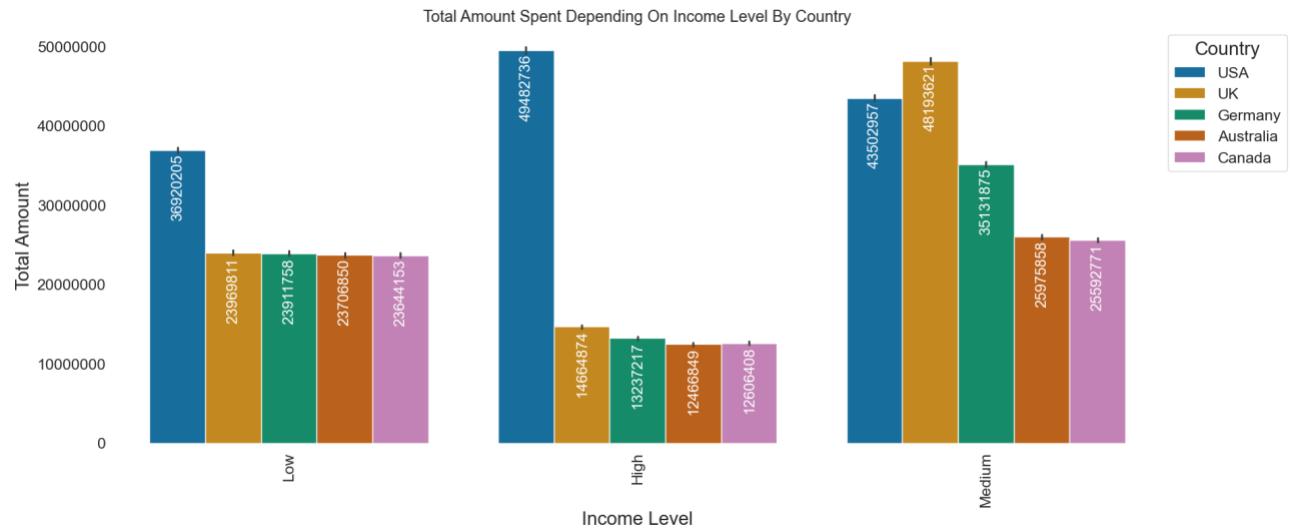


Figure 31: Total Amount Spent Depending On Income Level By Country

In the US, high-income customers spend the most, followed by middle-income and low-income customers. However, in the UK, Canada, Australia, and Germany, middle-income customers are the biggest spenders, while high-income customers spend the least, as shown in **Figure 31**.

2.4.3.1.7 Gender Preferred Product Category By Country

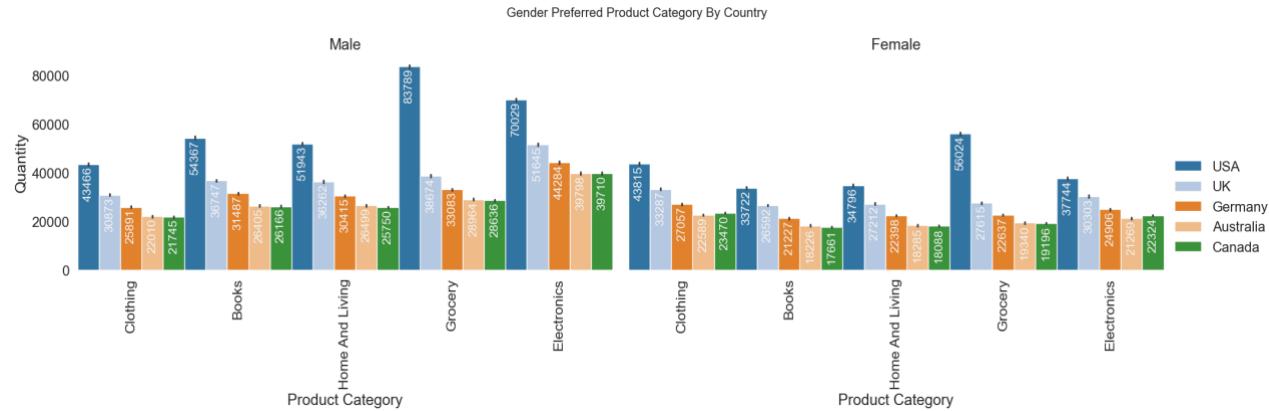


Figure 32: Gender Preferred Product Category By Country

Figure 32 illustrates that in the US, both males and females favor grocery items, while males' least preferred items are clothing products, and females' least favored are book items. In the UK, both males and females show a preference for electronic products, while males least favor clothing items and females least favor books. In Germany, males prefer electronics and females prefer clothing, while males least prefer clothing products, and females least prefer book items. In Canada and Australia, males favor electronics and females favor clothing, while males least favor clothing and females least favor books. This helps the business in creating future product category discounts and promotions, particularly tailored for each gender.

2.4.3.1.8 Product Category Average Rating By Country

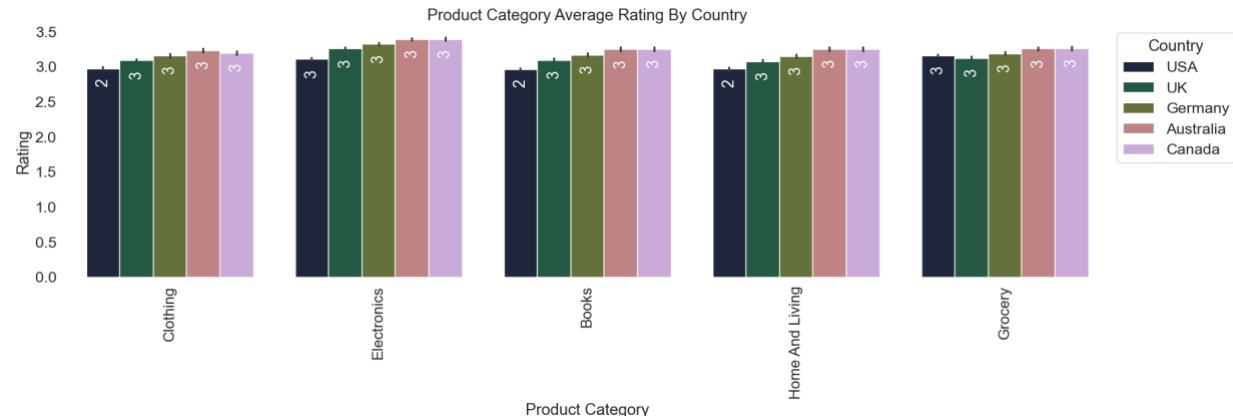


Figure 33: Product Category Average Rating By Country

Figure 33 shows that the typical ratings for clothing, books, and home and living are 2 in the USA, while in Canada, the UK, Australia, and Germany, they are 3. However, the average rating for electronics and groceries is 3 in the USA, Canada, the UK, Australia, and Germany. This is essential to the business for understanding customer views, which helps in addressing problems with product categories.

2.4.3.1.9 Product Category Amount Spent By Country

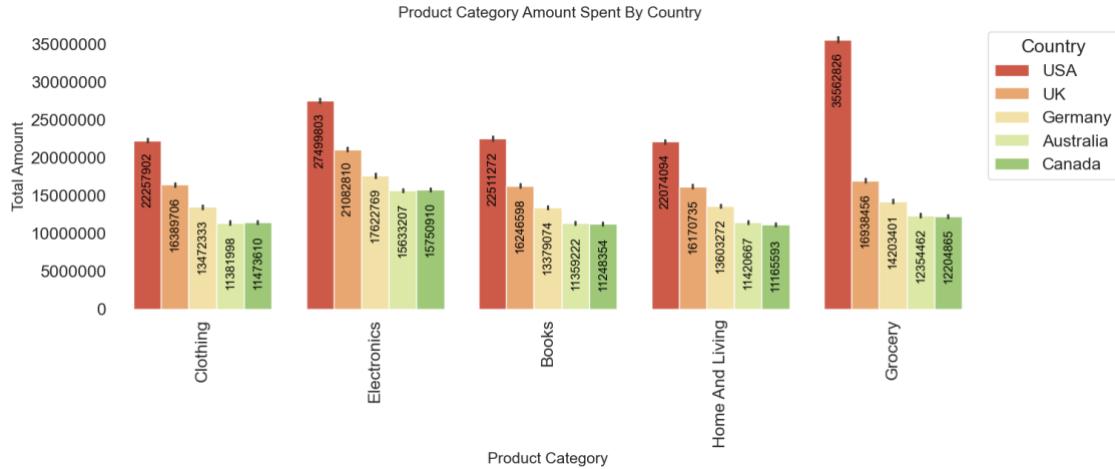


Figure 34: Product Category Amount Spent By Country

Figure 34 shows that the customer, In the USA, customers spent 35 million USD on groceries, 22 million USD on clothing, books, and home & living items, and 27 million USD on electronics. In the UK, they spent 16 million GBP on groceries, books, clothing, and home & living, plus 21 million GBP on electronics. German customers spent 13 million euros on home & living, clothing, and books; 14 million euros on groceries; and 17 million euros on electronics. In Australia, people spent 11 million AUD on clothing, home & living, and books; 12 million AUD on groceries; and 15 million AUD on electronics. Lastly, in Canada, customers spent 11 million CAD on clothing, home & living, and books; 12 million CAD on groceries; and 15 million CAD on electronics. This helps the business in their future plans to increase sales across all categories.

2.4.3.1.10 Day Of Month Total Amount Spent By Country

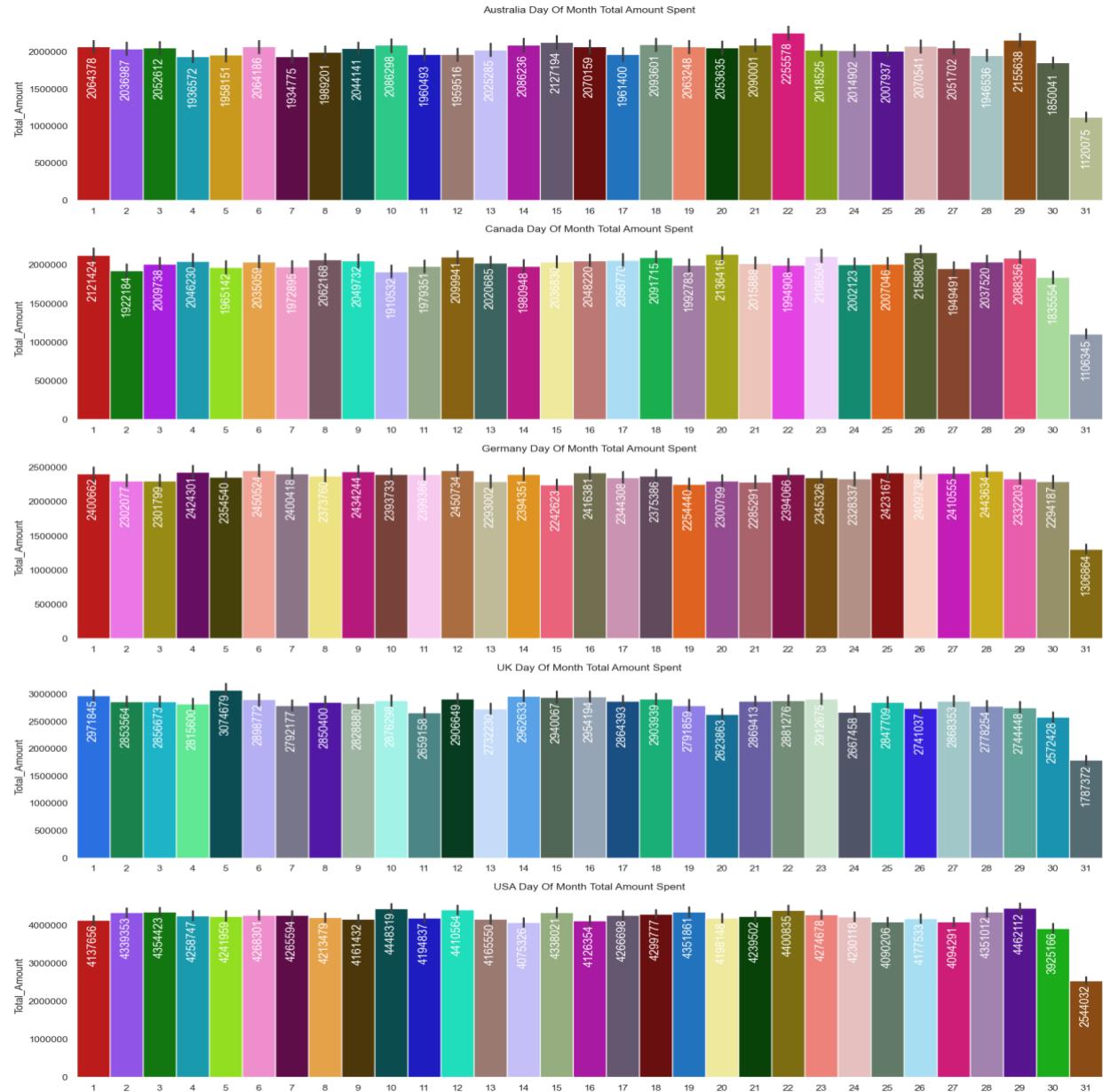


Figure 35: Day Of Month Total Amount Spent By Country

According to **Figure 35**, in Australia, the highest amounts were spent on the 15th, 22nd, and 29th of the month, while the 30th and 31st had the lowest amounts spent.

In Canada, the highest amounts were spent on the 1st, 20th, 23rd, and 26th of the month, while the 30th and 31st had the lowest amounts spent.

In Germany, the highest amounts were spent on the 4th, 6th, 7th, 12th, 16th, 25th, 26th, 27th, and 28th, while the 31st had the lowest amount spent.

In the UK, the highest amounts were spent on the 1st, 5th, 12th, 14th, 15th, 16th, 18th, and 23rd, while the 31st had the lowest amount spent.

In the USA, the highest amounts were spent on the 10th, 12th, 22nd, and 29th, while the 31st had the lowest amount spent. Interestingly, all countries share the 31st as the day with the lowest amount spent.

2.4.3.2 Tables

2.4.3.2.1 Seasonally Most Common Chocolate Products By Country

Country	Season	Products	Quantity
Australia	Autumn	Milk chocolate	228
Australia	Spring	Chocolate-covered nuts	168
Australia	Summer	Chocolate mousse	189
Australia	Winter	Chocolate-covered nuts	156
Canada	Autumn	Chocolate mousse	161
Canada	Spring	Chocolate mousse	193
Canada	Summer	Chocolate bars	200
Canada	Winter	Dark chocolate	148
Germany	Autumn	Chocolate bars	178
Germany	Spring	Chocolate fondue	188
Germany	Summer	Truffles	185
Germany	Winter	White chocolate	215
UK	Autumn	Dark chocolate	216
UK	Spring	Truffles	221
UK	Summer	Truffles	265
UK	Winter	Chocolate cookies	260
USA	Autumn	Dark chocolate	282
USA	Spring	Chocolate cookies	298
USA	Summer	Chocolate-covered fruits	292
USA	Winter	Dark chocolate	290

Table 2: Seasonally Most Common Chocolate Products By Country

According to **Table 2**, Australian customers favor milk chocolate in autumn, chocolate mousse in summer, and chocolate-covered nuts in winter and spring. For Canadian customers, the typical selection is chocolate mousse in autumn and spring, chocolate bars in summer, and dark chocolate in winter. German customers prefer chocolate bars in autumn, truffles during summer, white chocolate in winter, and chocolate fondue in spring. In the UK, dark chocolate is the preferred chocolate item in autumn, truffles during summer and spring, and chocolate cookies in winter. In contrast, in the USA, the top chocolate choices for autumn and winter are dark chocolate, chocolate-covered fruits in summer, and chocolate cookies in spring. This leads the business to concentrate on non-peak products and attempt to promote them.

2.4.3.2.2 Seasonally Most Common Coffee Products By Country

Country	Season	Products	Quantity
Australia	Autumn	Cappuccino	169
Australia	Spring	Coffee beans	172
Australia	Summer	Mocha	154
Australia	Winter	Americano	158
Canada	Autumn	Cappuccino	187
Canada	Spring	Affogato	190
Canada	Summer	Instant coffee	172
Canada	Winter	Americano	185
Germany	Autumn	Espresso	209
Germany	Spring	Americano	161
Germany	Summer	Instant coffee	222
Germany	Winter	Latte	172
UK	Autumn	Espresso	191
UK	Spring	Cappuccino	262
UK	Summer	Macchiato	229
UK	Winter	Mocha	239
USA	Autumn	Cappuccino	327
USA	Spring	Affogato	291
USA	Summer	Latte	306
USA	Winter	Ground coffee	295

Table 3: Seasonally Most Common Coffee Products By Country

As indicated in **Table 3**, Australian customers prefer ground cappuccino during autumn, coffee beans during spring, mocha in summer, and Americano in winter. For Canadian customers, the usual choice is cappuccino in autumn, instant coffee in summer, Americano in winter, and affogato in spring. German customers enjoy espresso in autumn, instant coffee in summer, latte in winter, and Americano in spring. In the UK, autumn sees espresso as the favored coffee choice, macchiato in summer, mocha during winter, and cappuccino in spring. In the USA, however, the preferred coffee in autumn is cappuccino, latte in summer, ground coffee during winter, and affogato in spring. This leads the business to concentrate on non-peak products and attempt to promote them.

2.4.3.2.3 Seasonally Most Common Water Products By Country

Country	Season	Products	Quantity
Australia	Autumn	Distilled water	455
Australia	Spring	Mineral water	393
Australia	Summer	Distilled water	431
Australia	Winter	Coconut water	384
Canada	Autumn	Distilled water	412
Canada	Spring	Artesian water	402
Canada	Summer	Mineral water	501
Canada	Winter	Coconut water	443
Germany	Autumn	Mineral water	439
Germany	Spring	Artesian water	459
Germany	Summer	Bottled water	478
Germany	Winter	Spring water	466
UK	Autumn	Alkaline water	485
UK	Spring	Flavored water	549
UK	Summer	Purified water	532
UK	Winter	Bottled water	494
USA	Autumn	Bottled water	2035
USA	Spring	Artesian water	2027
USA	Summer	Bottled water	1845
USA	Winter	Spring water	2003

Table 4: Seasonally Most Common Water Products By Country

Per **Table 4**, Australian customers prefer distilled water in the autumn and summer, coconut water in the winter, and mineral water in the spring. For Canadian customers, the usual choice is distilled water in the autumn, mineral water in the summer, coconut water in the winter, and artesian water in the spring. German customers tend to select mineral water in the autumn, bottled water in the summer, spring water in the winter, and artesian water in the spring. In the UK, alkaline water is the favored drink in the autumn, purified water in the summer, bottled water in the winter, and flavored water in the spring. On the other hand, in the USA, bottled water is the preferred choice in the autumn and the summer, spring water in the winter, and artesian water in the spring. This leads the business to concentrate on non-peak products and attempt to promote them.

2.4.3.2.4 Seasonally Most Common Snacks Products By Country

Country	Season	Products	Quantity
Australia	Autumn	Fruit snacks	151
Australia	Spring	Fruit snacks	180
Australia	Summer	Fruit snacks	167
Australia	Winter	Pretzels	149
Canada	Autumn	Chips	180
Canada	Spring	Trail mix	137
Canada	Summer	Nuts	153
Canada	Winter	Crackers	181
Germany	Autumn	Beef jerky	213
Germany	Spring	Popcorn	227
Germany	Summer	Nuts	177
Germany	Winter	Pretzels	189
UK	Autumn	Trail mix	242
UK	Spring	Nuts	236
UK	Summer	Trail mix	237
UK	Winter	Fruit snacks	240
USA	Autumn	Trail mix	304
USA	Spring	Nuts	285
USA	Summer	Popcorn	274
USA	Winter	Nuts	333

Table 5: Seasonally Most Common Snacks Products By Country

As shown in **Table 5**, customers in Australia prefer fruit mix during autumn, summer, and spring. Pretzels in winter. For customers in Canada, the usual choices are chips in autumn, nuts in summer, crackers in winter, and trail mix during spring. German customers favor beef jerky in autumn, nuts in summer, pretzels in winter, and popcorn in spring. In the UK, trail mix is the favored snack in autumn and summer, fruit snacks during winter, and nuts in spring. Conversely, in the USA, trail mix is the preferred snack for autumn, popcorn in the summer, and nuts during winter and spring. This leads the business to concentrate on non-peak products and attempt to promote.

2.4.3.2.5 Seasonally Most Common Juice Products By Country

Country	Season	Products	Quantity
Australia	Autumn	Mango juice	302
Australia	Spring	Pineapple juice	293
Australia	Summer	Tomato juice	357
Australia	Winter	Tomato juice	302
Canada	Autumn	Mango juice	346
Canada	Spring	Pineapple juice	294
Canada	Summer	Tomato juice	286
Canada	Winter	Apple juice	289
Germany	Autumn	Cranberry juice	339
Germany	Spring	Apple juice	333
Germany	Summer	Apple juice	455
Germany	Winter	Orange juice	363
UK	Autumn	Orange juice	419
UK	Spring	Grape juice	418
UK	Summer	Grape juice	428
UK	Winter	Orange juice	433
USA	Autumn	Grape juice	592
USA	Spring	Pomegranate juice	540
USA	Summer	Grape juice	587
USA	Winter	Mango juice	561

Table 6: Seasonally Most Common Juice Products By Country

As per **Table 6**, Australian customers prefer mixed mango juice during autumn, tomato juice in summer and winter, and pineapple juice in spring. For Canadian customers, the usual choice is mango juice in autumn, tomato juice during summer, apple juice in winter, and pineapple juice in spring. German customers favor cranberry juice in autumn, apple juice in summer and spring, orange juice in winter. In the UK, orange juice is favored in autumn, grape juice in summer and spring, and orange juice in winter. Conversely, in the USA, the preferred juice for autumn and summer is grape juice, mango juice during winter, and pomegranate juice for spring. This leads the business to concentrate on non-peak products and attempt to promote them.

2.4.3.2.6 Seasonally Most Common Soft Drinks Products By Country

Country	Season	Products	Quantity
Australia	Autumn	Grape soda	277
Australia	Spring	Cola	401
Australia	Summer	Grape soda	357
Australia	Winter	Iced tea	303
Canada	Autumn	Fruit punch	295
Canada	Spring	Orange soda	340
Canada	Summer	Cream soda	321
Canada	Winter	Cola	298
Germany	Autumn	Iced tea	341
Germany	Spring	Iced tea	380
Germany	Summer	Root beer	339
Germany	Winter	Ginger ale	326
UK	Autumn	Iced tea	402
UK	Spring	Cream soda	430
UK	Summer	Root beer	383
UK	Winter	Grape soda	458
USA	Autumn	Energy drink	559
USA	Spring	Energy drink	579
USA	Summer	Ginger ale	601
USA	Winter	Grape soda	554

Table 7: Seasonally Most Common Soft Drink Products By Country

As per **Table 7**, Australian customers prefer grape soda during autumn and summer, iced tea in winter, and cola in spring. For Canadian customers, the usual choices are fruit punch in autumn, cream soda in summer, cola in winter, and orange soda in spring. German customers favor iced tea during autumn and spring, ginger ale in winter, and root beer in summer. In the UK, autumn sees iced tea as the favored soft drink, summer is for root beer, winter calls for grape soda, and spring brings cream soda. Conversely, in the USA, the leading soft drink selection for autumn and spring is energy drink, ginger ale during summer, and grape soda throughout winter. This leads the business to concentrate on non-peak products and attempt to promote them.

