Data Analyst Mini Project

Customer Segmentation
Report

Data Consultant Bootcamp 2023

Microsoft   DATA SCIENCE INDONESIA   Data Science Learning Studio

Outline

1 Introduction

2 RFM

3 Customer Segmentation

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Introduction

The **Northwind** database describes a database belonging to a fictitious company called **Northwind** Traders where this company is engaged in the export and import of food. In this database there are tables like in an import-export company such as tables of **Orders, Products, Customers,** and so on.

Business Goals

Methodology
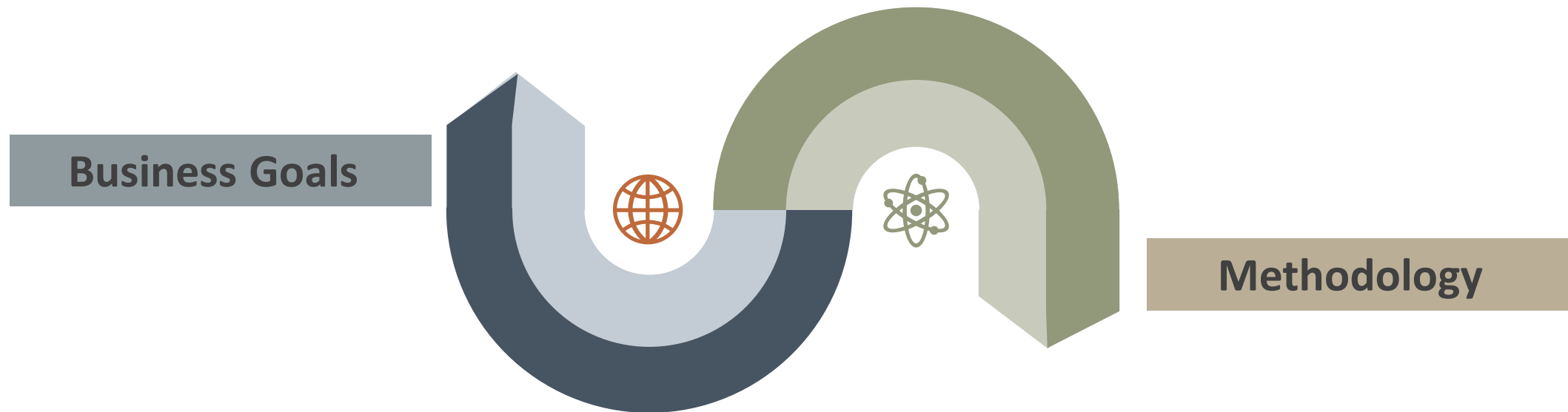
Business Goals

Customer Retention

The business could use **RFM analysis** to identify **customers** who are at risk of churning and develop targeted strategies to retain them, such as special offers or loyalty programs.

Cross-Selling

The business could use **customer segmentation** to identify customers who are likely to purchase complementary products and target them with personalized marketing campaigns.

Dashboard

A dashboard are to help organizations make informed decisions, increase productivity, revenue, **customer satisfaction**, reduce costs, and increase market share

Methodology

Calculation of RFM
Use transaction data to calculate the **Recency**, **Frequency**, and **Monetary (RFM)** values for each customer

Data Preparation
Clean and prepare the data for analysis, including removing duplicates, handling missing values, and transforming variables as necessary