2.4.3.2.7 Hourly Total Amount Spent By Country

Country	Australia	Canada	Germany	UK	USA
Hour					
0	2515899	2466014	3020819	3735134	5531710
1	2514570	2464180	2876898	3740322	5458656
2	2545102	2604947	3031058	3592374	5237244
3	2644185	2547854	2985712	3642324	5236400
4	2506741	2538571	3011682	3705903	5306142
5	2626531	2598033	3038358	3546821	5343054
6	2448393	2525322	3018289	3628870	5478320
7	2776431	2525376	2898436	3593047	5786756
8	2524060	2584013	3012378	3491213	5377691
9	2750782	2769392	3057300	3486357	5394562
10	2588990	2432045	2921551	3653439	5533357
11	2470819	2741398	3070147	3548163	5629469
12	2539082	2614161	3236019	3626819	5343056
13	2664405	2596706	2999135	3617872	5383055
14	2567066	2601237	3036234	3499257	5374449
15	2630413	2537005	2845971	3705971	5429136
16	2484844	2506997	2885660	3710097	5293935
17	2652234	2511196	3039506	3672862	5349378
18	2614225	2584123	3118399	3691481	5528946
19	2553784	2555108	3120781	3739576	5403382
20	2743402	2642543	3058147	3505232	5374806
21	2560650	2724760	2930641	3634925	5407443
22	2649733	2616065	2978924	3536538	5332817
23	2577205	2556277	3088792	3523699	5372124

Table 8: Hourly Total Amount Spent By Country

Table 8 indicates that customers in Australia spent the most at 7 AM and 9 AM, while they spent the least at 6 AM and 11 AM. In Germany, customers spent a large amount at 12 PM and 7 PM, while spending a small amount at 3 PM and 1 AM. For Canadian customers, 9 AM and 11 AM show the most spending, while 10 AM and 1 AM reveal the least. In the UK, the times 1 AM and 7 PM are preferred by customers, while 8 AM and 9 AM are less favored. Ultimately, customers in the USA spent the most during 7 AM and 11 AM, whereas 2 AM and 3 AM saw the least amount spent. This helps the business to focus on hours with lower spending by offering special discounts and discount promotion to encourage customers to spend more on those hours.

2.4.3.2.8 Product Category Monthly Peak Time By Country

Country	Month	Day	Hour	Product_Category	Quantity
Australia	July	Sunday	23	Books	77
Australia	October	Tuesday	22	Clothing	80
Australia	May	Monday	7	Electronics	96
Australia	July	Saturday	22	Grocery	79
Australia	September	Friday	15	Home And Living	83
Canada	September	Saturday	19	Books	71
Canada	August	Sunday	2	Clothing	84
Canada	May	Tuesday	11	Electronics	98
Canada	May	Monday	22	Grocery	78
Canada	July	Saturday	14	Home And Living	87
Germany	August	Thursday	19	Books	83
Germany	March	Thursday	11	Clothing	94
Germany	March	Thursday	11	Electronics	104
Germany	March	Tuesday	7	Grocery	83
Germany	October	Monday	0	Home And Living	82
UK	April	Sunday	9	Books	93
UK	November	Monday	0	Clothing	98
UK	July	Monday	17	Electronics	113
UK	May	Monday	20	Grocery	117
UK	July	Sunday	1	Home And Living	92
USA	August	Tuesday	3	Books	119
USA	March	Friday	4	Clothing	126
USA	July	Sunday	16	Electronics	120
USA	February	Friday	8	Grocery	169
USA	February	Tuesday	7	Home And Living	111

Table 9: Product Category Monthly Peak Time By Country

Table 9 shows when customers in different countries prefer to buy certain products. In Australia, customers like to buy books on Sundays in July at 11 PM, clothing on Tuesdays in October at 10 PM, and electronics on Mondays in May at 7 AM. They usually buy groceries on Saturdays in July at 11 PM and home and living items on Fridays in September at 3 PM.

In Canada, books are bought on Saturdays in September at 7 PM, clothing on Sundays in August at 2 AM, and electronics on Tuesdays in May at 11 AM. Groceries are purchased on Mondays in May at 10 PM, and home and living items on Saturdays in July at 2 PM.

In Germany, customers buy books on Thursdays in August at 7 PM, while clothing and electronics are both bought on Thursdays in March at 11 AM. Groceries are purchased on Tuesdays in March at 7 AM, and home and living items on Mondays in October at 12 AM. In the UK, books are bought on Sundays in April at 9 AM, clothing on Fridays in November at 12 AM, and electronics on Mondays in July at 5 PM. Groceries are bought on Mondays in May at 8 PM, and home and living items on Sundays in July at 1 AM.

In the USA, customers buy books on Tuesdays in August at 3 AM, clothing on Fridays in March at 4 AM, and electronics on Sundays in July at 4 PM. Groceries are purchased on Fridays in February at 8 AM, and home and living items on Tuesdays in February at 7 AM. Understanding daily rush hours in each month allows the business to focus on peak days and develop strategies to boost sales during non-peak periods.

2.4.3.2.9 Clothing Peak Time By Product Brand By Country

Country	Month	Day	Hour	Product_Type	Product_Brand	Quantity
Australia	February	Tuesday	5	Dress	Zara	31
Australia	December	Wednesday	17	Jacket	Adidas	24
Australia	January	Saturday	1	Jeans	Zara	24
Australia	October	Tuesday	22	Shirt	Zara	36
Australia	November	Saturday	22	Shoes	Zara	38
Australia	November	Friday	14	Shorts	Nike	24
Australia	April	Monday	3	T-shirt	Adidas	30
Canada	May	Monday	23	Dress	Zara	33
Canada	May	Friday	3	Jacket	Adidas	23
Canada	January	Monday	22	Jeans	Zara	31
Canada	October	Monday	17	Shirt	Zara	26
Canada	March	Thursday	23	Shoes	Zara	37
Canada	July	Saturday	5	Shorts	Nike	28
Canada	July	Monday	10	T-shirt	Adidas	30
Germany	April	Saturday	11	Dress	Zara	23
Germany	October	Thursday	21	Jacket	Adidas	28
Germany	January	Monday	0	Jeans	Zara	30
Germany	July	Wednesday	19	Shirt	Zara	28
Germany	February	Tuesday	2	Shoes	Adidas	36
Germany	March	Sunday	13	Shorts	Nike	28
Germany	July	Saturday	19	T-shirt	Adidas	26
UK	September	Saturday	1	Dress	Zara	32
UK	May	Friday	4	Jacket	Adidas	31
UK	May	Friday	11	Jeans	Zara	37
UK	October	Monday	16	Shirt	Zara	35
UK	June	Friday	7	Shoes	Adidas	36
UK	May	Monday	15	Shorts	Nike	32
UK	December	Thursday	5	T-shirt	Nike	35
USA	March	Thursday	8	Dress	Zara	42
USA	April	Wednesday	22	Jacket	Adidas	31
USA	November	Thursday	22	Jeans	Zara	41
USA	December	Saturday	21	Shirt	Zara	44
USA	January	Tuesday	7	Shoes	Adidas	34
USA	December	Saturday	23	Shorts	Nike	33
USA	August	Wednesday	11	T-shirt	Adidas	43

Table 10: Clothing Peak Time By Product Brand By Country

From **Table 10**, In Australia, customers frequently purchase Zara dresses on Tuesdays in February at 5 AM, Adidas jackets on Wednesdays in December at 5 PM, and Zara jeans on Saturdays in January at 1 AM. Zara shirts are commonly bought on Tuesdays in October at 10 PM, while Zara shoes are popular on Saturdays in November at 10 PM. Nike shorts tend to sell best on Fridays in November at 2 PM, and Adidas t-shirts are mostly purchased on Mondays in April at 3 AM.

In Canada, Zara dresses are bought on Mondays in May at 11 PM, Adidas jackets on Fridays in May at 3 AM, and Zara jeans on Mondays in January at 11 PM. Zara shirts are purchased on Mondays in October at 5 PM, and Zara shoes are favored on Thursdays in March at 11 PM. Nike shorts are often purchased on Saturdays in July at 5 AM, and Adidas t-shirts on Mondays in July at 10 AM.

In Germany, Zara dresses are purchased on Saturdays in April at 11 AM, while Adidas jackets are popular on Thursdays in October at 9 PM. Zara jeans are bought on Mondays in January at midnight, and Zara shirts on Wednesdays in July at 7 PM. Adidas shoes are frequently purchased on Tuesdays in February at 2 AM, Nike shorts on Sundays in March at 1 PM, and Adidas t-shirts on Saturdays in July at 7 PM.

In the UK, Zara dresses are purchased on Saturdays in September at 1 AM, and Adidas jackets on Fridays in May at 4 AM. Zara jeans are bought on Fridays in May at 11 AM, and Zara shirts on Mondays in October at 4 PM. Adidas shoes are commonly purchased on Fridays in June at 7 AM, Nike shorts on Mondays in May at 3 PM, and Nike t-shirts on Thursdays in December at 3 PM.

In the USA, Zara dresses are bought on Thursdays in March at 8 AM, Adidas jackets on Wednesdays in April at 10 PM, and Zara jeans on Saturdays in November at 10 PM. Zara shirts are popular on Saturdays in December at 9 PM, Adidas shoes are often purchased on Tuesdays in January at 7 AM, Nike shorts on Saturdays in December at 11 PM, and Adidas t-shirts on Wednesdays in August at 11 AM. Understanding daily rush hours in each month allows the business to focus on peak days and develop strategies to boost sales during non-peak periods.

2.4.3.2.10 Electronics Peak Time By Product Brand By Country

Country	Month	Day	Hour	Product_Brand	Product_Type	Quantity
Australia	July	Saturday	21	Mitsubishi	AC	31
Australia	October	Sunday	10	Whirlpool	Fridge	39
Australia	August	Thursday	19	Sony	Headphones	23
Australia	June	Saturday	0	HP	Laptop	19
Australia	December	Sunday	8	Huawei	Smartphone	24
Australia	June	Friday	5	Amazon	Tablet	21
Australia	April	Saturday	15	Samsung	Television	25
Canada	April	Friday	10	Mitsubishi	AC	30
Canada	May	Tuesday	11	Whirlpool	Fridge	29
Canada	February	Thursday	1	Sony	Headphones	23
Canada	October	Tuesday	14	Apple	Laptop	22
Canada	September	Monday	1	Samsung	Smartphone	20
Canada	March	Wednesday	20	Sony	Tablet	27
Canada	August	Thursday	9	Samsung	Television	28
Germany	December	Thursday	22	Mitsubishi	AC	29
Germany	February	Sunday	10	Whirlpool	Fridge	30
Germany	November	Saturday	10	Sony	Headphones	29
Germany	April	Saturday	22	Dell	Laptop	19
Germany	April	Tuesday	8	Samsung	Smartphone	26
Germany	July	Saturday	16	Apple	Tablet	19
Germany	May	Tuesday	3	Sony	Television	30
UK	February	Wednesday	15	Mitsubishi	AC	33
UK	January	Sunday	13	Whirlpool	Fridge	28
UK	July	Monday	17	Sony	Headphones	40
UK	August	Friday	9	Microsoft	Laptop	24
UK	July	Sunday	22	LG	Smartphone	27
UK	April	Monday	2	Microsoft	Tablet	20
UK	October	Wednesday	1	Samsung	Television	34
USA	July	Saturday	17	Mitsubishi	AC	31
USA	April	Friday	2	Whirlpool	Fridge	42
USA	July	Sunday	2	Sony	Headphones	39
USA	June	Sunday	8	Dell	Laptop	19
USA	July	Friday	3	Motorola	Smartphone	26
USA	May	Wednesday	2	Google	Tablet	23
USA	April	Monday	17	Sony	Television	36

Table 11: Electronics Peak Time By Product Brand By Country

In Australia, customers often purchase a Mitsubishi AC on Saturdays in July at 9 PM, a Whirlpool fridge on Sundays in October at 10 AM, and Sony headphones on Thursdays in August at 7 PM. HP laptops are usually bought on Saturdays in June at midnight, Huawei smartphones on Sundays in December at 8 AM, and Amazon tablets on Fridays in June at 5 AM. Samsung televisions are a popular pick on Saturdays in April at 3 PM.

In Canada, customers frequently buy a Mitsubishi AC on Fridays in April at 10 AM, a Whirlpool fridge on Tuesdays in May at 11 AM, and Sony headphones on Thursdays in February at 1 AM. Apple laptops are purchased on Tuesdays in October at 2 PM, Samsung smartphones on Mondays in September at 1 AM, and Sony tablets on Wednesdays in March at 8 PM. Samsung televisions are typically bought on Thursdays in August at 9 AM.

In Germany, Mitsubishi ACs are picked up on Thursdays in December at 10 PM, Whirlpool fridges on Sundays in February at 10 AM, and Sony headphones on Saturdays in November at 10 AM. Dell laptops are popular on Saturdays in April at 10 PM, while Samsung smartphones are often bought on Tuesdays in April at 8 AM. Apple tablets are frequently purchased on Saturdays in July at 4 PM, and Sony televisions are a choice on Tuesdays in May at 3 AM.

In the UK, Mitsubishi ACs are bought on Wednesdays in February at 3 PM, Whirlpool fridges on Sundays in January at 1 PM, and Sony headphones on Mondays in July at 5 PM. Microsoft laptops are usually bought on Fridays in August at 9 AM, LG smartphones on Sundays in July at 10 PM, and Microsoft tablets on Fridays in August at 2 AM. Samsung televisions are a popular choice on Wednesdays in October at 1 AM.

In the USA, customers prefer to buy Mitsubishi ACs on Saturdays in July at 5 PM, Whirlpool fridges on Fridays in April at 2 AM, and Sony headphones on Sundays in July at 2 AM. Dell laptops are bought on Sundays in June at 8 AM, Motorola smartphones on Fridays in July at 3 AM, and Google tablets on Wednesdays in May at 2 AM. Sony televisions are purchased on Mondays in April at 5 PM, as shown in **Table 11**. Understanding daily rush hours in each month allows the business to focus on peak days and develop strategies to boost sales during non-peak periods.

2.4.3.2.11 Grocery Peak Time By Product Brand By Country

Country	Month	Day	Hour	Product_Brand	Product_Type	Quantity
Australia	August	Wednesday	5	Nestle	Chocolate	25
Australia	September	Saturday	17	Nestle	Coffee	28
Australia	December	Thursday	20	Coca-Cola	Juice	35
Australia	February	Saturday	15	Nestle	Snacks	27
Australia	December	Wednesday	17	PepsiCo	Soft Drink	32
Australia	August	Tuesday	4	Coca-Cola	Water	34
Canada	September	Tuesday	20	Nestle	Chocolate	28
Canada	April	Wednesday	15	Nestle	Coffee	27
Canada	February	Thursday	2	PepsiCo	Juice	42
Canada	July	Friday	8	Nestle	Snacks	26
Canada	January	Wednesday	14	PepsiCo	Soft Drink	24
Canada	September	Friday	11	PepsiCo	Water	30
Germany	April	Sunday	20	Nestle	Chocolate	26
Germany	November	Tuesday	11	Nestle	Coffee	28
Germany	February	Thursday	5	PepsiCo	Juice	28
Germany	July	Monday	1	Nestle	Snacks	37
Germany	August	Wednesday	20	Coca-Cola	Soft Drink	32
Germany	December	Tuesday	18	PepsiCo	Water	33
UK	May	Friday	1	Nestle	Chocolate	35
UK	August	Tuesday	19	Nestle	Coffee	40
UK	May	Monday	20	PepsiCo	Juice	45
UK	March	Thursday	4	Nestle	Snacks	32
UK	December	Thursday	23	PepsiCo	Soft Drink	37
UK	September	Thursday	5	PepsiCo	Water	37
USA	May	Sunday	5	Nestle	Chocolate	39
USA	November	Wednesday	17	Nestle	Coffee	40
USA	May	Saturday	9	PepsiCo	Juice	42
USA	July	Wednesday	11	Nestle	Snacks	34
USA	August	Tuesday	5	PepsiCo	Soft Drink	39
USA	July	Monday	11	PepsiCo	Water	110

Table 12: Grocery Peak Time By Product Brand By Country

Table 12 indicates that Australian customers tend to buy Nestlé chocolate in August on Wednesdays at 5:00 AM, Nestlé coffee in September on Saturdays at 5:00 PM, Coca-Cola juice in December on Thursdays at 8:00 PM, Nestlé snacks in February on Saturdays at 3:00 PM, PepsiCo soft drinks in December on Wednesdays at 5:00 PM, and Coca-Cola water in August on Tuesdays at 4:00 AM.

Customers in Canada favor buying Nestlé chocolate on Tuesdays in September at 10:00 AM, Nestlé coffee on Wednesdays in April at 3:00 PM, juice from PepsiCo on Thursdays in February at 2:00 AM, snacks from Nestlé on Fridays in July at 8:00 AM, soft drinks from PepsiCo on Wednesdays in January at 2:00 PM, and water from PepsiCo on Fridays in September at 11:00 AM.

Customers in Germany tend to buy Nestlé chocolate in April on Sundays at 8:00 PM, Nestlé coffee in November on Tuesdays at 11:00 AM, PepsiCo juice in February on Thursdays at 5:00 AM, Nestlé snacks in July on Mondays at 1:00 AM, Coca-Cola soft drinks on Wednesdays at 8:00 PM, and PepsiCo water in December on Tuesdays at 6:00 PM.

UK customers tend to buy Nestlé chocolate in May on Fridays at 1:00 AM, Nestlé coffee in August on Tuesdays at 7:00 PM, PepsiCo juice in May on Mondays at 8:00 PM, snacks from Nestlé in March on Thursdays at 4:00 AM, PepsiCo soft drinks in December on Thursdays at 11:00 PM, and PepsiCo water in September on Thursdays at 5:00 AM.

USA customers tend to buy Nestlé chocolate in May on Sundays at 5:00 AM, Nestlé coffee in November on Wednesdays at 5:00 PM, juice from PepsiCo in May on Saturdays at 9:00 AM, snacks from Nestlé in July on Wednesdays at 11:00 AM, soft drinks from PepsiCo in August on Tuesdays at 5:00 AM, and water from PepsiCo in July on Mondays at 11:00 AM. Understanding daily rush hours in each month allows the business to focus on peak days and develop strategies to boost sales during non-peak periods.

2.4.3.2.12 Gender Seasonally Prefer Clothing Products By Country

Country	Season	Gender	Products	Quantity
Australia	Autumn	Female	Crop top	183
Australia	Spring	Female	High heels	216
Australia	Summer	Female	Crop top	288
Australia	Winter	Female	Crop top	275
Australia	Autumn	Male	Loafers	219
Australia	Spring	Male	Espadrilles	205
Australia	Summer	Male	Henley tee	198
Australia	Winter	Male	Raglan tee	230
Canada	Autumn	Female	Crop top	262
Canada	Spring	Female	High heels	291
Canada	Summer	Female	Crop top	253
Canada	Winter	Female	Crop top	218
Canada	Autumn	Male	Sandals	214
Canada	Spring	Male	Oxfords	192
Canada	Summer	Male	V-neck tee	190
Canada	Winter	Male	Henley tee	213
Germany	Autumn	Female	High heels	355
Germany	Spring	Female	High heels	382
Germany	Summer	Female	Crop top	302
Germany	Winter	Female	High heels	243
Germany	Autumn	Male	Flip flops	240
Germany	Spring	Male	Oxfords	248
Germany	Summer	Male	Oxfords	224
Germany	Winter	Male	Flip flops	228
UK	Autumn	Female	Crop top	386
UK	Spring	Female	High heels	323
UK	Summer	Female	Crop top	414
UK	Winter	Female	High heels	423
UK	Autumn	Male	Raglan tee	279
UK	Spring	Male	Plain tee	283
UK	Summer	Male	Running shoes	248
UK	Winter	Male	Scoop neck tee	298
USA	Autumn	Female	High heels	558
USA	Spring	Female	High heels	547
USA	Summer	Female	Crop top	468
USA	Winter	Female	High heels	517
USA	Autumn	Male	Boots	377
USA	Spring	Male	Crew neck tee	353
USA	Summer	Male	Scoop neck tee	415
USA	Winter	Male	Long-sleeve tee	389

Table 13: Gender Seasonally Prefer Clothing Products By Country

Table 13 indicates that, in Australia, females like purchasing crop tops during autumn, summer, and winter, and high heels during spring. Males, on the other hand, prefer purchasing loafers in autumn, espadrilles in spring, henley tees in summer, and raglan tees in winter.

In Canada, females like to purchase crop tops in autumn, winter, and summer, and high heels in spring. Males usually go for sandals in autumn, oxford shoes in spring, v-neck tees in summer, and henley tees in winter.

In Germany, females choose to purchase high heels in winter, autumn, spring, and crop top summer. For males, flip-flops are the go-to in autumn, oxford shoes in spring and summer, and flip-flops again in winter.

In the UK, females purchase crop tops in summer and autumn and high heels in spring and winter. Males prefer raglan tees in autumn, plain tees in spring, running shoes in summer, and scoop neck tees in winter.

In the USA, women like to purchase crop tops in summer and high heels in autumn, spring, and winter. Males prefer boots in autumn, crew neck tees in spring, scoop neck tees in summer, and long-sleeve tees in winter. This helps the business in creating future seasonal product discounts and promotions, particularly tailored for each gender.

2.4.3.2.13 Brand With Highest Pending Orders By Category By Country

Country	Product_Category	Product_Brand	PendingOrders	NumberOfOrders	PendingOrdersPercentage
Australia	Books	Penguin Books	538	2723	19.76
Australia	Clothing	Zara	656	3574	18.35
Australia	Electronics	Razer	24	84	28.57
Australia	Grocery	Nestle	492	2726	18.05
Australia	Home And Living	IKEA	496	2712	18.29
Canada	Books	Random House	499	2675	18.65
Canada	Clothing	Zara	672	3709	18.12
Canada	Electronics	Razer	19	79	24.05
Canada	Grocery	Coca-Cola	544	2808	19.37
Canada	Home And Living	Home Depot	496	2732	18.16
Germany	Books	Penguin Books	511	3271	15.62
Germany	Clothing	Zara	728	4343	16.76
Germany	Electronics	Dell	23	106	21.70
Germany	Grocery	Coca-Cola	529	3265	16.20
Germany	Home And Living	IKEA	529	3308	15.99
UK	Books	Penguin Books	696	3911	17.80
UK	Clothing	Adidas	618	3372	18.33
UK	Electronics	Google	131	671	19.52
UK	Grocery	Coca-Cola	661	3939	16.78
UK	Home And Living	IKEA	663	3991	16.61
USA	Books	Penguin Books	1014	5488	18.48
USA	Clothing	Adidas	814	4373	18.61
USA	Electronics	Lenovo	115	536	21.46
USA	Grocery	PepsiCo	3187	15146	21.04
USA	Home And Living	Home Depot	958	5432	17.64

Table 14: Brand With Highest Pending Orders By Category By Country

Table 14 illustrates that Zara has the largest number of pending orders with 18.3% in the clothing category in Australia. Penguin Books with 19.7% pending orders for books. IKEA has 18.2% pending orders in home and living, while Nestle leads in grocery with 18% pending orders. In the electronics, Razer has 28.5% pending orders.

In Canada, Zara holds the highest percentage of pending orders, with 18.1% in the clothing category. Random House with 18.6% of orders for books that are pending. Home Depot has 18.1% pending orders in home and living, while Coca-Cola leads in grocery with 19.3% pending orders. In electronics, Razer has 24% pending orders.

In Germany, Zara leads with the most pending orders with 16.7% in clothing. Penguin Books has 15.6% pending orders for books awaiting processing. IKEA has 15.9% pending orders in home and living, while Coca-Cola has 16.2% pending orders in grocery. In the field of electronics, Dell has 21.6% of orders awaiting.

In the UK, Adidas has 18.3% pending orders in clothing. Penguin Books has 17.7% pending orders. IKEA has 16.6% of orders awaiting, while grocery Coca-Cola has 16.7% of orders pending. In electronics, Google has 19.5% pending orders.

In the USA, Adidas has 18.6% pending orders for clothing. Penguin Books currently has 18.4% pending orders. Home Depot has 17.6% pending orders in home and living, whereas PepsiCo leads with 21% pending orders in grocery. In electronics, 21.4% of orders are awaiting Lenovo. This helps the business in identifying the brands with the greatest percentage of pending orders and attempting to resolve this issue.

2.4.3.2.14 Brand With Highest Low Rating By Category By Country

Country	Product_Category	Product_Brand	LowRatings	NumberOfOrders	LowRatingsPercentage
Australia	Books	HarperCollins	1006	2806	35.85
Australia	Clothing	Adidas	820	2351	34.88
Australia	Electronics	Razer	38	84	45.24
Australia	Grocery	Nestle	969	2726	35.55
Australia	Home And Living	Bed Bath & Beyond	993	2808	35.36
Canada	Books	HarperCollins	952	2782	34.22
Canada	Clothing	Adidas	841	2312	36.38
Canada	Electronics	HP	40	99	40.40
Canada	Grocery	Nestle	951	2735	34.77
Canada	Home And Living	Home Depot	970	2732	35.51
Germany	Books	Random House	1236	3229	38.28
Germany	Clothing	Nike	1068	2791	38.27
Germany	Electronics	Acer	127	307	41.37
Germany	Grocery	Coca-Cola	1221	3266	37.39
Germany	Home And Living	IKEA	1247	3308	37.70
UK	Books	Penguin Books	1559	3911	39.86
UK	Clothing	Zara	2087	5154	40.49
UK	Electronics	Lenovo	178	388	45.88
UK	Grocery	Nestle	1529	3891	39.30
UK	Home And Living	Bed Bath & Beyond	1550	3854	40.22
USA	Books	Penguin Books	2434	5488	44.35
USA	Clothing	Adidas	1941	4373	44.39
USA	Electronics	HP	85	162	52.47
USA	Grocery	Coca-Cola	2470	5491	44.98
USA	Home And Living	Home Depot	2437	5433	44.86

Table 15: Brand With Highest Low Rating By Category By Country

Table 15 shows that, in Australia, HarperCollins tops the list for the most low-rated books with 35.8% complaints. Over in clothing, Adidas takes the lead with 34.8% low ratings. Razer isn't far behind in electronics, racking up 45.2% negative reviews. In the grocery aisle, Nestle has 35.5% low ratings, and when it comes to home and living, Bed Bath & Beyond has 35.3% unhappy customers.

In Canada, HarperCollins holds the highest number of low ratings in the books category with 34.2% complaints. Adidas takes the top spot in clothing with 36.3% low ratings. HP has 40.4% negative reviews in electronics, while Nestle has 34.7% low ratings in grocery. For home and living, Home Depot leads with 35.5% unhappy customers.

In Germany, Random House has the lowest ratings in the books category with 38.2% complaints. Nike leads the clothing category with 38.2% negative reviews. Acer isn't far behind in electronics with 41.3% low ratings. Coca-Cola racks up 37.3% in the grocery aisle, and IKEA tops home and living with 37.6% unhappy customers.

In the UK, Penguin Books leads the books category with 39.8% low ratings. Zara tops clothing with a hefty 40.4% negative reviews. Lenovo follows in electronics with 45.8% low ratings, while Nestle racks up 39.2% in grocery. Over in home and living, Bed Bath & Beyond takes the lead with 40.2% unhappy customers.

In the USA, Penguin Books tops the books category with 44.3% low ratings. Adidas leads the way in clothing with 44.3% negative reviews. HP has 52.4% low ratings in electronics, while Coca-Cola racks up 44.9% in grocery. For home and living, Home Depot takes the spot with 44.8% unhappy customers. This helps the business in identifying the brands with the greatest percentage of low ratings and attempting to resolve this issue.

2.4.3.2.15 Hour Of The Day With The Highest Low Ratings By Month For Each Country

Country	Month	Day	Hour	LowRatings	NumberOfOrders	LowRatingsPercentage
Australia	April	Thursday	22	16	27	59.26
Australia	August	Saturday	5	12	18	66.67
Australia	December	Thursday	17	7	12	58.33
Australia	February	Tuesday	23	11	18	61.11
Australia	January	Sunday	22	12	18	66.67
Australia	July	Thursday	15	13	21	61.90
Australia	June	Saturday	4	12	21	57.14
Australia	March	Tuesday	20	6	10	60.00
Australia	May	Friday	4	11	17	64.71
Australia	November	Monday	10	15	23	65.22
Australia	October	Friday	23	9	16	56.25
Australia	September	Monday	22	8	12	66.67
Canada	April	Monday	3	8	15	53.33
Canada	August	Friday	10	10	14	71.43
Canada	December	Wednesday	0	8	15	53.33
Canada	February	Monday	10	16	26	61.54
Canada	January	Sunday	11	17	24	70.83
Canada	July	Thursday	21	13	24	54.17
Canada	June	Saturday	3	15	25	60.00
Canada	March	Monday	20	10	17	58.82
Canada	May	Friday	3	14	24	58.33
Canada	November	Wednesday	7	10	15	66.67
Canada	October	Saturday	10	6	11	54.55
Canada	September	Wednesday	19	10	16	62.50
Germany	April	Friday	2	12	18	66.67
Germany	August	Saturday	22	15	26	57.69
Germany	December	Monday	15	11	19	57.89
Germany	February	Saturday	15	12	20	60.00
Germany	January	Tuesday	7	12	23	52.17
Germany	July	Wednesday	9	17	28	60.71
Germany	June	Tuesday	1	15	24	62.50
Germany	March	Sunday	13	13	21	61.90
Germany	May	Wednesday	11	16	25	64.00
Germany	November	Tuesday	13	12	20	60.00
Germany	October	Wednesday	11	13	20	65.00
Germany	September	Sunday	7	13	21	61.90
UK	April	Monday	3	21	34	61.76
UK	August	Saturday	7	13	22	59.09
UK	December	Wednesday	21	17	29	58.62
UK	February	Sunday	14	15	22	68.18
UK	January	Friday	21	18	29	62.07
UK	July	Wednesday	18	12	19	63.16
UK	June	Saturday	3	15	25	60.00
UK	March	Tuesday	22	14	22	63.64
UK	May	Tuesday	2	20	35	57.14
UK	November	Saturday	9	17	30	56.67
UK	October	Sunday	20	22	38	57.89
UK	September	Wednesday	7	13	21	61.90
USA	April	Tuesday	15	22	40	55.00
USA	August	Friday	16	18	32	56.25
USA	December	Monday	3	27	38	71.05
USA	February	Friday	22	20	37	54.05
USA	January	Wednesday	16	30	54	55.56
USA	July	Thursday	0	17	28	60.71
USA	June	Saturday	7	21	35	60.00
USA	March	Tuesday	23	27	48	56.25
USA	May	Friday	16	26	45	57.78
USA	November	Thursday	0	29	54	53.70
USA	October	Sunday	15	22	38	57.89
USA	September	Sunday	13	29	47	61.70

Table 16: Hour Of The Day With The Highest Low Ratings By Month For Each Country

Table 16 indicates that, in Australia, April had the highest number of low ratings on Thursday at 10 PM, on Saturday at 5 AM in August, on Thursday at 5 PM in December, on Tuesday at 11 PM in February, on Sunday at 10 PM in January, on Thursday at 3 PM in July, on Saturday at 4 AM in June, on Friday at 4 AM in March, on Monday at 10 AM in May, on Monday at 10 AM in November, on Monday at 11 PM in October, and on Friday at 10 PM in September.

In Canada, April has the highest number of low ratings on Monday at 3 AM, on Friday at 10 AM in August, on Wednesday at 12 AM in December, on Monday at 10 AM in February, on Sunday at 11 AM in January, on Thursday at 9 PM in July, on Saturday at 3 AM in June, on Monday at 9 PM in March, on Friday at 3 AM in May, on Wednesday at 7 AM in November, on Saturday at 10 AM in October, and on Wednesday at 7 PM in September.

In Germany, April has the highest number of low ratings on Friday at 2 AM, on Saturday at 10 PM in August, on Monday at 3 AM in December, on Saturday at 3 PM in February, on Tuesday at 7 AM in January, on Wednesday at 9 AM in July, on Tuesday at 1 AM in June, on Sunday at 1 PM in March, on Wednesday at 11 AM in May, on Tuesday at 1 PM in November, on Wednesday at 11 AM in October, and on Sunday at 7 AM in September.

In the UK, April has the highest number of low ratings on Monday at 3 AM, on Saturday at 7 AM in August, on Wednesday at 9 PM in December, on Sunday at 11 PM in February, on Friday at 9 PM in January, on Wednesday at 6 PM in July, on Saturday at 3 PM in June, on Tuesday at 10 PM in March, on Tuesday at 2 AM in May, on Saturday at 9 AM in November, on Sunday at 8 PM in October, and on Wednesday at 7 AM in September.

In the USA, April has the highest number of low ratings on Tuesday at 3 PM, on Friday at 4 PM in August, on Monday at 3 AM in December, on Friday at 10 PM in February, on Wednesday at 4 PM in January, on Thursday at 12 AM in July, on Saturday at 7 AM in June, on Tuesday at 11 PM in March, on Friday at 4 PM in May, on Thursday at 12 AM in November, on Sunday at 3 PM in October, and on Sunday at 1 PM in September.

Understanding the hours that have the highest percentage of low ratings helps to put a future plan in place to avoid low ratings in these hours

2.4.3.2.16 Worst Payment Method For Each Shipping Method By Category By Country

Country	Product_Category	Shipping_Method	Payment_Method	LowRatings	NumberOfOrders	LowRatingsPercentage
Australia	Books	Express	Debit Card	296	733	40.38
Australia	Books	Same-Day	Debit Card	292	740	39.46
Australia	Books	Standard	Debit Card	310	767	40.42
Australia	Clothing	Express	Debit Card	265	729	36.35
Australia	Clothing	Same-Day	Debit Card	296	716	41.34
Australia	Clothing	Standard	Debit Card	303	727	41.68
Australia	Electronics	Express	PayPal	213	643	33.13
Australia	Electronics	Same-Day	Debit Card	281	810	34.69
Australia	Electronics	Standard	Debit Card	291	865	33.64
Australia	Grocery	Express	Debit Card	294	776	37.89
Australia	Grocery	Same-Day	Debit Card	312	835	37.37
Australia	Grocery	Standard	Debit Card	312	817	38.19
Australia	Home And Living	Express	Debit Card	312	746	41.82
Australia	Home And Living	Same-Day	Debit Card	284	728	39.01
Australia	Home And Living	Standard	Debit Card	310	794	39.04
Canada	Books	Express	Debit Card	282	756	37.30
Canada	Books	Same-Day	Debit Card	279	733	38.06
Canada	Books	Standard	Debit Card	285	666	42.79
Canada	Clothing	Express	Debit Card	317	758	41.82
Canada	Clothing	Same-Day	Debit Card	312	767	40.68
Canada	Clothing	Standard	PayPal	218	533	40.90
Canada	Electronics	Express	Debit Card	294	859	34.23
Canada	Electronics	Same-Day	Debit Card	287	866	33.14
Canada	Electronics	Standard	Debit Card	292	851	34.31
Canada	Grocery	Express	Debit Card	274	785	34.90
Canada	Grocery	Same-Day	Debit Card	296	809	36.59
Canada	Grocery	Standard	Debit Card	301	766	39.30
Canada	Home And Living	Express	Debit Card	302	722	41.83
Canada	Home And Living	Same-Day	Debit Card	253	704	35.94
Canada	Home And Living	Standard	PayPal	204	532	38.35
Germany	Books	Express	Debit Card	413	928	44.50
Germany	Books	Same-Day	Debit Card	335	867	38.64
Germany	Books	Standard	Debit Card	371	867	42.79
Germany	Clothing	Express	Debit Card	347	851	40.78
Germany	Clothing	Same-Day	PayPal	263	649	40.52
Germany	Clothing	Standard	Debit Card	348	807	43.12
Germany	Electronics	Express	PayPal	300	792	37.88
Germany	Electronics	Same-Day	Debit Card	356	992	35.89
Germany	Electronics	Standard	Debit Card	341	950	35.89
Germany	Grocery	Express	Debit Card	348	912	38.16
Germany	Grocery	Same-Day	Debit Card	380	948	40.08
Germany	Grocery	Standard	Debit Card	338	877	38.54
Germany	Home And Living	Express	Debit Card	352	839	41.95
Germany	Home And Living	Same-Day	Debit Card	370	867	42.68
Germany	Home And Living	Standard	Debit Card	369	916	40.28
UK	Books	Express	Debit Card	483	1088	44.39
UK	Books	Same-Day	PayPal	372	871	42.71
UK	Books	Standard	PayPal	341	807	42.26
UK	Clothing	Express	Debit Card	430	1037	41.47
UK	Clothing	Same-Day	PayPal	373	861	43.32
UK	Clothing	Standard	Debit Card	475	1081	43.94
UK	Electronics	Express	Debit Card	481	1232	39.04
UK	Electronics	Same-Day	Debit Card	429	1133	37.86
UK	Electronics	Standard	Debit Card	444	1234	35.98
UK	Grocery	Express	Debit Card	446	1076	41.45
UK	Grocery	Same-Day	Debit Card	484	1125	43.02
UK	Grocery	Standard	Debit Card	438	1079	40.59
UK	Home And Living	Express	Debit Card	461	1033	44.63
UK	Home And Living	Same-Day	Debit Card	465	1062	43.79
UK	Home And Living	Standard	Debit Card	461	1014	45.46
USA	Books	Express	Debit Card	650	1389	46.80
USA	Books	Same-Day	Debit Card	669	1424	46.98
USA	Books	Standard	PayPal	555	1179	47.07
USA	Clothing	Express	Debit Card	666	1457	45.71
USA	Clothing	Same-Day	PayPal	511	1097	46.58
USA	Clothing	Standard	Debit Card	666	1429	46.61
USA	Electronics	Express	PayPal	573	1375	41.67
USA	Electronics	Same-Day	Debit Card	715	1663	42.99
USA	Electronics	Standard	Debit Card	624	1528	40.84
USA	Grocery	Express	Debit Card	672	2151	31.24
USA	Grocery	Same-Day	Debit Card	663	2230	29.73
USA	Grocery	Standard	Debit Card	689	2265	30.42
USA	Home And Living	Express	Cash	611	1321	46.25
USA	Home And Living	Same-Day	PayPal	594	1219	48.73
USA	Home And Living	Standard	Debit Card	627	1353	46.34

Table 17: Worst Payment Method For Each Shipping Method By Category By Country

Table 17 shows In Australia, the worst payment method for each shipping method is debit card for the book category, groceries, home and living, and clothing, except express shipping in electronics is PayPal.

In Canada, the worst payment method for each shipping method is debit card for the book, grocery, home and living, and electronics, except standard shipping in clothing is PayPal.

In Germany, the worst payment method for each shipping method is debit card for the book category, groceries, home and living, electronics, and, except for same-day shipping in clothing, express shipping in electronics is PayPal.

In the UK, the worst payment method for each shipping method is debit card for the book category, groceries, home and living, and electronics, except same-day and standard shipping in books, and same-day shipping in clothing is PayPal.

In the USA, the worst payment method is debit card for express, standard, and same-day shipping in books. For express and standard shipping in clothing, it is debit card and PayPal for same-day shipping. For electronics, PayPal for express shipping and debit card for standard and same-day shipping, and in grocery debit card for all shipping methods. Finally, for home and living, cash for express shipping, PayPal for same-day shipping, and debit card for standard shipping.

This helps the business offer exclusive discounts for preferred payment methods and promotional discounts to encourage the use of the least popular payment method.

2.4.3.2.17 Top 5 Regular Customers In Each Country

Country	City	Customer_ID	TotalAmount
USA	New York	68774	11567.580694
USA	Chicago	75044	11420.692826
USA	Boston	18604	11282.382693
USA	Chicago	44566	10985.788181
USA	New York	34013	10958.952080
UK	Liverpool	39046	13584.946841
UK	Portsmouth	51763	11492.996479
UK	Birmingham	97370	11079.608093
UK	Portsmouth	64260	10895.444490
UK	Portsmouth	17384	10650.345283
Germany	Stuttgart	65208	11379.106067
Germany	Bielefeld	57921	10676.017931
Germany	Hanover	25666	10658.279253
Germany	Hanover	43640	9868.708205
Germany	Berlin	26508	9817.643975
Canada	London	62630	10448.198027
Canada	Ottawa	57660	10426.434688
Canada	Barrie	89506	9739.386423
Canada	Barrie	33214	9575.290853
Canada	Barrie	78450	9442.437946
Australia	Toowoomba	74721	11787.416947
Australia	Brisbane	62208	10380.835765
Australia	Wollongong	53418	9968.859180
Australia	Adelaide	88445	9127.093449
Australia	Geelong	84934	8773.102182

Table 18: Top 5 Regular Customers In Each Country

According to **Table 18**, the 5 top regular customers in the USA are the customer with ID 68774 from New York, the customer with ID 75044 from Chicago, the customer with ID 18604 from Boston, the customer with ID 44566 from Chicago, and the customer with ID 51763 from New York.

In the UK, a customer identified as 51763 from Portsmouth, a customer identified as 97370 from Birmingham, a customer identified as 39046 from Liverpool, a customer identified as 64260 from Portsmouth, and a customer identified as 17384 from Portsmouth.

In Germany, the customer with ID 65208 from Stuttgart, the customer with ID 57921 from Bielefeld, the customers with ID 43640 and ID 25666 from Hanover, the customer with ID 26508 from Berlin.

In Canada, customer with ID 62630 from London, customer with ID 98238 from Hamilton, customer with ID 57660 from Ottawa, customers with ID 89506, ID 33214, and ID 78450 from all from Barrie.

In Australia, a customer identified as 53418 from Wollongong, a customer with ID 62208 from Brisbane, a customer numbered 74721 from Toowoomba, a customer with ID 88445 from Adelaide, and a customer identified as 84934 from Geelong.

Identifying the main regular customers enables businesses to offer them exclusive discounts to encourage higher spending.

2.4.3.2.18 Top 5 Premium Customer In Each Country

Country	City	Customer_ID	TotalAmount
USA	San Francisco	16430	10219.919226
USA	Charlotte	54103	9954.390706
USA	Chicago	35252	9689.477452
USA	Chicago	34536	9444.842909
USA	Chicago	97396	9392.407582
UK	Leeds	97181	9366.066602
UK	Birmingham	59500	9356.971292
UK	Brighton	48435	8916.364686
UK	Birmingham	85275	8761.116326
UK	Leeds	59566	8698.348221
Germany	Berlin	18779	9573.615428
Germany	Bochum	15045	9536.758056
Germany	Duisburg	27840	8970.630365
Germany	Bielefeld	17702	8941.446690
Germany	Münster	21855	8873.491592
Canada	Winnipeg	49602	10520.396542
Canada	Toronto	70272	8265.515999
Canada	Hamilton	21232	8116.981394
Canada	Oshawa	77820	7904.947000
Canada	Kelowna	40267	7690.338845
Australia	Ballarat	60184	8569.741762
Australia	Mackay	51329	8553.108502
Australia	Toowoomba	12528	8360.937360
Australia	Launceston	17760	8266.487211
Australia	Mackay	21655	7976.626120

Table 19: Top 5 Premium Customer

According to **Table 19**, the 5 top premium customers in the USA are the customer with ID 16430 from San Francisco, the customer with ID 54103 from Charlotte, the customer with ID 35252 from Chicago, the customer with ID 34536 from Chicago, and the customer with ID 97396 from Chicago.

In the UK, a customer identified as 59500 from Birmingham, a customer identified as 97181 from Leeds, a customer identified as 85275 from Birmingham, a customer identified as 48435 from Brighton, and a customer identified as 59566 from Leeds.

In Germany, the customer with ID 15045 from Bochum, the customer with ID 17702 from Bielefeld, the customer with ID 21855 from Münster, the customer with ID 18779 from Berlin, and the customer with ID 27840 from Duisburg.

In Canada, customer with ID 49602 from Winnipeg, customer with ID 70272 from Toronto, customer with ID 21232 from Hamilton, customer with ID 77820 from Oshawa, and customer with ID 40267 from Kelowna.

In Australia, a customer identified as 51329 from Mackay, a customer with ID 12528 from Toowoomba, a customer numbered 60184 from Ballarat, a customer with ID 17760 from Launceston, and a customer identified as 21655 from Mackay.

Identifying the main premium customers enables businesses to offer them exclusive early access to some products.

2.4.3.2.19 Top 5 New Customer In Each Country

Country	City	Customer_ID	TotalAmount
USA	Albuquerque	24138	12798.445925
USA	Chicago	86652	11913.519834
USA	Chicago	53404	11794.027103
USA	Chicago	61162	11398.787997
USA	Columbus	88919	11338.351671
UK	Portsmouth	78329	9719.261509
UK	Edinburgh	22493	9629.223651
UK	Leicester	98246	9432.574680
UK	Manchester	95866	8856.198852
UK	Leicester	54534	8672.242602
Germany	Hamburg	55121	11286.521165
Germany	Cologne	73402	10462.347993
Germany	Munich	16574	9542.645274
Germany	Hanover	78890	9467.040854
Germany	Frankfurt	26314	9126.211025
Canada	Kelowna	88941	11068.376444
Canada	Oshawa	57604	10278.031355
Canada	Quebec City	23693	9514.046694
Canada	Edmonton	28474	9456.323224
Canada	Kitchener	85775	9360.079276
Australia	Townsville	13486	9926.899499
Australia	Sydney	16934	9820.838125
Australia	Newcastle	78753	9734.953640
Australia	Adelaide	26710	9263.103789
Australia	Perth	98325	8862.572033

Table 20: Top 5 New Customer In Each Country

According to **Table 20**, the 5 top new customers in the USA are the customer with ID 61162 from Chicago, the customer with ID 86652 from Chicago, the customer with ID 61162 from Albuquerque, the customer with ID 94514 from Mesa, and the customer with ID 88919 from Columbus.