Customer Segmentation
Group customers into meaningful segments based on their **RFM** scores, demographic information, or other relevant variables
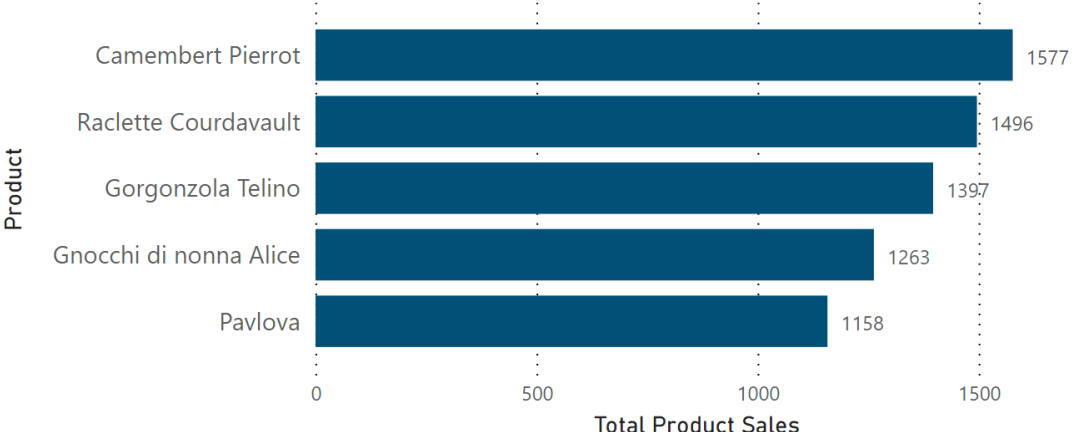
RFM Score Calculation
Assign scores to each customer based on their Recency, Frequency, and Monetary values that the scores can be determined using a variety of methods, such as percentile ranking or quintile scoring
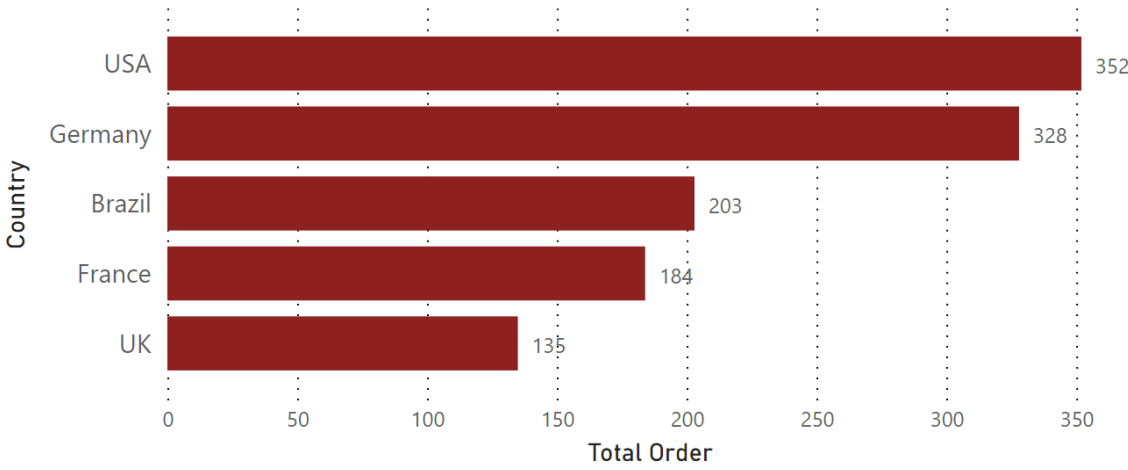
01
02
03
04

Joining Data

Order Details
- **2155 Orders**
- Order ID, Product ID, Unit Price, Quantity, & Others

Products
- **77 Products**
- Product ID, Product Name, Unit Price, Quantity, & Others

Customers
- **91 Customers**
- Customer ID, Contact Title, Country, Company Name, & Others

Orders
- **830 Orders**
- Order ID, Customer ID, Ship via, Order Date, Shipper ID, & Others

Shippers
- **3 Shipper Via**
- Shipper ID, Shipper Name, & Others

Top 5 of **Products**, **Country**, & **Contact Title**

Total Product Sales by Product

Product	Total Product Sales
Camembert Pierrot	1577
Raclette Courdavault	1496
Gorgonzola Telino	1397
Gnocchi di nonna Alice	1263
Pavlova	1158