In the UK, a customer identified as 78329 from Portsmouth, a customer identified as 22493 from Edinburgh, a customer identified as 98246 from Leicester, a customer identified as 95866 from Manchester, and a customer identified as 54534 from Leicester.

In Germany, the customer with ID 78890 from Hanover, the customer with ID 73402 from Cologne, the customer with ID 16574 from Munich, the customer with ID 55121 from Hamburg, and the customer with ID 26314 from Frankfurt.

In Canada, customer with ID 88941 from Kelowna, customer with ID 57604 from Oshawa, customer with ID 23693 from Quebec City, customer with ID 28474 from Edmonton, and customer with ID 85775 from Kitchener.

In Australia, a customer with ID 13486 from Townsville, a customer with ID 16934 from Sydney, a customer numbered 78753 from Newcastle, a customer numbered 26710 from Adelaide , and a customer with ID 26710 from Perth.

Identifying the main new customers enables businesses to offer them exclusive offers and discounts to make them happy and come back again.

2.4.3.2.20 Lowest Spending 5 New Customers In Each Country

Country	City	Customer_ID	TotalAmount
USA	Albuquerque	13621	10.707279
USA	Chicago	97671	10.601896
USA	Minneapolis	72597	10.495966
USA	Fort Worth	63954	10.484693
USA	Boston	39428	10.068154
UK	Bristol	31993	11.915439
UK	Bristol	20375	11.459586
UK	Leicester	90914	11.333472
UK	Belfast	25158	10.578870
UK	Birmingham	15063	10.092966
Germany	Stuttgart	36135	11.288107
Germany	Cologne	28440	11.271714
Germany	Bielefeld	41373	10.876094
Germany	Bochum	14668	10.827255
Germany	Munich	42807	10.812953
Canada	Barrie	81750	11.548863
Canada	Oshawa	48795	10.928036
Canada	Calgary	66846	10.572502
Canada	Oshawa	52222	10.532727
Canada	Edmonton	43898	10.003750
Australia	Albury	94849	12.593740
Australia	Townsville	48687	12.512199
Australia	Melbourne	24037	12.222789
Australia	Launceston	77827	10.523771
Australia	Toowoomba	92133	10.056353

Table 21: Lowest Spending 5 New Customers In Each Country

According to **Table 21**, the 5 lowest-spending new customers in the USA are the customer with ID 13621 from Albuquerque, the customer with ID 97671 from Chicago, the customer with ID 72597 from Minneapolis, the customer with ID 63954 from Fort Worth, and the customer with ID 39428 from Boston.

In the UK, a customer identified as 31993 from Bristol, a customer identified as 20375 from Bristol, a customer identified as 90914 from Leicester, a customer identified as 25158 from Belfast, and a customer identified as 15063 from Birmingham.

In Germany, the customer with ID 36135 from Stuttgart, the customer with ID 28440 from Cologne, the customer with ID 41373 from Bielefeld, the customer with ID 14668 from Bochum, and the customer with ID 42807 from Munich.

In Canada, customer with ID 48795 from Oshawa, customer with ID 81750 from Barrie, customer with ID 66846 from Calgary, customer with ID 52222 from Oshawa, and customer with ID 43898 from Edmonton.

In Australia, a customer identified as 48687 from Townsville, a customer with ID 24037 from Melbourne, a customer numbered 66080 from Townsville, a customer with ID 94849 from Albury, and a customer identified as 92133 from Toowoomba.

Identifying the lowest-spending new customers enables businesses to offer them exclusive offers and promotional discounts to make them happy and come back again.

2.4.3.2.21 Preferred Day Of Month To Make Orders By Country

Country	Month_Name	Day_Of_Month	TotalOrders
Australia	April	23	137
Australia	August	2	151
Australia	December	8	140
Australia	February	21	146
Australia	January	18	152
Australia	July	19	148
Australia	June	16	146
Australia	March	15	143
Australia	May	22	169
Australia	November	18	149
Australia	October	13	142
Australia	September	20	150
Canada	April	1	140
Canada	August	17	148
Canada	December	20	138
Canada	February	22	148
Canada	January	15	146
Canada	July	1	151
Canada	June	26	149
Canada	March	8	141
Canada	May	8	153
Canada	November	3	156
Canada	October	8	144
Canada	September	2	143
Germany	April	9	165
Germany	August	23	165
Germany	December	30	167
Germany	February	22	174
Germany	January	14	167
Germany	July	1	170
Germany	June	6	171
Germany	March	12	174
Germany	May	28	183
Germany	November	1	167
Germany	October	3	175
Germany	September	4	174
UK	April	18	197
UK	August	10	198
UK	December	22	204
UK	February	16	201
UK	January	1	201
UK	July	31	205
UK	June	27	206
UK	March	12	227
UK	May	23	200
UK	November	23	205
UK	October	31	197
UK	September	8	208
USA	April	7	287
USA	August	12	295
USA	December	2	294
USA	February	22	286
USA	January	5	283
USA	July	30	307
USA	June	5	288
USA	March	29	295
USA	May	20	280
USA	November	22	291
USA	October	1	299
USA	September	12	289

Table 22 indicates that, in Australia, customers tend to place orders on the 23rd of April, 2nd of August, 8th of December, 21st of February, 18th of January, 19th of July, 16th of June, 15th of March, 22nd of May, 18th of November, 13th of October, and 20th of September.

In Canada, customers tend to place orders on the 1st of April, 17th of August, 20th of December, 22nd of February, 15th of January, 1st of July, 26th of June, 8th of March, 8th of May, 3rd of November, 8th of October, and 2nd of September.

In Germany, customers tend to place orders on the 9th of April, 23rd of August, 30th of December, 22nd of February, 14th of January, 1st of July, 6th of June, 12th of March, 28th of May, 1st of November, 3rd of October, and 4th of September.

In the UK, customers tend to place orders on the 18th of April, 10th of August, 22nd of December, 16th of February, 1st of January, 31st of July, 27th of June, 12th of March, 23rd of May, 23rd of November, 31st of October, and 8th of September.

In the USA, customers tend to place orders on the 7th of April, 12th of August, 2nd of December, 22nd of February, 5th of January, 30th of July, 5th of June, 29th of March, 20th of May, 22nd of November, 1st of October, and 12th of September.

Recognizing the preferred days of the month for placing orders is crucial for the business to provide exclusive discounts on these specific days and special promotions for other days of the month.

Table 22: Preferred Day Of Month To Make Orders By Country

2.4.3.2.22 Day Of Month With The Highest Low Ratings By Country

Country	Month_Name	Day_Of_Month	LowRatings	NumberOfOrders	LowRatingsPercentage
Australia	April	23	57	137	41.61
Australia	September	18	47	111	42.34
Australia	October	23	48	123	39.02
Australia	November	21	51	129	39.53
Australia	March	24	43	108	39.81
Australia	June	2	49	133	36.84
Australia	May	5	50	120	41.67
Australia	January	16	46	114	40.35
Australia	February	28	57	125	45.60
Australia	December	3	51	116	43.97
Australia	August	24	57	131	43.51
Australia	July	29	45	111	40.54
Canada	March	14	50	124	40.32
Canada	September	29	59	141	41.84
Canada	October	2	59	135	43.70
Canada	November	10	48	123	39.02
Canada	May	1	56	135	41.48
Canada	June	18	48	128	37.50
Canada	December	16	48	116	41.38
Canada	January	5	48	110	43.64
Canada	February	16	49	115	42.61
Canada	August	21	48	128	37.50
Canada	April	16	49	127	38.58
Canada	July	5	41	107	38.32
Germany	March	6	56	135	41.48
Germany	September	15	62	149	41.61
Germany	October	28	54	127	42.52
Germany	November	10	60	146	41.10
Germany	May	31	54	120	45.00
Germany	June	24	54	130	41.54
Germany	July	5	71	161	44.10
Germany	January	22	66	151	43.71
Germany	February	1	63	151	41.72
Germany	December	20	56	131	42.75
Germany	August	20	65	158	41.14
Germany	April	24	63	148	42.57
UK	September	26	76	167	45.51
UK	October	3	70	165	42.42
UK	May	1	84	187	44.92
UK	March	2	80	181	44.20
UK	June	20	65	155	41.94
UK	November	10	83	171	48.54
UK	January	9	76	173	43.93
UK	February	16	89	201	44.28
UK	December	11	77	155	49.68
UK	August	1	79	182	43.41
UK	April	5	75	166	45.18
UK	July	5	73	175	41.71
USA	November	15	113	253	44.66
USA	May	25	112	264	42.42
USA	March	8	124	260	47.69
USA	June	16	112	245	45.71
USA	July	12	114	261	43.68
USA	December	11	111	249	44.58
USA	February	16	117	267	43.82
USA	August	19	117	262	44.66
USA	April	14	117	256	45.70
USA	October	22	110	256	42.97
USA	January	31	109	233	46.78
USA	September	25	133	278	47.84

According to **Table 23**, in Australia, the days of month with the most low ratings are April 23, August 24, December 3, February 28, January 16, July 29, June 2, March 24, May 5, November 21, October 23, and September 18.

In Canada, the days of month with the most low ratings are April 16, August 21, December 16, February 16, January 5, July 5, June 18, March 14, May 31, November 10, October 28, and September 15.

In Germany, the day days of month s with the most low ratings are April 24, August 20, December 20, February 1, January 22, July 5, June 24, March 6, May 26, November 15, October 16, and September 18.

In the UK, the days of month with the most low ratings are April 5, August 1, December 11, February 16, January 9, July 5, June 20, March 2, May 1, November 10, October 3, and September 26.

Finally, in the USA, the days of month with the most low ratings are April 14, August 19, December 11, February 16, January 31, July 12, June 16, March 8, May 25, November 15, October 22, and September 25.

This enables the business to develop solutions and strategically prepare to avoid this problem in the future.

Table 23: Day Of Month With The Highest Low Ratings By Country

2.4.3.2.23 Day Of Month With Highest Pending Orders By Country

Country	Month_Name	Day_Of_Month	PendingOrders	NumberOfOrders	PendingOrdersPercentage
Australia	April	28	31	137	22.63
Australia	September	17	26	112	23.21
Australia	October	3	29	120	24.17
Australia	November	8	22	107	20.56
Australia	March	24	23	108	21.30
Australia	June	24	30	128	23.44
Australia	May	5	31	120	25.83
Australia	January	29	31	123	25.20
Australia	February	23	24	98	24.49
Australia	December	18	30	129	23.26
Australia	August	7	25	115	21.74
Australia	July	13	28	114	24.56
Canada	March	6	36	135	26.67
Canada	September	13	28	121	23.14
Canada	October	19	26	111	23.42
Canada	November	3	39	156	25.00
Canada	May	19	26	95	27.37
Canada	June	4	31	142	21.83
Canada	December	20	35	138	25.36
Canada	January	16	27	117	23.08
Canada	February	11	26	114	22.81
Canada	August	17	35	148	23.65
Canada	April	7	25	106	23.58
Canada	July	23	26	99	26.26
Germany	March	29	30	139	21.58
Germany	September	18	29	145	20.00
Germany	October	16	27	139	19.42
Germany	November	15	30	143	20.98
Germany	May	26	33	148	22.30
Germany	June	19	24	128	18.75
Germany	July	18	27	123	21.95
Germany	January	14	32	167	19.16
Germany	February	8	28	131	21.37
Germany	December	28	26	153	16.99
Germany	August	12	28	139	20.14
Germany	April	5	29	128	22.66
UK	September	10	38	186	20.43
UK	October	26	34	157	21.66
UK	May	24	41	154	26.62
UK	March	5	42	186	22.58
UK	June	2	36	170	21.18
UK	November	27	35	170	20.59
UK	January	10	37	192	19.27
UK	February	5	39	175	22.29
UK	December	21	33	152	21.71
UK	August	11	37	160	23.12
UK	April	2	40	178	22.47
UK	July	3	42	171	24.56
USA	November	25	50	234	21.37
USA	May	27	52	243	21.40
USA	March	13	69	286	24.13
USA	June	2	63	262	24.05
USA	July	21	55	248	22.18
USA	December	6	55	260	21.15
USA	February	12	62	269	23.05
USA	August	19	58	262	22.14
USA	April	3	60	262	22.90
USA	October	30	51	253	20.16
USA	January	19	56	263	21.29
USA	September	5	55	259	21.24

Table 24: Day Of Month With Highest Pending Orders By Country

Table 24 shows that in Australia, the days of month with the most pending orders are April 23, August 7, December 18, February 23, January 29, July 13, June 24, March 24, May 5, November 8, October 3, and September 17.

In Canada, the days of month with the most pending orders are April 7, August 17, December 20, February 11, January 16, July 23, June 23, March 6, May 19, November 3, October 19, and September 13.

In Germany, the days of month with the most pending orders are April 5, August 12, December 28, February 8, January 14, July 18, June 19, March 29, May 26, November 15, October 16, and September 18.

In the UK, the days of month with the most pending orders are April 2, August 11, December 21, February 5, January 10, July 3, June 2, March 5, May 24, November 27, October 26, and September 10.

Finally, in the USA, the days of month with the most pending orders are April 3, August 19, December 6, March 13, May 13, November 25, October 30, and September 5.

This helps the business come up with solutions and plan ahead to prevent this issue in the future.

2.4.3.2.24 Top 5 Smartphones In Each Country

Country	Products	TotalAmount
Australia	iPhone	449720
Australia	Nokia	414913
Australia	OnePlus	403376
Australia	Huawei P	378118
Australia	LG G	377633
Canada	OnePlus	422165
Canada	iPhone	416558
Canada	Sony Xperia	408364
Canada	Samsung Galaxy	407692
Canada	Motorola Moto	390173
Germany	Google Pixel	503337
Germany	Motorola Moto	496491
Germany	iPhone	484526
Germany	Samsung Galaxy	469923
Germany	Xiaomi Mi	469075
UK	Xiaomi Mi	600842
UK	Motorola Moto	600284
UK	Huawei P	599138
UK	Sony Xperia	587544
UK	Nokia	545670
USA	Motorola Moto	834491
USA	LG G	799515
USA	OnePlus	751039
USA	Google Pixel	740097
USA	Xiaomi Mi	738361

Table 25: Top 5 Smartphones In Each Country

As shown in **Table 25**, the top five smartphones in Australia are the iPhone, Nokia, OnePlus, Huawei P, and LG G. In Canada, the leading brands are OnePlus, iPhone, Sony Xperia, Samsung Galaxy, and Motorola Moto. In Germany, the top five include Google Pixel, Motorola Moto, iPhone, Samsung Galaxy, and Xiaomi Mi. In the UK, the most popular smartphones are Xiaomi Mi, Motorola Moto, Huawei P, Sony Xperia, and Nokia. Finally, in the USA, the top five are Motorola Moto, Nokia, LG G, Google Pixel, and Xiaomi Mi. This information helps businesses develop future strategies to increase the sales of other smartphone models.

2.4.3.2.25 Top 5 Laptops In Each Country

Country	Products	TotalAmount
Australia	LG Gram	152382
Australia	Asus ZenBook	130439
Australia	Samsung Notebook	126423
Australia	Microsoft Surface Laptop	123526
Australia	Razer Blade	119954
Canada	MacBook	166922
Canada	HP Spectre	151359
Canada	Dell XPS	137451
Canada	LG Gram	136888
Canada	Microsoft Surface Laptop	132526
Germany	LG Gram	168594
Germany	Samsung Notebook	164755
Germany	Asus ZenBook	163582
Germany	HP Spectre	153446
Germany	Lenovo ThinkPad	152139
UK	MacBook	204921
UK	Asus ZenBook	198703
UK	Microsoft Surface Laptop	196392
UK	Acer Swift	196041
UK	Razer Blade	184009
USA	Lenovo ThinkPad	289072
USA	MacBook	250858
USA	LG Gram	247144
USA	Dell XPS	244945
USA	Microsoft Surface Laptop	238640

Table 26: Top 5 Laptops In Each Country

Table 26 illustrates that the leading 5 laptops in Australia are the LG Gram, Asus ZenBook, Samsung Notebook, Microsoft Surface Laptop, and Razer Blade. In Canada, the offerings include MacBook, HP Spectre, Dell XPS, LG Gram, and Microsoft Surface Laptop. In Germany, you'll find LG Gram, Samsung Notebook, Asus ZenBook, HP Spectre, and Lenovo ThinkPad. In the UK, Razer Blade, Acer Swift, Microsoft Surface Laptop, Asus ZenBook, and MacBook. Lastly, in the USA, Lenovo ThinkPad, MacBook, LG Gram, Dell XPS, and Microsoft Surface Laptop. This assists the company in developing future strategies to boost sales of additional laptop models.

2.4.3.2.26 Top 5 Tablets In Each Country

Country	Products	TotalAmount
Australia	Asus ZenPad	301479
Australia	Huawei MediaPad	290274
Australia	Google Pixel Slate	269885
Australia	Amazon Fire Tablet	259085
Australia	Acer Iconia Tab	242694
Canada	Microsoft Surface	304990
Canada	Lenovo Tab	267384
Canada	Huawei MediaPad	263513
Canada	Acer Iconia Tab	258692
Canada	Samsung Galaxy Tab	253720
Germany	Asus ZenPad	323240
Germany	Microsoft Surface	294631
Germany	Huawei MediaPad	285755
Germany	iPad	282861
Germany	Acer Iconia Tab	279342
UK	Acer Iconia Tab	431293
UK	Microsoft Surface	395676
UK	Sony Xperia Tablet	384274
UK	Samsung Galaxy Tab	380772
UK	Google Pixel Slate	373541
USA	Sony Xperia Tablet	571437
USA	Microsoft Surface	532984
USA	Google Pixel Slate	526659
USA	iPad	513648
USA	Samsung Galaxy Tab	499922

Table 27: Top 5 Tablets In Each Country

Table 27 highlights the most popular tablets in different countries. In Australia, the top five models are the Asus ZenPad, Huawei MediaPad, Google Pixel Slate, Amazon Fire Tablet, and Acer Iconia Tab. In Canada, the leading brands include Microsoft Surface, Lenovo Tab, Huawei MediaPad, Acer Iconia Tab, and Samsung Galaxy Tab. Germany's top choices are Asus ZenPad, Microsoft Surface, Huawei MediaPad, iPad, and Acer Iconia Tab. In the UK, the most preferred tablets are the Acer Iconia Tab, Microsoft Surface, Sony Xperia Tablet, Samsung Galaxy Tab, and Google Pixel Slate. Meanwhile, in the USA, the top five tablets are the Sony Xperia Tablet, Microsoft Surface, Google Pixel Slate, iPad, and Samsung Galaxy Tab. This information helps businesses plan strategies to boost the sales of other tablet models.

2.4.3.3 Table And Chart

2.4.3.3.1 Number Of Customers In Each Country Cities

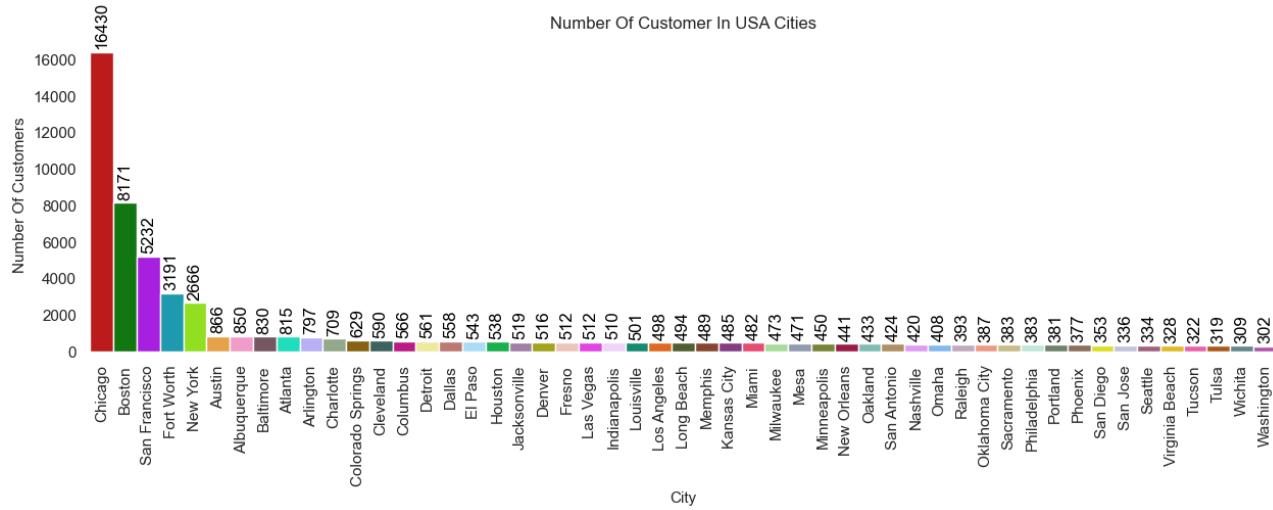


Figure 36: Number Of Customers USA Cities

Country	City	Customer_Count
USA	Chicago	16430
USA	Boston	8171
USA	San Francisco	5232
USA	Fort Worth	3191
USA	New York	2666
USA	Austin	866
USA	Albuquerque	850
USA	Baltimore	830
USA	Atlanta	815
USA	Arlington	797
USA	Charlotte	709
USA	Colorado Springs	629
USA	Cleveland	590
USA	Columbus	566
USA	Detroit	561
USA	Dallas	558
USA	El Paso	543
USA	Houston	538
USA	Jacksonville	519
USA	Denver	516
USA	Fresno	512
USA	Las Vegas	512
USA	Indianapolis	510
USA	Louisville	501
USA	Los Angeles	498
USA	Long Beach	494
USA	Memphis	489
USA	Kansas City	485
USA	Miami	482
USA	Milwaukee	473
USA	Mesa	471
USA	Minneapolis	450
USA	New Orleans	441
USA	Oakland	433
USA	San Antonio	424
USA	Nashville	420
USA	Omaha	408
USA	Raleigh	393
USA	Oklahoma City	387
USA	Sacramento	383
USA	Philadelphia	383
USA	Portland	381
USA	Phoenix	377
USA	San Diego	353
USA	San Jose	336
USA	Seattle	334
USA	Virginia Beach	328
USA	Tucson	322
USA	Tulsa	319
USA	Wichita	309
USA	Washington	302

Table 28: Number Of Customers USA Cities

As shown in **Figure 36** and **Table 28**, Chicago, San Francisco, and Boston rank as the top three cities, while Tulsa, Wichita, and Washington have the fewest customers in the USA.



Figure 37: Number Of Customers Canadians Cities

Country	City	Customer_Count
Canada	Calgary	2202
Canada	Barrie	2198
Canada	Edmonton	2168
Canada	Halifax	2003
Canada	Hamilton	1960
Canada	Kitchener	1899
Canada	London	1893
Canada	Kelowna	1863
Canada	Montreal	1801
Canada	Oshawa	1756
Canada	Ottawa	1695
Canada	Regina	1654
Canada	Saskatoon	1616
Canada	Quebec City	1598
Canada	Toronto	1566
Canada	St. John's	1542
Canada	Winnipeg	1535
Canada	Victoria	1458
Canada	Vancouver	1437
Canada	Windsor	1376

As shown in **Figure 37** and **Table 29**, Barrie, Edmonton, and Calgary are the three cities in Canada with the highest number of customers, whereas Vancouver, Windsor, and Victoria have the lowest.

Table 29: Number Of Customers Canadian Cities



Figure 38: Number Of Customers In UK Cities

Country	City	Customer_Count
UK	Portsmouth	12484
UK	Birmingham	2203
UK	Belfast	2132
UK	Brighton	2078
UK	Cardiff	1932
UK	Bristol	1928
UK	Edinburgh	1926
UK	Hull	1808
UK	Leeds	1808
UK	Glasgow	1804
UK	Leicester	1738
UK	Liverpool	1675
UK	London	1600
UK	Newcastle upon Tyne	1590
UK	Manchester	1586
UK	Nottingham	1569
UK	Oxford	1490
UK	Plymouth	1448
UK	Sheffield	1158
UK	Southampton	1119

Table 30: Number Of Customers In UK Cities

According to **Figure 38** and **Table 30**, the leading cities in the UK are Portsmouth, Birmingham, and Belfast, whereas Plymouth, Sheffield, and Southampton have the least number of customers. Furthermore, from the figure and table, we deduce that there is a disparity between Portsmouth and other cities; all cities have customers between 1000 and 2000, whereas Portsmouth exceeds 12000 customers.

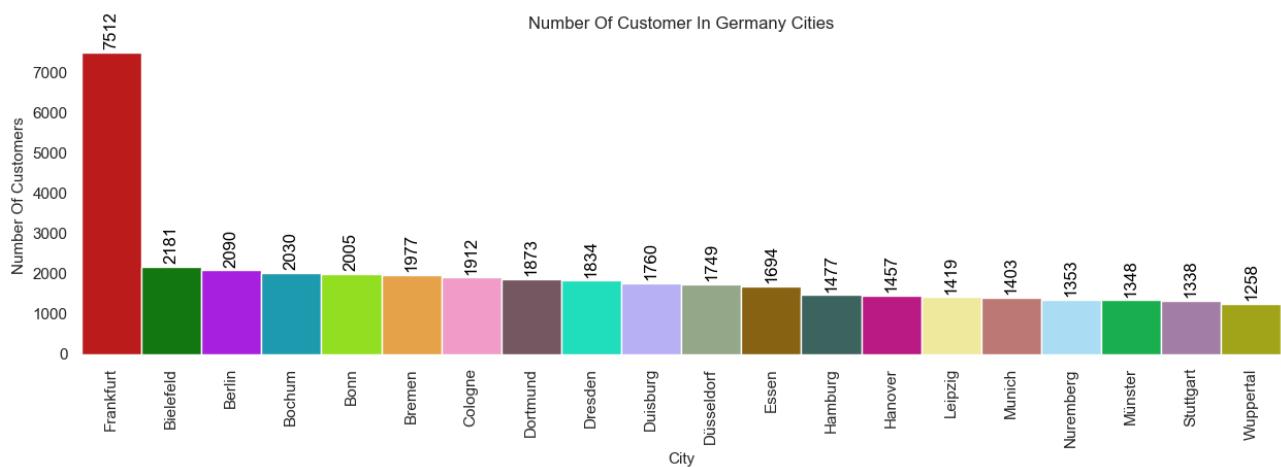


Figure 39: Number Of Customers In German Cities

Country	City	Customer_Count	Description
Germany	Frankfurt	7512	According to Figure 39 and Table 31, the leading city in Germany is Frankfurt with 7000 customers; all other cities have between 1000 and 2000 customers, with slight increases for some cities
Germany	Bielefeld	2181	
Germany	Berlin	2090	
Germany	Bochum	2030	
Germany	Bonn	2005	
Germany	Bremen	1977	
Germany	Cologne	1912	
Germany	Dortmund	1873	
Germany	Dresden	1834	
Germany	Duisburg	1760	
Germany	Düsseldorf	1749	
Germany	Essen	1694	
Germany	Hamburg	1477	
Germany	Hanover	1457	
Germany	Leipzig	1419	
Germany	Munich	1403	
Germany	Nuremberg	1353	
Germany	Münster	1348	
Germany	Stuttgart	1338	
Germany	Wuppertal	1258	

Table 31: Number Of Customer In German Cities



Figure 40: Number Of Customers In Australian Cities

Country	City	Customer_Count
Australia	Albury	2163
Australia	Adelaide	2145
Australia	Ballarat	2100
Australia	Bendigo	2082
Australia	Brisbane	2032
Australia	Cairns	1939
Australia	Darwin	1898
Australia	Geelong	1886
Australia	Canberra	1870
Australia	Gold Coast	1747
Australia	Mackay	1743
Australia	Hobart	1740
Australia	Launceston	1679
Australia	Perth	1578
Australia	Newcastle	1562
Australia	Melbourne	1518
Australia	Sydney	1497
Australia	Toowoomba	1463
Australia	Townsville	1463
Australia	Wollongong	1379

According to **Figure 40** and **Table 32**, in Australia, all cities have between 1000 and 2000 customers, with slight increases for some cities.

Table 32: Number Of Customers In Australian Cities

2.4.3.3.2 Percentage Of Low Ratings In Each City By Country

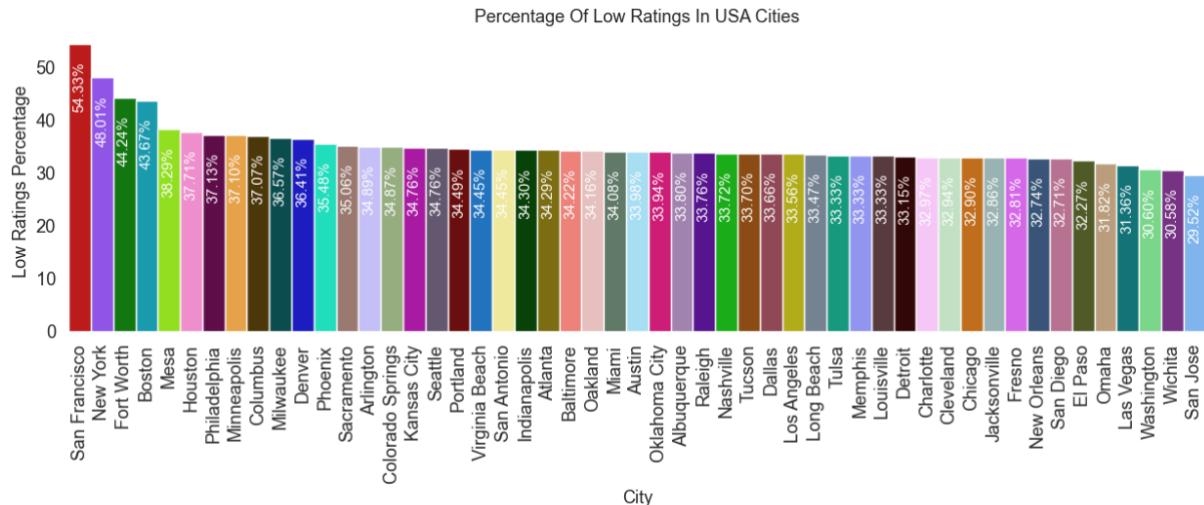


Figure 41: Percentage Of Low Ratings In USA Cities

Country	City	LowRatings	NumberOfOrders	LowRatingsPercentage
USA	San Francisco	3789	6974	54.33%
USA	New York	1822	3795	48.01%
USA	Fort Worth	2222	5023	44.24%
USA	Boston	6723	15396	43.67%
USA	Mesa	255	666	38.29%
USA	Houston	313	830	37.71%
USA	Philadelphia	186	501	37.13%
USA	Minneapolis	246	663	37.10%
USA	Columbus	341	920	37.07%
USA	Milwaukee	245	670	36.57%
USA	Denver	308	846	36.41%
USA	Phoenix	176	496	35.48%
USA	Sacramento	176	502	35.06%
USA	Arlington	537	1539	34.89%
USA	Colorado Springs	363	1041	34.87%
USA	Kansas City	251	722	34.76%
USA	Seattle	130	374	34.76%
USA	Portland	169	490	34.49%
USA	Virginia Beach	123	357	34.45%
USA	San Antonio	175	508	34.45%
USA	Indianapolis	261	761	34.30%
USA	Atlanta	548	1598	34.29%
USA	Baltimore	551	1610	34.22%
USA	Oakland	192	562	34.16%
USA	Miami	227	666	34.08%
USA	Austin	543	1598	33.98%
USA	Oklahoma City	167	492	33.94%
USA	Albuquerque	582	1722	33.80%
USA	Raleigh	160	474	33.76%
USA	Nashville	206	611	33.72%
USA	Tucson	122	362	33.70%
USA	Dallas	308	915	33.66%
USA	Los Angeles	243	724	33.56%
USA	Long Beach	238	711	33.47%
USA	Tulsa	118	354	33.33%
USA	Memphis	229	687	33.33%
USA	Louisville	243	729	33.33%
USA	Detroit	299	902	33.15%
USA	Charlotte	423	1283	32.97%
USA	Cleveland	310	941	32.94%
USA	Chicago	9714	29530	32.90%
USA	Jacksonsville	253	770	32.86%
USA	Fresno	250	762	32.81%
USA	New Orleans	203	620	32.74%
USA	San Diego	140	428	32.71%
USA	El Paso	274	849	32.27%
USA	Omaha	161	506	31.82%
USA	Las Vegas	239	762	31.36%
USA	Washington	97	317	30.60%
USA	Wichita	100	327	30.58%
USA	San Jose	111	376	29.52%

Table 33: Percentage Of Low Ratings In USA Cities

Figure 41 and Table 33 indicate that in the USA, city such as San Jose has low ratings percentages below 30%. Cleveland, Fresno, Charlotte, Jacksonville, Arlington, Wichita, Baltimore, El Paso, Oakland, Phoenix, Denver, Dallas, Nashville, Detroit, Atlanta, Philadelphia, Milwaukee, Kansas City, Seattle, Memphis, Minneapolis, Raleigh, San Jose, Omaha, Indianapolis, Virginia Beach, Mesa, Houston, Sacramento, Columbus, Oklahoma City, Austin, New Orleans, Miami, Tucson, Washington, Colorado Springs, Los Angeles, San Antonio, and Chicago Tulsa have low ratings percentages under 40%, whereas Fort Worth has a low ratings percentage of 44.24%, New York at 48 %, and Boston at 43.67%. Ultimately, San Francisco boasts the highest percentage of low ratings at 54.33%. Determining the number of negative ratings in each city supports future plans to lower these poor ratings.

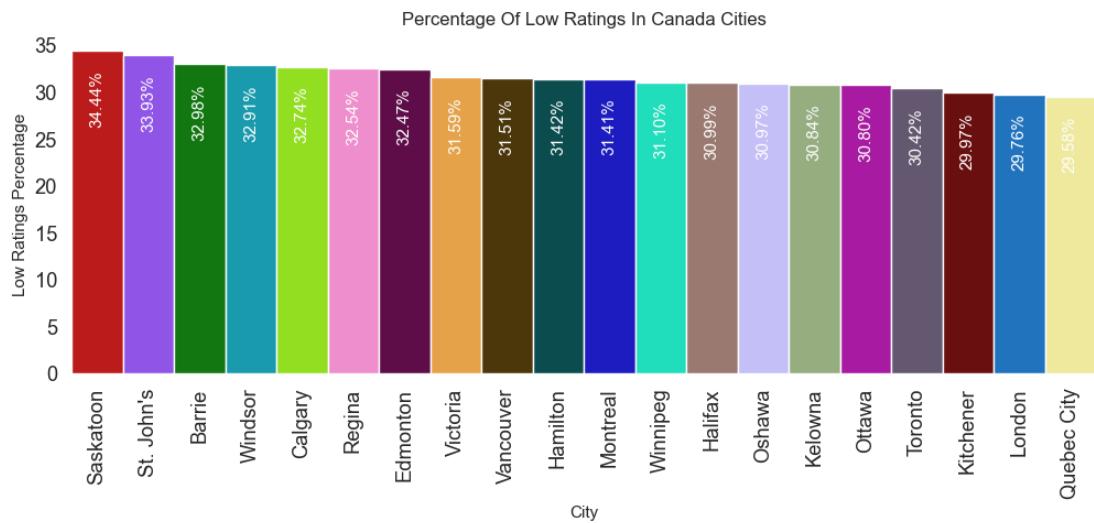


Figure 42: Percentage Of Low Ratings In Canadian Cities

Country	City	LowRatings	NumberOfOrders	LowRatingsPercentage
Canada	Saskatoon	651	1890	34.44
Canada	St. John's	607	1789	33.93
Canada	Barrie	1100	3335	32.98
Canada	Windsor	489	1486	32.91
Canada	Calgary	1060	3238	32.74
Canada	Regina	655	2013	32.54
Canada	Edmonton	1032	3178	32.47
Canada	Victoria	502	1589	31.59
Canada	Vancouver	506	1606	31.51
Canada	Hamilton	842	2680	31.42
Canada	Montreal	731	2327	31.41
Canada	Winnipeg	501	1611	31.10
Canada	Halifax	871	2811	30.99
Canada	Oshawa	699	2257	30.97
Canada	Kelowna	778	2523	30.84
Canada	Ottawa	653	2120	30.80
Canada	Toronto	547	1798	30.42
Canada	Kitchener	776	2589	29.97
Canada	London	747	2510	29.76
Canada	Quebec City	593	2005	29.58

Table 34: Percentage Of Low Ratings In Canadian Cities

Figure 42 and Table 34 show that in Canada, all cities have the same number of low ratings, with the exception of a few cities experiencing a slight increase. Determining the number of negative ratings in each city supports future plans to lower these poor ratings.

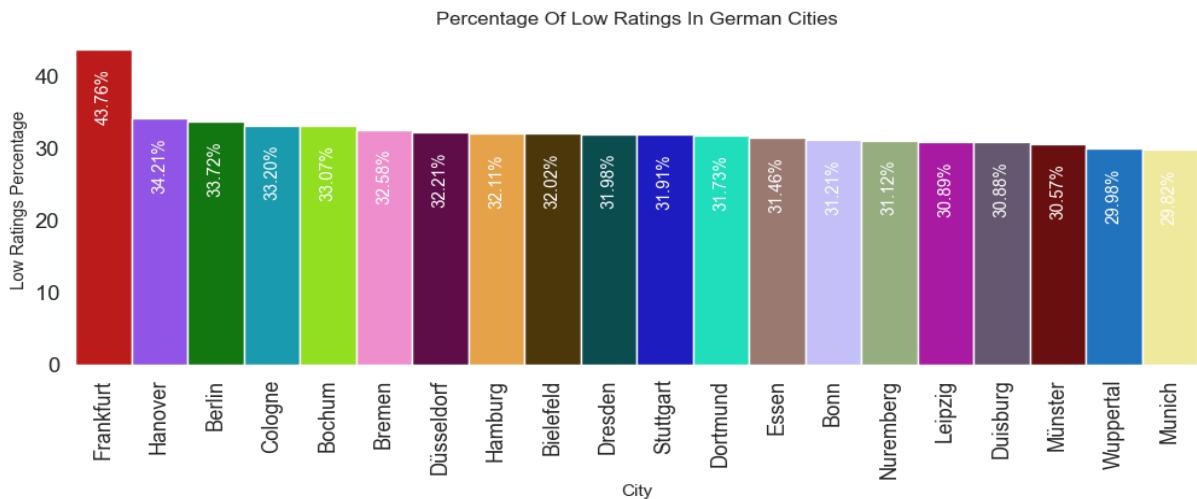


Figure 43: Percentage Of Low Ratings In German Cities

Country	City	LowRatings	NumberOfOrders	LowRatingsPercentage
Germany	Frankfurt	4254	9722	43.76
Germany	Hanover	600	1754	34.21
Germany	Berlin	1102	3268	33.72
Germany	Cologne	927	2792	33.20
Germany	Bochum	1018	3078	33.07
Germany	Bremen	931	2858	32.58
Germany	Düsseldorf	771	2394	32.21
Germany	Hamburg	586	1825	32.11
Germany	Bielefeld	1079	3370	32.02
Germany	Dresden	818	2558	31.98
Germany	Stuttgart	464	1454	31.91
Germany	Dortmund	837	2638	31.73
Germany	Essen	710	2257	31.46
Germany	Bonn	917	2938	31.21
Germany	Nuremberg	459	1475	31.12
Germany	Leipzig	510	1651	30.89
Germany	Duisburg	739	2393	30.88
Germany	Münster	461	1508	30.57
Germany	Wuppertal	402	1341	29.98
Germany	Munich	478	1603	29.82

Table 35: Percentage Of Low Ratings In German Cities

Figure 43 and Table 35 show that in Germany, the percentage of low ratings for each city falls between 29% and 34%, with the exception of Frankfurt, which stands at 43%. Determining the number of negative ratings in each city supports future plans to lower these poor ratings.

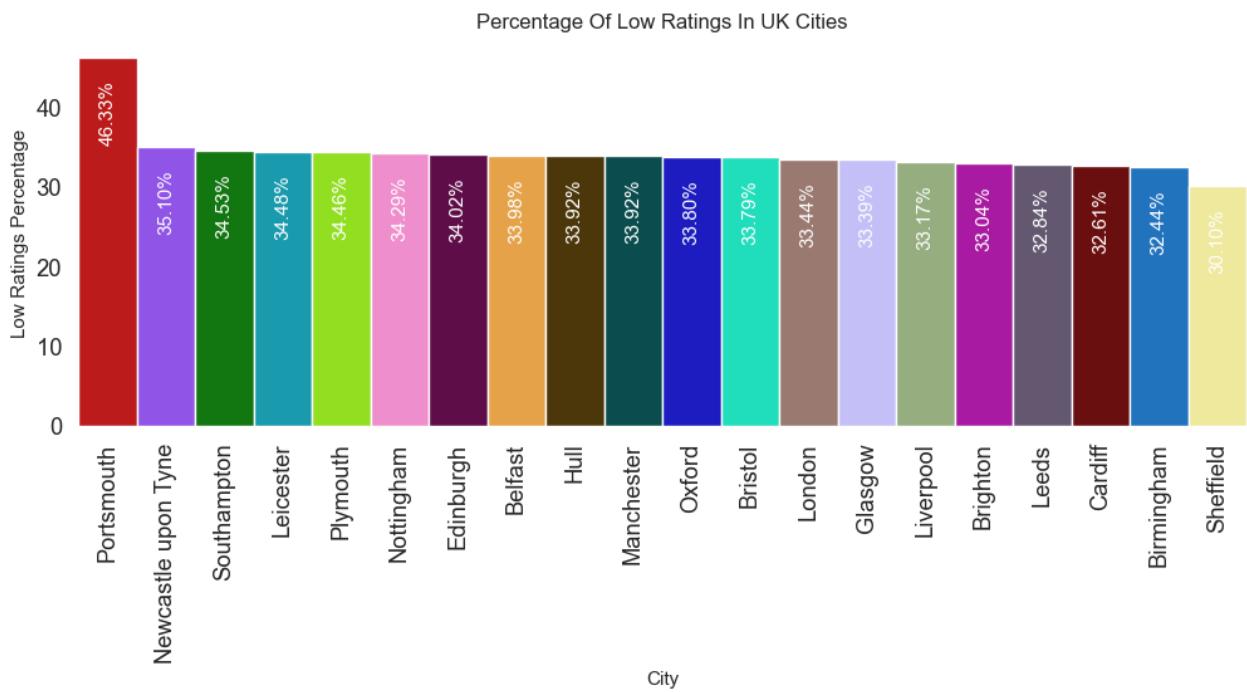


Figure 44: Percentage Of Low Ratings In Uk Cities

Country	City	LowRatings	NumberOfOrders	LowRatingsPercentage
UK	Portsmouth	7446	16073	46.33
UK	Newcastle upon Tyne	754	2148	35.10
UK	Southampton	403	1167	34.53
UK	Leicester	863	2503	34.48
UK	Plymouth	643	1866	34.46
UK	Nottingham	704	2053	34.29
UK	Edinburgh	1003	2948	34.02
UK	Belfast	1193	3511	33.98
UK	Hull	903	2662	33.92
UK	Manchester	732	2158	33.92
UK	Oxford	655	1938	33.80
UK	Bristol	1025	3033	33.79
UK	London	743	2222	33.44
UK	Glasgow	905	2710	33.39
UK	Liverpool	791	2385	33.17
UK	Brighton	1103	3338	33.04
UK	Leeds	861	2622	32.84
UK	Cardiff	971	2978	32.61
UK	Birmingham	1154	3557	32.44
UK	Sheffield	373	1239	30.10

Table 36: Count Of Low Ratings In Uk Cities

Figure 44 and **Table 36** show that in UK, the percentage of low ratings for each city falls between 30% and 35%, with the exception of Portsmouth, which stands at 46% which it is the highest low ratings percentage city. Determining the number negative ratings in each city supports future plans to lower these poor ratings.

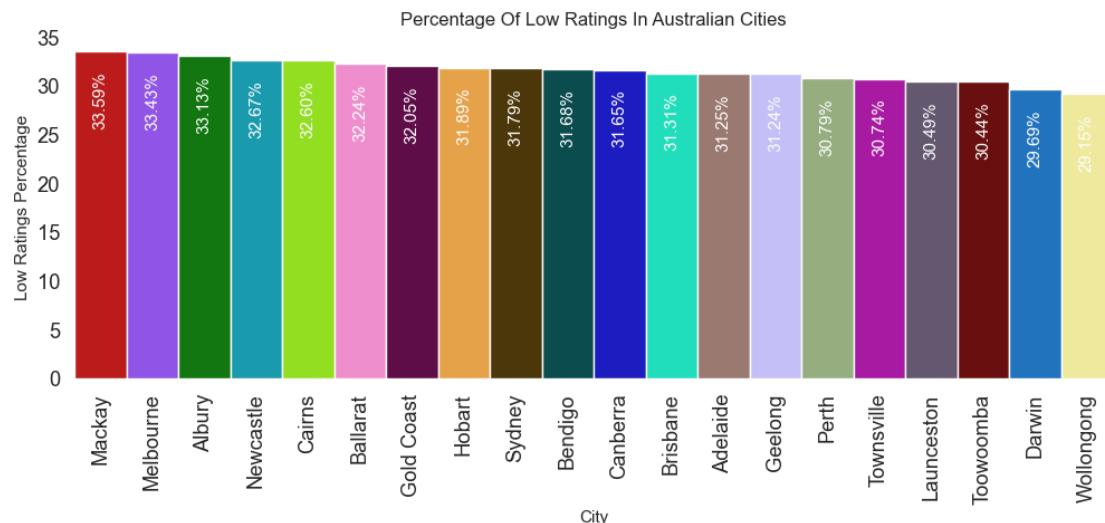


Figure 45: Percentage Of Low Ratings In Australian Cities

Country	City	LowRatings	NumberOfOrders	LowRatingsPercentage
Australia	Mackay	701	2087	33.59
Australia	Melbourne	600	1795	33.43
Australia	Albury	1046	3157	33.13
Australia	Newcastle	589	1803	32.67
Australia	Cairns	872	2675	32.60
Australia	Ballarat	949	2944	32.24
Australia	Gold Coast	715	2231	32.05
Australia	Hobart	698	2189	31.89
Australia	Sydney	536	1686	31.79
Australia	Bendigo	934	2948	31.68
Australia	Canberra	789	2493	31.65
Australia	Brisbane	879	2807	31.31
Australia	Adelaide	988	3162	31.25
Australia	Geelong	767	2455	31.24
Australia	Perth	558	1812	30.79
Australia	Townsville	482	1568	30.74
Australia	Launceston	629	2063	30.49
Australia	Toowoomba	480	1577	30.44
Australia	Darwin	734	2472	29.69
Australia	Wollongong	423	1451	29.15

Table 37: Percentage Of Low Ratings In Australian Cities

Figure 45 and Table 37 show that in Australia, the percentage of low ratings for each city falls between 29% and 33%. Determining the number of negative ratings in each city supports future plans to lower these poor ratings.

2.4.3.3.3 Percentage Of Pending Orders In Each City By Country

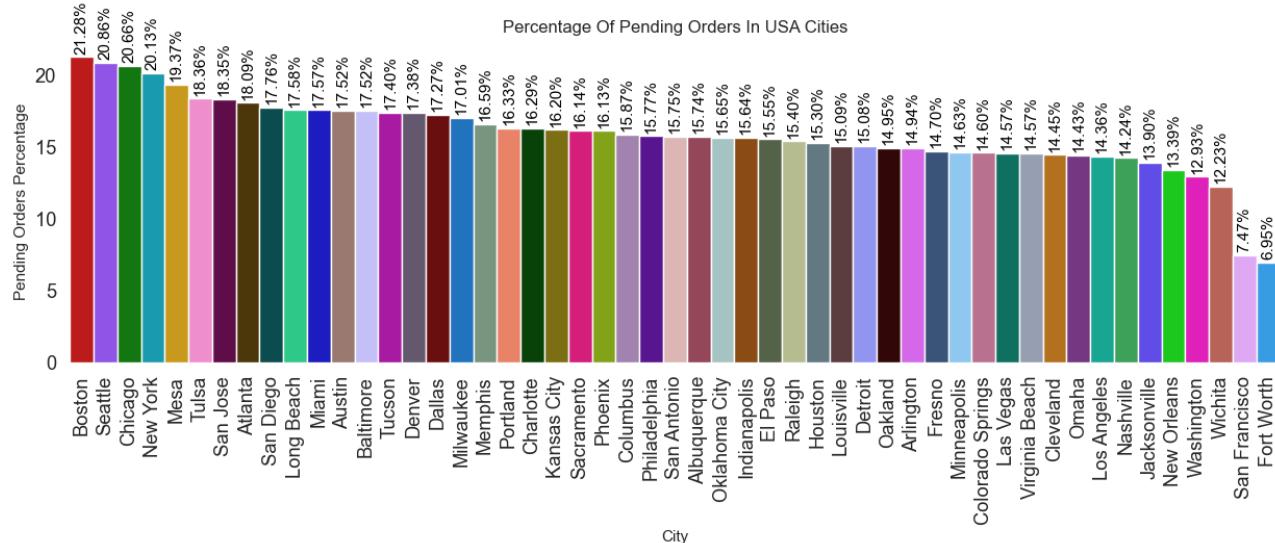


Figure 46: Percentage Of Pending Orders In USA Cities

Country	City	PendingOrders	NumberOfOrders	PendingOrdersPercentage
USA	Boston	3276	15396	21.28
USA	Seattle	78	374	20.86
USA	Chicago	6101	29530	20.66
USA	New York	764	3795	20.13
USA	Mesa	129	666	19.37
USA	Tulsa	65	354	18.36
USA	San Jose	69	376	18.35
USA	Atlanta	289	1598	18.09
USA	San Diego	76	428	17.76
USA	Long Beach	125	711	17.58
USA	Miami	117	666	17.57
USA	Austin	280	1598	17.52
USA	Baltimore	282	1610	17.52
USA	Tucson	63	362	17.40
USA	Denver	147	846	17.38
USA	Dallas	158	915	17.27
USA	Milwaukee	114	670	17.01
USA	Memphis	114	687	16.59
USA	Portland	80	490	16.33
USA	Charlotte	209	1283	16.29
USA	Kansas City	117	722	16.20
USA	Sacramento	81	502	16.14
USA	Phoenix	80	496	16.13
USA	Columbus	146	920	15.87
USA	Philadelphia	79	501	15.77
USA	San Antonio	80	508	15.75
USA	Albuquerque	271	1722	15.74
USA	Oklahoma City	77	492	15.65
USA	Indianapolis	119	761	15.64
USA	El Paso	132	849	15.55
USA	Raleigh	73	474	15.40
USA	Houston	127	830	15.30
USA	Louisville	110	729	15.09
USA	Detroit	136	902	15.08
USA	Oakland	84	562	14.95
USA	Arlington	230	1539	14.94
USA	Fresno	112	762	14.70
USA	Minneapolis	97	663	14.63
USA	Colorado Springs	152	1041	14.60
USA	Las Vegas	111	762	14.57
USA	Virginia Beach	52	357	14.57
USA	Cleveland	136	941	14.45
USA	Omaha	73	506	14.43
USA	Los Angeles	104	724	14.36
USA	Nashville	87	611	14.24
USA	Jacksonville	107	770	13.90
USA	New Orleans	83	620	13.39
USA	Washington	41	317	12.93
USA	Wichita	40	327	12.23
USA	San Francisco	521	6974	7.47
USA	Fort Worth	349	5023	6.95

Table 38: Percentage Of Pending Orders In USA Cities

Figure 46 and Table 38 indicate that in the USA, the majority of cities have pending orders ranging from 12% to 21%, except Fort Worth at 6% and San Francisco at 7%, representing the cities with the least pending orders. Comprehending the total of outstanding orders assists in formulating future strategies to process the order quickly.

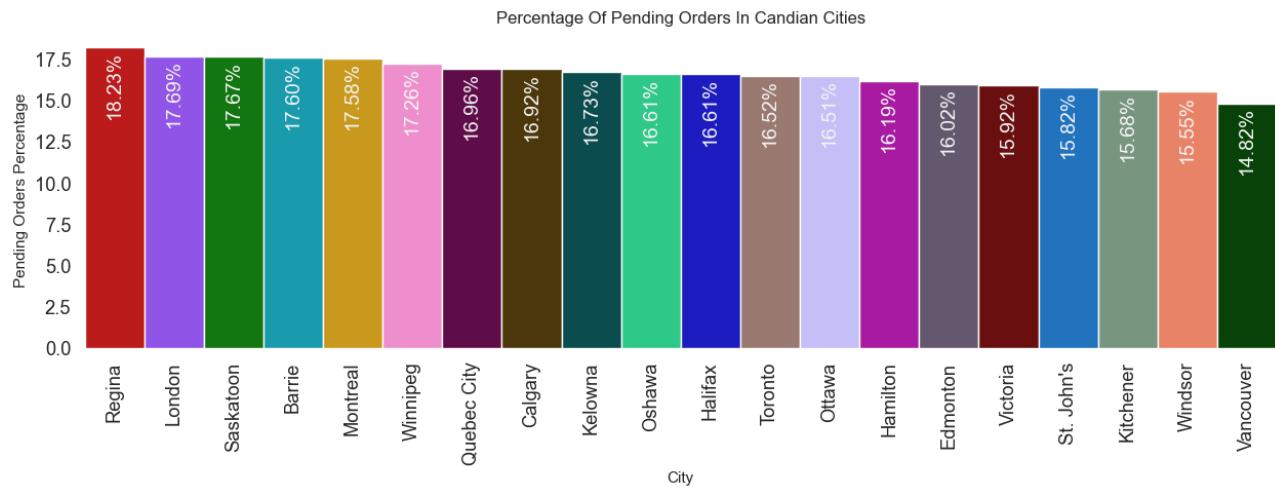


Figure 47: Percentage Of Pending Orders In Canadian Cities

Country	City	PendingOrders	NumberOfOrders	PendingOrdersPercentage
Canada	Regina	367	2013	18.23
Canada	London	444	2510	17.69
Canada	Saskatoon	334	1890	17.67
Canada	Barrie	587	3335	17.60
Canada	Montreal	409	2327	17.58
Canada	Winnipeg	278	1611	17.26
Canada	Quebec City	340	2005	16.96
Canada	Calgary	548	3238	16.92
Canada	Kelowna	422	2523	16.73
Canada	Oshawa	375	2257	16.61
Canada	Halifax	467	2811	16.61
Canada	Toronto	297	1798	16.52
Canada	Ottawa	350	2120	16.51
Canada	Hamilton	434	2680	16.19
Canada	Edmonton	509	3178	16.02
Canada	Victoria	253	1589	15.92
Canada	St. John's	283	1789	15.82
Canada	Kitchener	406	2589	15.68
Canada	Windsor	231	1486	15.55
Canada	Vancouver	238	1606	14.82

Table 39: Percentage Of Pending Orders In Canadian Cities

Figure 47 and **Table 39** illustrate that in Canada, the percentage of pending orders is ranging from 14% to 18%, with an observable increase in some cities. Comprehending the total of outstanding orders assists in formulating future strategies to process the order quickly.

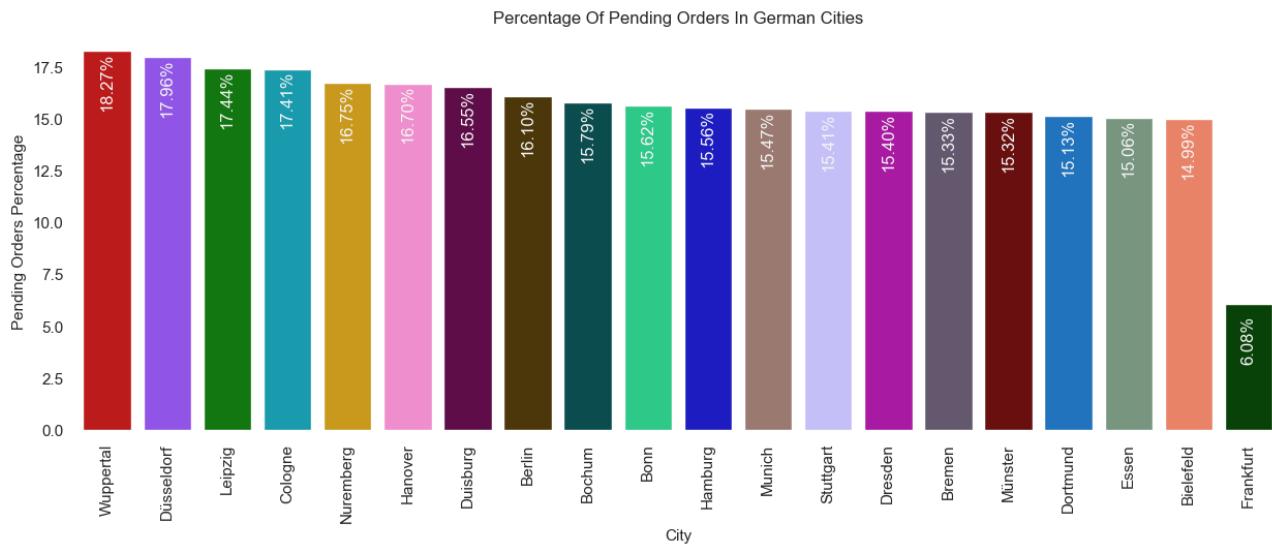


Figure 48: Percentage Of Pending Orders In German Cities

Country	City	PendingOrders	NumberOfOrders	PendingOrdersPercentage
Germany	Wuppertal	245	1341	18.27
Germany	Düsseldorf	430	2394	17.96
Germany	Leipzig	288	1651	17.44
Germany	Cologne	486	2792	17.41
Germany	Nuremberg	247	1475	16.75
Germany	Hanover	293	1754	16.70
Germany	Duisburg	396	2393	16.55
Germany	Berlin	526	3268	16.10
Germany	Bochum	486	3078	15.79
Germany	Bonn	459	2938	15.62
Germany	Hamburg	284	1825	15.56
Germany	Munich	248	1603	15.47
Germany	Stuttgart	224	1454	15.41
Germany	Dresden	394	2558	15.40
Germany	Bremen	438	2858	15.33
Germany	Münster	231	1508	15.32
Germany	Dortmund	399	2638	15.13
Germany	Essen	340	2257	15.06
Germany	Bielefeld	505	3370	14.99
Germany	Frankfurt	591	9722	6.08

Table 40: Percentage Of Pending Orders In German Cities

Figure 48 and **Table 40** illustrate that in German cities, the percentage of pending orders is between 14% and 18% except the Frankfurt with only 6% pending orders. Comprehending the total of outstanding orders assists in formulating future strategies to process the order quickly.

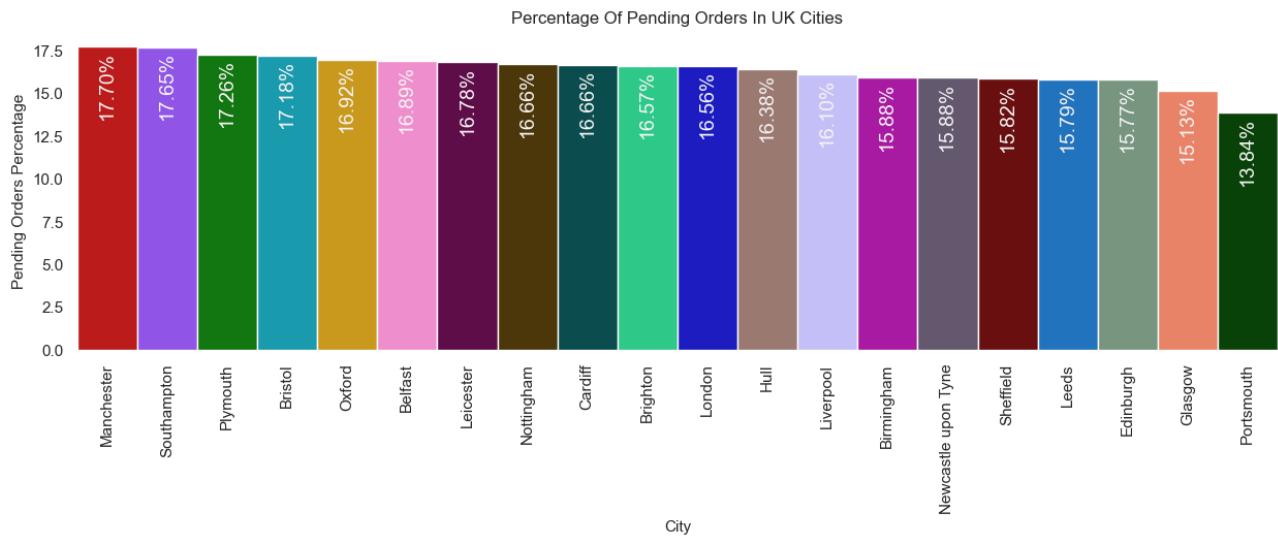


Figure 49: Percentage Of Pending Orders In UK Cities

Country	City	PendingOrders	NumberOfOrders	PendingOrdersPercentage
UK	Manchester	382	2158	17.70
UK	Southampton	206	1167	17.65
UK	Plymouth	322	1866	17.26
UK	Bristol	521	3033	17.18
UK	Oxford	328	1938	16.92
UK	Belfast	593	3511	16.89
UK	Leicester	420	2503	16.78
UK	Nottingham	342	2053	16.66
UK	Cardiff	496	2978	16.66
UK	Brighton	553	3338	16.57
UK	London	368	2222	16.56
UK	Hull	436	2662	16.38
UK	Liverpool	384	2385	16.10
UK	Birmingham	565	3557	15.88
UK	Newcastle upon Tyne	341	2148	15.88
UK	Sheffield	196	1239	15.82
UK	Leeds	414	2622	15.79
UK	Edinburgh	465	2948	15.77
UK	Glasgow	410	2710	15.13
UK	Portsmouth	2224	16073	13.84

Table 41: Percentage Of Pending Orders In UK Cities

Figure 49 and **Table 41** illustrate that in German cities, the percentage of pending orders is between 13% and 17% pending orders. Comprehending the total of outstanding orders assists in formulating future strategies to process the order quickly.

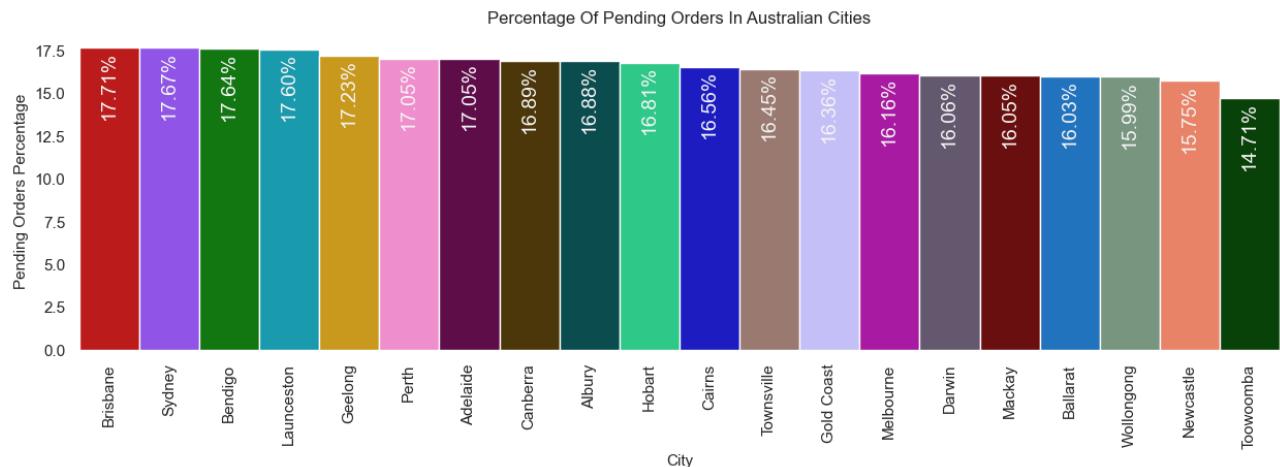


Figure 50: Percentage Of Pending Orders In Australian Cities

Country	City	PendingOrders	NumberOfOrders	PendingOrdersPercentage
Australia	Brisbane	497	2807	17.71
Australia	Sydney	298	1686	17.67
Australia	Bendigo	520	2948	17.64
Australia	Launceston	363	2063	17.60
Australia	Geelong	423	2455	17.23
Australia	Perth	309	1812	17.05
Australia	Adelaide	539	3162	17.05
Australia	Canberra	421	2493	16.89
Australia	Albury	533	3157	16.88
Australia	Hobart	368	2189	16.81
Australia	Cairns	443	2675	16.56
Australia	Townsville	258	1568	16.45
Australia	Gold Coast	365	2231	16.36
Australia	Melbourne	290	1795	16.16
Australia	Darwin	397	2472	16.06
Australia	Mackay	335	2087	16.05
Australia	Ballarat	472	2944	16.03
Australia	Wollongong	232	1451	15.99
Australia	Newcastle	284	1803	15.75
Australia	Toowoomba	232	1577	14.71

Table 42: Percentage Of Pending Orders In Australian Cities

Figure 50 and **Table 42** illustrate that in Australian cities, the percentage of pending orders is ranging from 14% to 17%, with an observable increase in some cities. Comprehending the total of outstanding orders assists in formulating future strategies to process the order quickly.

2.4.3.3.4 Preferred Day In Each City By Country

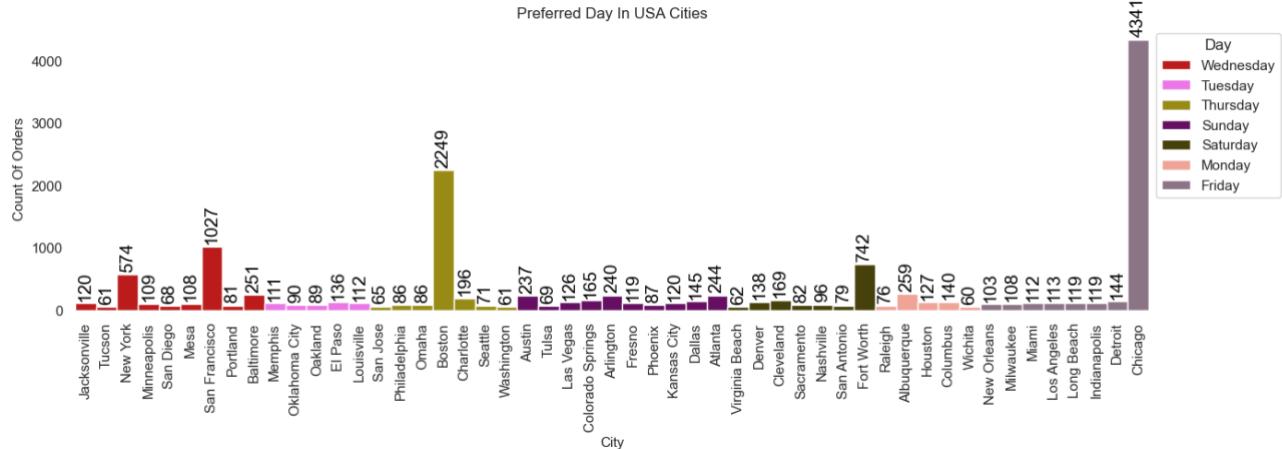


Figure 51: Preferred Day In Each USA Cities

Country	City	Day	DayOrders	NumberOfOrders	DayOrdersPercentage
USA	Jacksonville	Wednesday	120	770	15.58
USA	Tucson	Wednesday	61	362	16.85
USA	New York	Wednesday	574	3795	15.13
USA	Minneapolis	Wednesday	109	663	16.44
USA	San Diego	Wednesday	68	428	15.89
USA	Mesa	Wednesday	108	666	16.22
USA	San Francisco	Wednesday	1027	6974	14.73
USA	Portland	Wednesday	81	490	16.53
USA	Baltimore	Wednesday	251	1610	15.59
USA	Memphis	Tuesday	111	687	16.16
USA	Oklahoma City	Tuesday	90	492	18.29
USA	Oakland	Tuesday	89	562	15.84
USA	El Paso	Tuesday	136	849	16.02
USA	Louisville	Tuesday	112	729	15.36
USA	San Jose	Thursday	65	376	17.29
USA	Philadelphia	Thursday	86	501	17.17
USA	Omaha	Thursday	86	506	17.00
USA	Boston	Thursday	2249	15396	14.61
USA	Charlotte	Thursday	196	1283	15.28
USA	Seattle	Thursday	71	374	18.98
USA	Washington	Thursday	61	317	19.24
USA	Austin	Sunday	237	1598	14.83
USA	Tulsa	Sunday	69	354	19.49
USA	Las Vegas	Sunday	126	762	16.54
USA	Colorado Springs	Sunday	165	1041	15.85
USA	Arlington	Sunday	240	1539	15.59
USA	Fresno	Sunday	119	762	15.62
USA	Phoenix	Sunday	87	496	17.54
USA	Kansas City	Sunday	120	722	16.62
USA	Dallas	Sunday	145	915	15.85
USA	Atlanta	Sunday	244	1598	15.27
USA	Virginia Beach	Saturday	62	357	17.37
USA	Denver	Saturday	138	846	16.31
USA	Cleveland	Saturday	169	941	17.96
USA	Sacramento	Saturday	82	502	16.33
USA	Nashville	Saturday	96	611	15.71
USA	San Antonio	Saturday	79	508	15.55
USA	Fort Worth	Saturday	742	5023	14.77
USA	Raleigh	Monday	76	474	16.03
USA	Albuquerque	Monday	259	1722	15.04
USA	Houston	Monday	127	830	15.30
USA	Columbus	Monday	140	920	15.22
USA	Wichita	Monday	60	327	18.35
USA	New Orleans	Friday	103	620	16.61
USA	Milwaukee	Friday	108	670	16.12
USA	Miami	Friday	112	666	16.82
USA	Los Angeles	Friday	113	724	15.61
USA	Long Beach	Friday	119	711	16.74
USA	Indianapolis	Friday	119	761	15.64
USA	Detroit	Friday	144	902	15.96
USA	Chicago	Friday	4341	29530	14.70

Table 43: Preferred Day In Each USA Cities

Figure 51 and Table 43 illustrate that in the USA, customers in Jacksonville, Tucson, New York, Minneapolis, San Diego Mesa, San Francisco, Portland and Baltimore tend to place orders on Wednesday, while those in Memphis, Oakland, El Paso, Louisville, and Oklahoma City favor Tuesday. Customers in San Jose, Philadelphia, Omaha, Boston, Charlotte, Seattle, and Washington prefer to make purchases on Thursday. In Austin, Tulsa, Las Vegas, Colorado Springs, Arlington, Fresno, Phoenix, Kansas City, Dallas and Atlanta, customers typically choose Sunday for their orders. Additionally, customers in Virginia Beach, Denver, Cleveland, Sacramento, Nashville, San Antonio, and Fort Worth prefer to order on Saturday, whereas Monday is the favored day for those in Raleigh, Albuquerque, Columbus, Houston, Columbus, and Wichita. In conclusion, customers in New Orleans, Milwaukee, Miami, Fresno, Los Angeles, Chicago, Long Beach, Indianapolis, Detroit, and Chicago favor Friday. Recognize the preferred day to help the business in offering targeted discount days and promotional offers for other days.

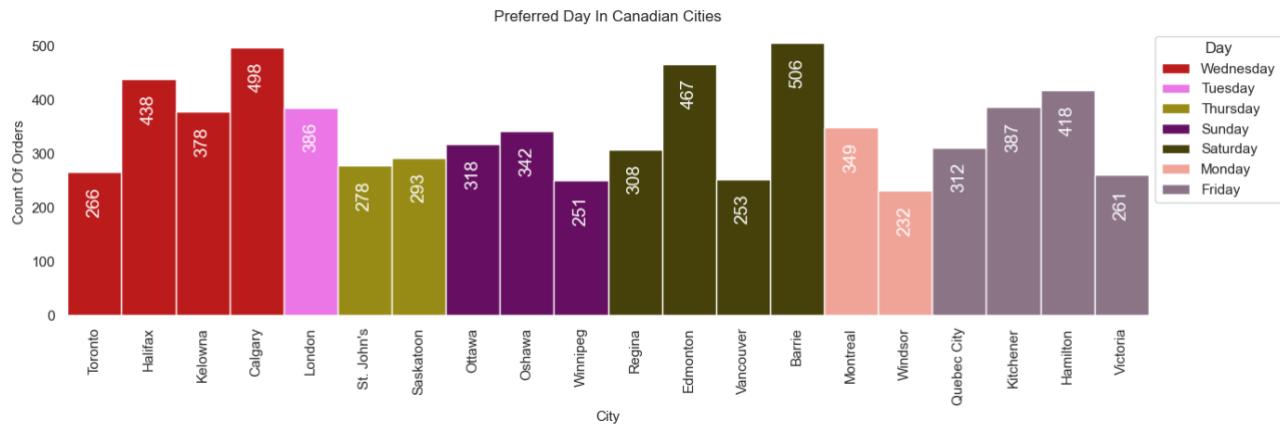


Figure 52: Preferred Day In Canadian Cities

Country	City	Day	DayOrders	NumberOfOrders	DayOrdersPercentage
Canada	Toronto	Wednesday	266	1798	14.79
Canada	Halifax	Wednesday	438	2811	15.58
Canada	Kelowna	Wednesday	378	2523	14.98
Canada	Calgary	Wednesday	498	3238	15.38
Canada	London	Tuesday	386	2510	15.38
Canada	St. John's	Thursday	278	1789	15.54
Canada	Saskatoon	Thursday	293	1890	15.50
Canada	Ottawa	Sunday	318	2120	15.00
Canada	Oshawa	Sunday	342	2257	15.15
Canada	Winnipeg	Sunday	251	1611	15.58
Canada	Regina	Saturday	308	2013	15.30
Canada	Edmonton	Saturday	467	3178	14.69
Canada	Vancouver	Saturday	253	1606	15.75
Canada	Barrie	Saturday	506	3335	15.17
Canada	Montreal	Monday	349	2327	15.00
Canada	Windsor	Monday	232	1486	15.61
Canada	Quebec City	Friday	312	2005	15.56
Canada	Kitchener	Friday	387	2589	14.95
Canada	Hamilton	Friday	418	2680	15.60
Canada	Victoria	Friday	261	1589	16.43

Table 44: Preferred Day In Canadian Cities

Figure 52 and **Table 44** illustrate that in Canada, customers in Toronto, Halifax, Kelowna, and Calgary tend to place orders on Wednesday, while those in London, Tuesday. Customers in St. John's, and Saskatoon prefer to make purchases on Thursday. In Ottawa, Oshawa, and Winnipeg, customers typically choose Sunday for their orders. Additionally, customers in Regina, Edmonton, Vancouver, and Barrie prefer to order on Saturday, whereas Monday is the favored day for those in Montreal and Windsor. In conclusion, customers in Quebec City, Kitchener, Hamilton and Victoria favor Friday. Recognize the preferred day to help the business in offering targeted discount days and promotional offers for other days.

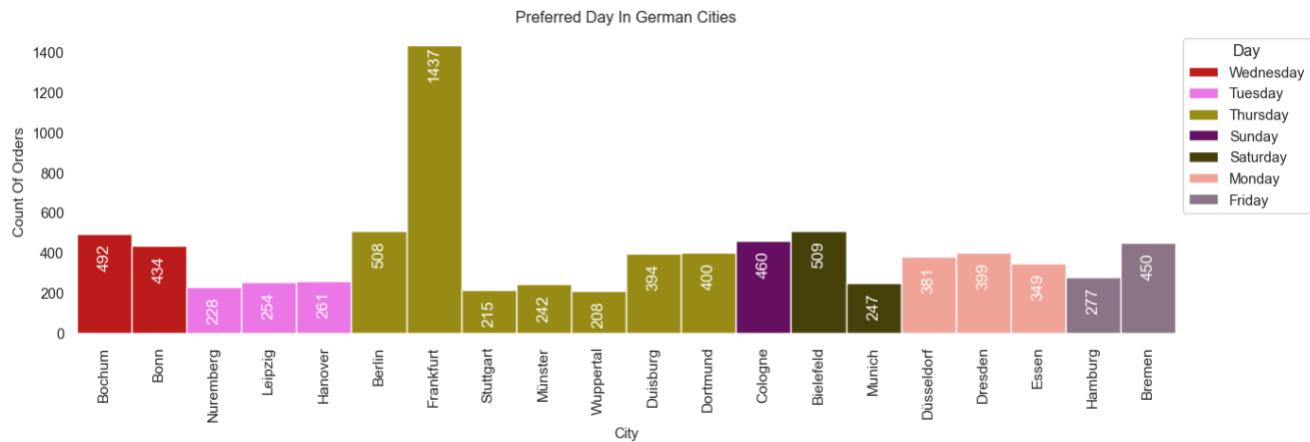


Figure 53: Preferred Day In German Cities

Country	City	Day	DayOrders	NumberOfOrders	DayOrdersPercentage
Germany	Bochum	Wednesday	492	3078	15.98
Germany	Bonn	Wednesday	434	2938	14.77
Germany	Nuremberg	Tuesday	228	1475	15.46
Germany	Leipzig	Tuesday	254	1651	15.38
Germany	Hanover	Tuesday	261	1754	14.88
Germany	Berlin	Thursday	508	3268	15.54
Germany	Frankfurt	Thursday	1437	9722	14.78
Germany	Stuttgart	Thursday	215	1454	14.79
Germany	Münster	Thursday	242	1508	16.05
Germany	Wuppertal	Thursday	208	1341	15.51
Germany	Duisburg	Thursday	394	2393	16.46
Germany	Dortmund	Thursday	400	2638	15.16
Germany	Cologne	Sunday	460	2792	16.48
Germany	Bielefeld	Saturday	509	3370	15.10
Germany	Munich	Saturday	247	1603	15.41
Germany	Düsseldorf	Monday	381	2394	15.91
Germany	Dresden	Monday	399	2558	15.60
Germany	Essen	Monday	349	2257	15.46
Germany	Hamburg	Friday	277	1825	15.18
Germany	Bremen	Friday	450	2858	15.75

Table 45: Preferred Day In German Cities

Figure 53 and **Table 45** illustrate that in Germany, customers in Bochum, and Bonn tend to place orders on Wednesday, while those in Nuremberg , Hanover and Leipzig favor Tuesday. Customers in Berlin, Frankfurt, Stuttgart, Münster, Wuppertal, Duisburg and Dortmund prefer to make purchases on Thursday. In Cologne customers typically choose Sunday for their orders. Additionally, customers in Bielefeld and Munich prefer to order on Saturday, whereas Monday is the favored day for those in Düsseldorf, Dresden, and Essen. In conclusion, customers in Hamburg, and Bremen, favor Friday. Recognize the preferred day to help the business in offering targeted discount days and promotional offers for other days.

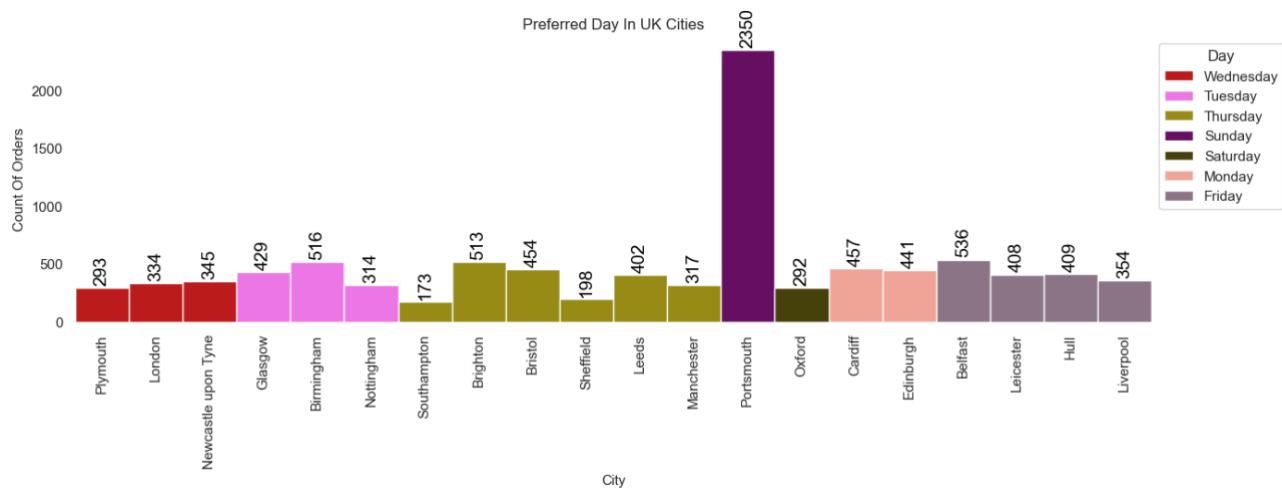


Figure 54: Preferred Day In UK Cities

Country	City	Day	DayOrders	NumberOfOrders	DayOrdersPercentage
UK	Plymouth	Wednesday	293	1866	15.70
UK	London	Wednesday	334	2222	15.03
UK	Newcastle upon Tyne	Wednesday	345	2148	16.06
UK	Glasgow	Tuesday	429	2710	15.83
UK	Birmingham	Tuesday	516	3557	14.51
UK	Nottingham	Tuesday	314	2053	15.29
UK	Southampton	Thursday	173	1167	14.82
UK	Brighton	Thursday	513	3338	15.37
UK	Bristol	Thursday	454	3033	14.97
UK	Sheffield	Thursday	198	1239	15.98
UK	Leeds	Thursday	402	2622	15.33
UK	Manchester	Thursday	317	2158	14.69
UK	Portsmouth	Sunday	2350	16073	14.62
UK	Oxford	Saturday	292	1938	15.07
UK	Cardiff	Monday	457	2978	15.35
UK	Edinburgh	Monday	441	2948	14.96
UK	Belfast	Friday	536	3511	15.27
UK	Leicester	Friday	408	2503	16.30
UK	Hull	Friday	409	2662	15.36
UK	Liverpool	Friday	354	2385	14.84

Table 46: Preferred Day In UK Cities

Figure 54 and **Table 46** illustrate that in the UK, customers in Plymouth, London and Newcastle upon Tyne tend to place orders on Wednesday, while those in, Glasgow, Birmingham, and Nottingham favor Tuesday. Customers in Sheffield, Southampton, Brighton, Bristol, Sheffield, Leeds and Manchester prefer to make purchases on Thursday. In Portsmouth customers typically choose Sunday for their orders. Additionally, customers in Oxford prefer to order on Saturday, whereas Monday is the favored day for those in Cardiff and Edinburgh. In conclusion, customers in Leicester, Hull, Belfast and Liverpool favor Friday. Recognize the preferred day to help the business in offering targeted discount days and promotional offers for other days.

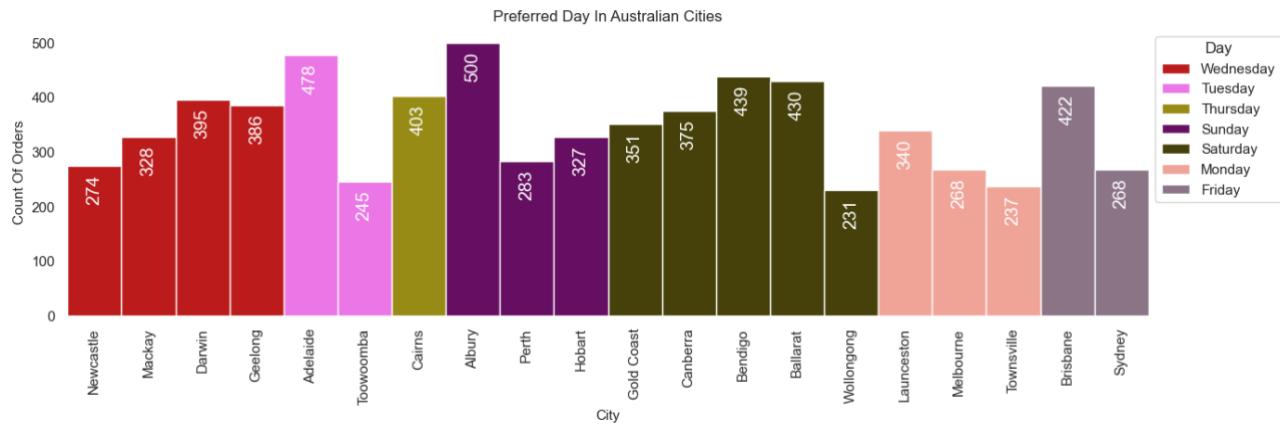


Figure 55: Preferred Day In Australian Cities

Country	City	Day	DayOrders	NumberOfOrders	DayOrdersPercentage
Australia	Newcastle	Wednesday	274	1803	15.20
Australia	Mackay	Wednesday	328	2087	15.72
Australia	Darwin	Wednesday	395	2472	15.98
Australia	Geelong	Wednesday	386	2455	15.72
Australia	Adelaide	Tuesday	478	3162	15.12
Australia	Toowoomba	Tuesday	245	1577	15.54
Australia	Cairns	Thursday	403	2675	15.07
Australia	Albury	Sunday	500	3157	15.84
Australia	Perth	Sunday	283	1812	15.62
Australia	Hobart	Sunday	327	2189	14.94
Australia	Gold Coast	Saturday	351	2231	15.73
Australia	Canberra	Saturday	375	2493	15.04
Australia	Bendigo	Saturday	439	2948	14.89
Australia	Ballarat	Saturday	430	2944	14.61
Australia	Wollongong	Saturday	231	1451	15.92
Australia	Launceston	Monday	340	2063	16.48
Australia	Melbourne	Monday	268	1795	14.93
Australia	Townsville	Monday	237	1568	15.11
Australia	Brisbane	Friday	422	2807	15.03
Australia	Sydney	Friday	268	1686	15.90

Table 47: Preferred Day In Australian Cities

Figure 55 and **Table 47** illustrate that in Australia, customers in Newcastle, Mackay, Darwin, and Geelong tend to place orders on Wednesday, while those in Adelaide, and Toowoomba favor Tuesday. Customers in Cairns prefer to make purchases on Thursday. In Albury, Perth, Bendigo, and Hobart, customers typically choose Sunday for their orders. Additionally, customers in Gold Cost, Canberra, Bendigo and Ballarat prefer to order on Saturday, whereas Monday is the favored day for those in Launceston, Melbourne, and Townsville. In conclusion, customers in Brisbane, and Sydney, Friday. Recognize the preferred day to help the business in offering targeted discount days and promotional offers for other days.

2.4.3.3.5 Total Amount Of Each City By Country



Figure 56: Total Amount Spent In USA Cities

Country	City	TotalAmount
USA	Chicago	40034978
USA	Boston	21032467
USA	San Francisco	9536597
USA	Fort Worth	6839723
USA	New York	5062880
USA	Albuquerque	2357935
USA	Atlanta	2266887
USA	Baltimore	2177471
USA	Austin	2149837
USA	Arlington	2139614
USA	Charlotte	1711514
USA	Colorado Springs	1342103
USA	Dallas	1305361
USA	Cleveland	1301394
USA	Detroit	1278982
USA	Columbus	1254503
USA	Denver	1165756
USA	Houston	1134951
USA	El Paso	1119581
USA	Indianapolis	1053556
USA	Fresno	1040955
USA	Jacksonville	1011588
USA	Los Angeles	998945
USA	Memphis	997976
USA	Louisville	996377
USA	Las Vegas	992298
USA	Milwaukee	959434
USA	Kansas City	955602
USA	Long Beach	940569
USA	Minneapolis	928032
USA	Mesa	920815
USA	New Orleans	905737
USA	Miami	903680
USA	Nashville	852241
USA	Oakland	741316
USA	Omaha	739342
USA	Sacramento	710641
USA	Phoenix	696899
USA	Oklahoma City	676951
USA	Philadelphia	675502
USA	Portland	670388
USA	San Antonio	664758
USA	Raleigh	646526
USA	San Diego	616372
USA	San Jose	546223
USA	Seattle	514643
USA	Tucson	489120
USA	Tulsa	474789
USA	Virginia Beach	465184
USA	Wichita	461808
USA	Washington	444971

Table 48: Total Amount Spent In USA Cities



Figure 57: Total Amount Spent In Canadian Cities

Country	City	TotalAmount
Canada	Barrie	4549730
Canada	Calgary	4501201
Canada	Edmonton	4362083
Canada	Halifax	3753190
Canada	Hamilton	3654827
Canada	Kitchener	3484318
Canada	Kelowna	3426746
Canada	London	3365408
Canada	Montreal	3133452
Canada	Oshawa	3060782
Canada	Ottawa	2923694
Canada	Quebec City	2735038
Canada	Regina	2734572
Canada	Saskatoon	2617720
Canada	Toronto	2480713
Canada	St. John's	2421942
Canada	Vancouver	2240418
Canada	Victoria	2196837
Canada	Winnipeg	2190222
Canada	Windsor	2010430

Figure 57 and Table 49 show that in Canada, all cities have expended amount between 2 million CAD and 4 million CAD with a minor increase noted for certain cities.

Table 49: Total Amount Spent In Canadian Cities

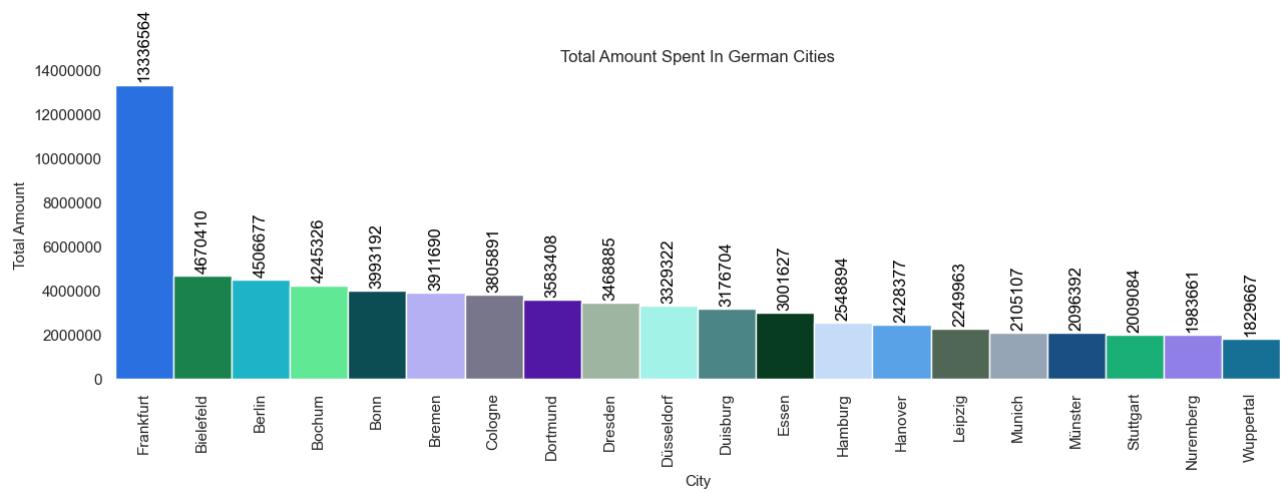


Figure 58: Total Amount Spent In German Cities

Country	City	TotalAmount
Germany	Frankfurt	13336564
Germany	Bielefeld	4670410
Germany	Berlin	4506677
Germany	Bochum	4245326
Germany	Bonn	3993192
Germany	Bremen	3911690
Germany	Cologne	3805891
Germany	Dortmund	3583408
Germany	Dresden	3468885
Germany	Düsseldorf	3329322
Germany	Duisburg	3176704
Germany	Essen	3001627
Germany	Hamburg	2548894
Germany	Hanover	2428377
Germany	Leipzig	2249963
Germany	Munich	2105107
Germany	Münster	2096392
Germany	Stuttgart	2009084
Germany	Nuremberg	1983661
Germany	Wuppertal	1829667

In Germany, every city allocated between 1 million and 4 million Euro, except for Frankfurt, which allocated over 13 million Euro, as shown in **Figure 58** and **Table 50**. This helps the business in providing future discounts in cities with low spending to encourage increased spending..

Table 50: Total Amount Spent In German Cities

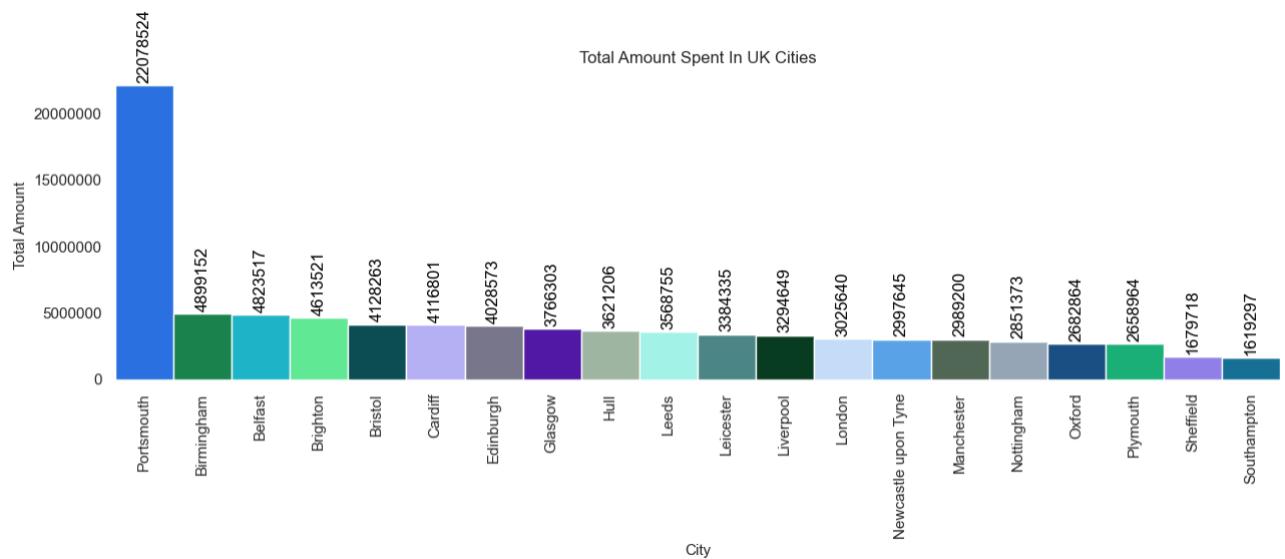


Figure 59: Total Amount Spent In UK Cities

Country	City	TotalAmount
UK	Portsmouth	22078524
UK	Birmingham	4899152
UK	Belfast	4823517
UK	Brighton	4613521
UK	Bristol	4128263
UK	Cardiff	4116801
UK	Edinburgh	4028573
UK	Glasgow	3766303
UK	Hull	3621206
UK	Leeds	3568755
UK	Leicester	3384335
UK	Liverpool	3294649
UK	London	3025640
UK	Newcastle upon Tyne	2997645
UK	Manchester	2989200
UK	Nottingham	2851373
UK	Oxford	2682864
UK	Plymouth	2658964
UK	Sheffield	1679718
UK	Southampton	1619297

In the UK, every city allocated between 1 million and 4 million GBP, except for Portsmouth, which allocated over 22 million GBP, as shown in **Figure 59** and **Table 51**.

Table 51: Total Amount Spent In UK Cities

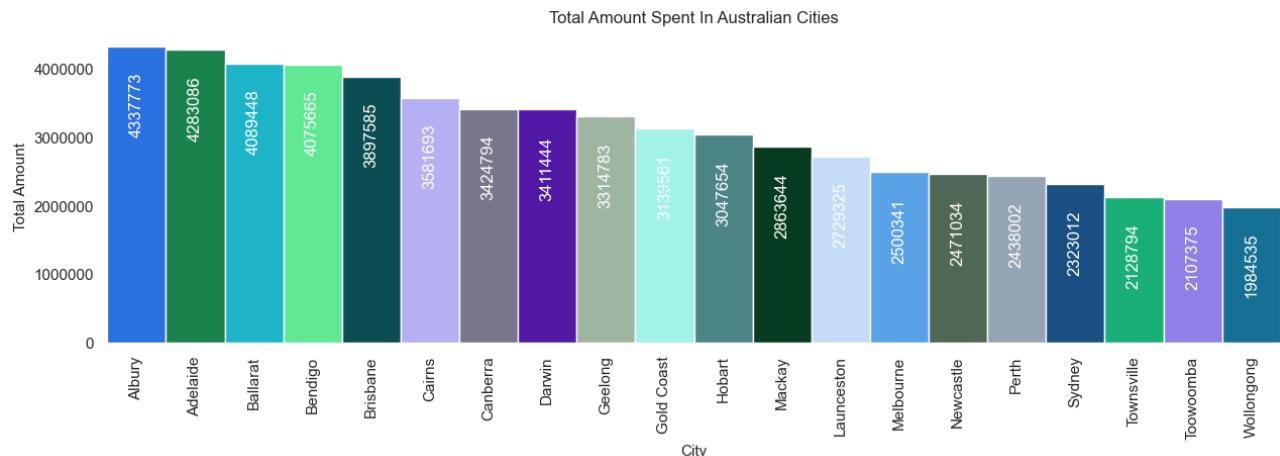


Figure 60: Total Amount Spent In Australian Cities

Country	City	TotalAmount
Australia	Albury	4337773
Australia	Adelaide	4283086
Australia	Ballarat	4089448
Australia	Bendigo	4075665
Australia	Brisbane	3897585
Australia	Cairns	3581693
Australia	Canberra	3424794
Australia	Darwin	3411444
Australia	Geelong	3314783
Australia	Gold Coast	3139561
Australia	Hobart	3047654
Australia	Mackay	2863644
Australia	Launceston	2729325
Australia	Melbourne	2500341
Australia	Newcastle	2471034
Australia	Perth	2438002
Australia	Sydney	2323012
Australia	Townsville	2128794
Australia	Toowoomba	2107375
Australia	Wollongong	1984535

Figure 60 and Table 52 show that in Australia, all cities have expended amount between 1 million AUD and 4 million AUD with a minor increase noted for certain cities

Table 52: Total Amount Spent In Australian Cities

2.4.3.3.6 Gender Total Amount, Total Orders, Total Quantity By Country

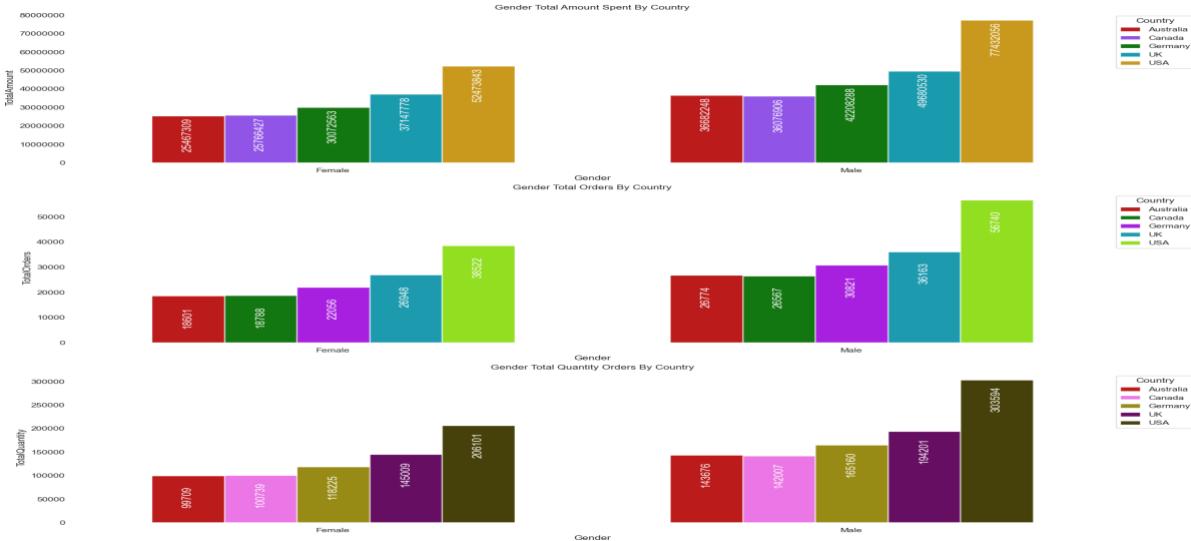


Figure 61: Gender Total Amount, Total Orders, Total Quantity By Country

Country	Gender	TotalAmount	TotalOrders	TotalQuantity
Australia	Female	25467309	18601	99709
Australia	Male	36682248	26774	143676
Canada	Female	25766427	18788	100739
Canada	Male	36076906	26567	142007
Germany	Female	30072563	22056	118225
Germany	Male	42208288	30821	165160
UK	Female	37147778	26948	145009
UK	Male	49680530	36163	194201
USA	Female	52473843	38522	206101
USA	Male	77432056	56740	303594

Table 53: Gender Total Amount, Total Orders, Total Quantity By Country

Figure 61 and **Table 53** indicate that In Australia, females spend about 25.47 million AUD, placing 18,601 orders for 99,709 items, while males spend 36.68 million AUD with 26,774 orders for 143,676 items.

In Canada, females spend 25.77 million CAD, making 18,788 orders for 100,739 items, whereas males spend 36.68 million CAD, placing 26,567 orders for 142,007 items.

In Germany, females spend 30.07 million euros, with 22,056 orders for 118,225 items, while males spend 42.21 million euros, making 30,821 orders for 165,160 items.

In the UK, females spend 37.15 million GBP, placing 26,948 orders for 145,009 items, whereas males spend 49.68 million GBP, making 36,163 orders for 194,201 items.

In the USA, females spend 52.47 million USD, with 38,522 orders for 206,101 items, while males spend 77.43 million USD, making 56,740 orders for 303,594 items.

2.4.3.3.7 Number Of Return Customer By Customer Segment By Country

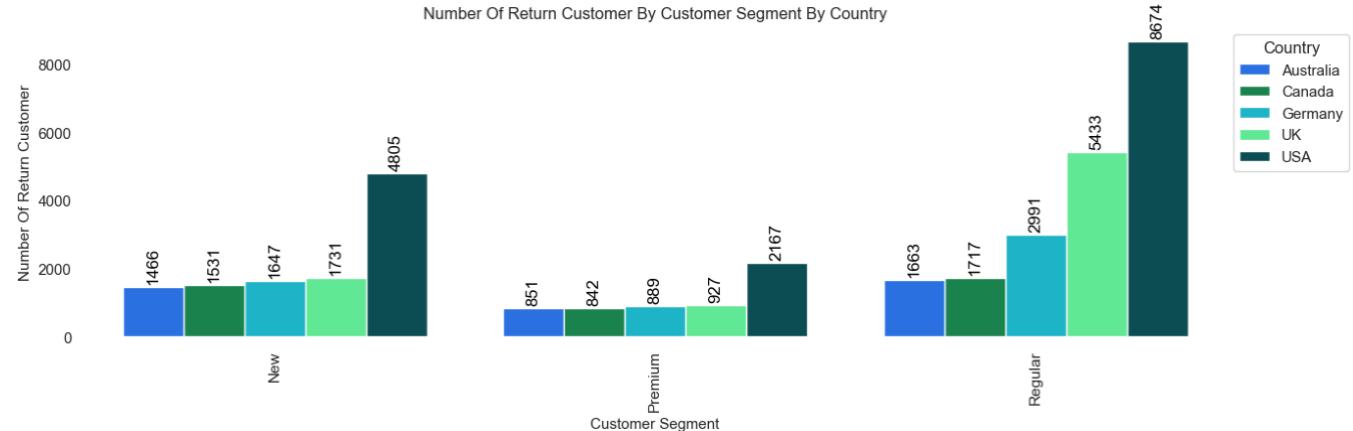


Figure 62: Number Of Return Customer By Customer Segment By Country

Country	Customer_Segment	NumberOfReturnCustomer	AllCustomer	Return_Rate
Australia	New	1466	13999	10.47
Australia	Premium	851	10607	8.02
Australia	Regular	1663	16494	10.08
Canada	New	1531	14057	10.89
Canada	Premium	842	10542	7.99
Canada	Regular	1717	16347	10.50
Germany	New	1647	14598	11.28
Germany	Premium	889	10471	8.49
Germany	Regular	2991	21718	13.77
UK	New	1731	14311	12.10
UK	Premium	927	10670	8.69
UK	Regular	5433	28985	18.74
USA	New	4805	24482	19.63
USA	Premium	2167	16227	13.35
USA	Regular	8674	36067	24.05

Table 54: Number Of Return Customer By Customer Segment By Country

From **Figure 62** and **Table 54**, Australia has 463 returning new customers, 271 premium customers, and 169 regular customers. Canada has 440 returning new customers, 246 premium customers, and 227 regular customers. Germany has 560 returning new customers, 311 premium customers, and 532 regular customers. The UK has 697 returning new customers, 334 premium customers, and 1,855 regular customers. The USA leads with 1,829 returning new customers, 940 premium customers, and 1,578 regular customers. These insights help the business understand customer behavior and plan strategies to increase customer loyalty.

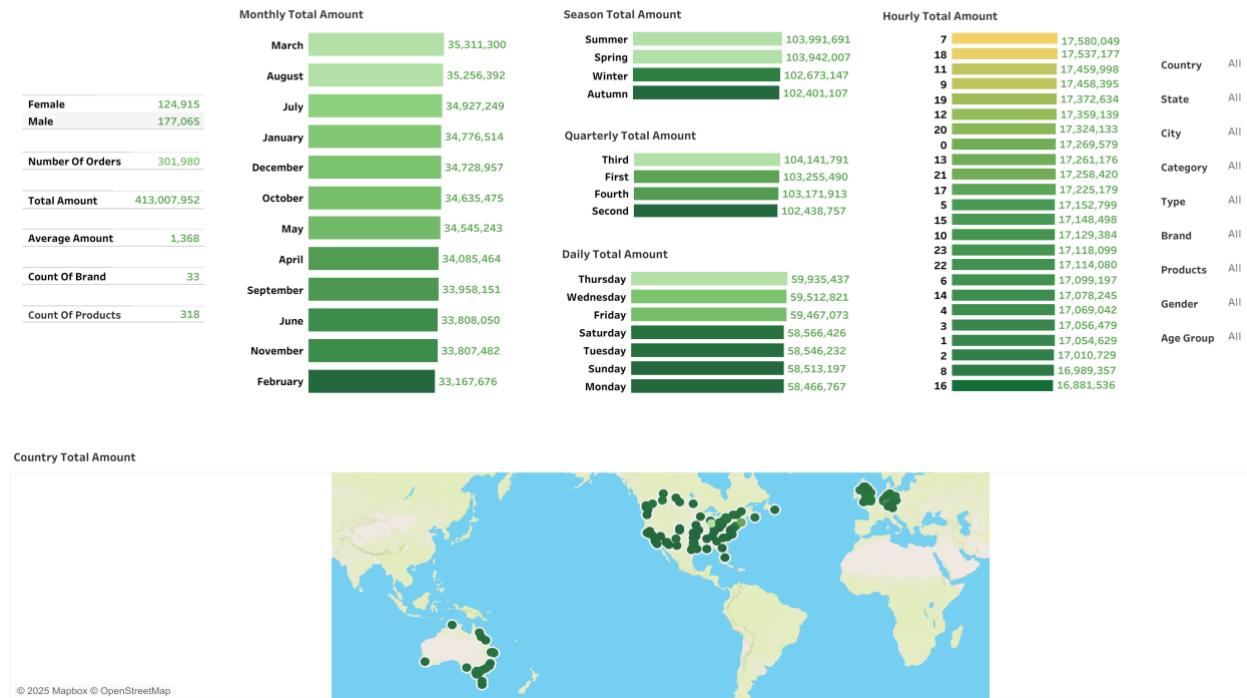
- Python Notebook : [EDA.ipynb](#)

3 Dashboards

Create 3 [dashboards](#) to analysis revenue , quantity sold, and order information

3.1 Retail Total Amount Analysis Overview

Retail Total Amount Analysis Overview



3.2 Figure 63: Retail Total Amount Analysis Overview

The dashboard displays a comprehensive view of retail amount across multiple timeframe renewals: monthly, daily, hourly, quarterly, and seasonally (Figure 63). The dashboard is equipped with numerous filters that allow you to drill-down into the data. You can select countries, cities, states, product categories, product types, brands, individual products, age group, and gender. For richer interactive, it enables you to select an actual city from the map to visualize and explore the regional performance. The dashboard is an interactive tool to give you the insights required for your business questions.

3.3 Retail Quantity Sold Analysis Overview

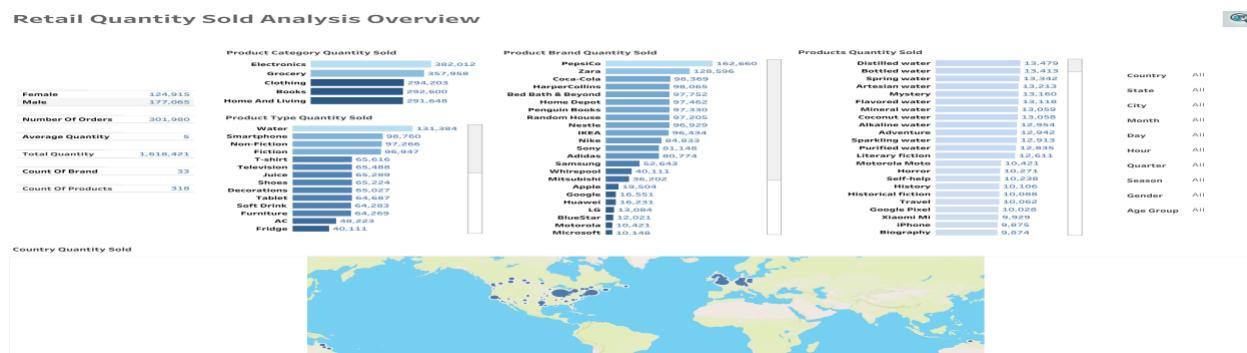


Figure 64: Retail Quantity Sold Analysis Overview

The dashboard shows an overall perspective of quantity sold by product, product category, product brand, and products (Figure 64). The dashboard has several filters that enable you to drill-down into the data. The dashboard allow to choose countries, cities, states, month, day, hour, quarter, season, age group, and gender. For richer interactive, it allows you to pick a real city from the map to visualize and investigate the performance. The dashboard is an interactive tool to provide you with the insights necessary for your business questions.

3.4 Retail Orders Analysis Overview



Figure 65: Retail Orders Analysis Overview

The dashboard gives you a snapshot of order details, including ratings, payment and shipping methods, order status, customer segments, and products (Figure 65). The dashboard allows easily filter the data by country, city, state, month, day, hour, quarter, season, age group, or gender to get a clearer picture. For a more interactive experience, you can even select a city on the map to explore its sales performance. This tool makes it easy to find the insights you need to answer important business questions.

4 Conclusion And Future Work

4.1 Conclusion

Retail establishments occasionally deal with several issues, such as declining monthly and quarterly profitability and customer attrition brought on by several issues, such as expensive price, poor shipping, occasionally unavailable products, and the inability to accept all forms of payment. which results in unhappy customers who don't come back. This project helps us understand customers better and find ways for retailers to improve their services. Looking at the data, we noticed that there are more male than female customers, and most orders come from the USA. Electronics and groceries are the top-selling categories, and most products are successfully delivered. When it comes to ratings, 4 is the most common, while 1 is the least, with an average rating of 3. The majority of customers are in their twenties, while the lowest number are in their seventies. Credit cards are the go-to payment method, while PayPal is the least popular. Shopping habits vary by country—people in the USA mostly buy groceries, while those in the UK, Canada, Germany, and Australia prefer electronics. Most customers are regular shoppers, and only a few are premium members. In the USA, high-income customers make up the majority, while in the UK, Canada, Germany, and Australia, most customers fall into the medium-income group.

Spending also differs across countries. The USA leads with \$129 million, followed by the UK (£86 million), Germany (€72 million), Canada (C\$61 million), and Australia (A\$62 million). Zara and PepsiCo are the top brands across all countries. Electronics are a favorite for almost every age group, except for people in their thirties, who have different tastes. March and August see a slight boost in spending, and Thursdays, Wednesdays, and Fridays tend to be the busiest shopping days. Summer and spring also bring a small rise in spending, and the third quarter is a bit higher than the others. Most days of the month have similar sales, but the 31st stands out with a noticeable gap.

When it comes to specific product preferences, grape juice is the top pick for juice lovers, cappuccino is the most popular coffee, dark chocolate is a favorite in chocolates, nuts are the go-to snack, bottled water is the most preferred, and grape soda leads in soft drinks. Fashion choices also show a pattern—women love high heels and crop tops, while men prefer scoop neck tees and Oxfords.

Looking at order trends, Zara and Penguin Books have the most pending orders, while Random Home and Nestlé have the least. Adidas and Nestlé receive the most low ratings, while IKEA has the fewest. May has the highest number of pending orders, while September sees the most low ratings. The cities with the highest number of customers include Chicago, Calgary, Frankfurt, Albury, and Portsmouth, while Adelaide, Chicago, Portsmouth, Barrie, and Frankfurt have the most orders. Overall, these insights paint a clear picture of customer behavior and shopping trends, helping retailers make smarter decisions and better serve their customers.

4.2 Future Works

Find extra retail data to make the analysis better and uncover deeper insights

- **The shipping price:** Helps figure out if high shipping costs stop customers from ordering more.
- **Online Reviews:** Sorting reviews into Positive, Negative, and Neutral gives a clear picture of customer opinions.
- **Transaction Status:** Shows which payment method has the most pending transactions.
- **Shipping Company:** Identifies the company with the most delayed orders so you can avoid them.
- **Time Between Order and Delivered:** Helps understand if long delivery times affect ratings and repeat purchases.
- **Price Info:** Find out Knowing if a price is the original, discounted, or part of a promotion makes the analysis more accurate.
- **Products Return Rate:** Find out when (month, day, hour) and which products are returned the most.
- **CLV**