Total Order by Country

Country	Total Order
USA	352
Germany	328
Brazil	203
France	184
UK	135

Total Customer by Contact Title
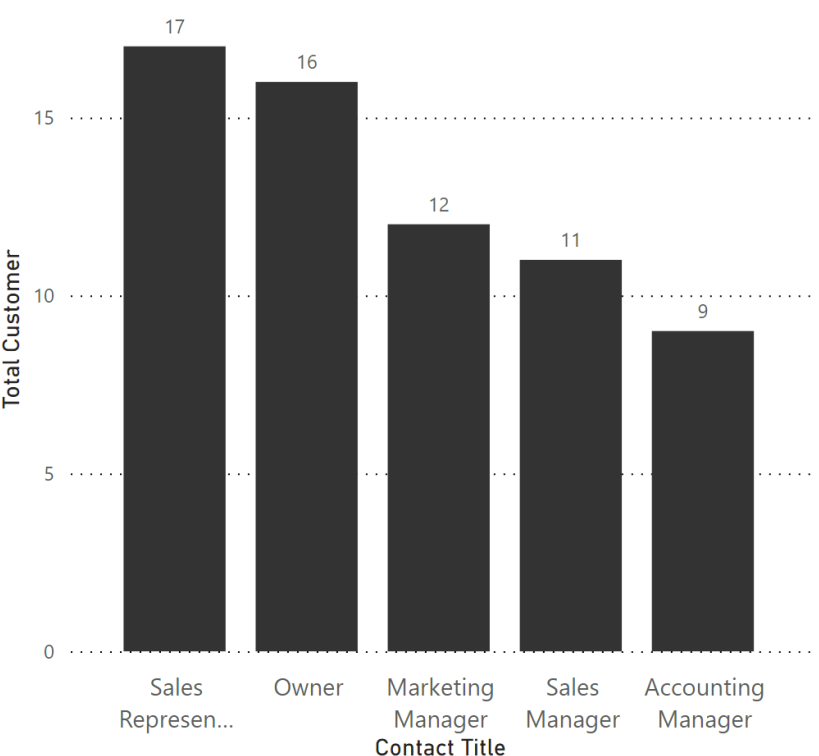
Contact Title	Total Customer
Sales Represen...	17
Owner	16
Marketing Manager	12
Sales Manager	11
Accounting Manager	9

Why Choose RFM Model ?

- Identify the most valuable **customers** and to target them with personalized marketing strategies

- By understanding the behavior of **customers**, businesses can create targeted campaigns to retain their best **customers** and attract new ones

- Identify potentially at-risk **customers** who have not made a purchase in a while or who have decreased their spending
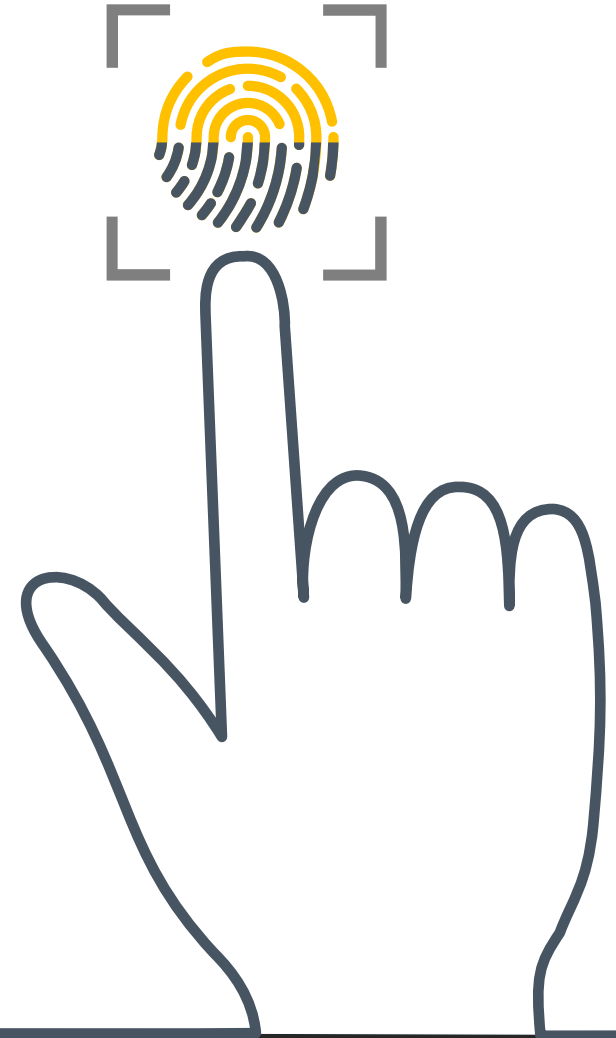
How to calculate **RFM** Score ?

The **R & FM** Score calculates the Recency, Frequency, and Monetary score for each **customer** by determining their position within the quartile distribution of Recency, Frequency, or Monetary values and assigning them a score of 4, 3, 2, or 1 based on their relative position
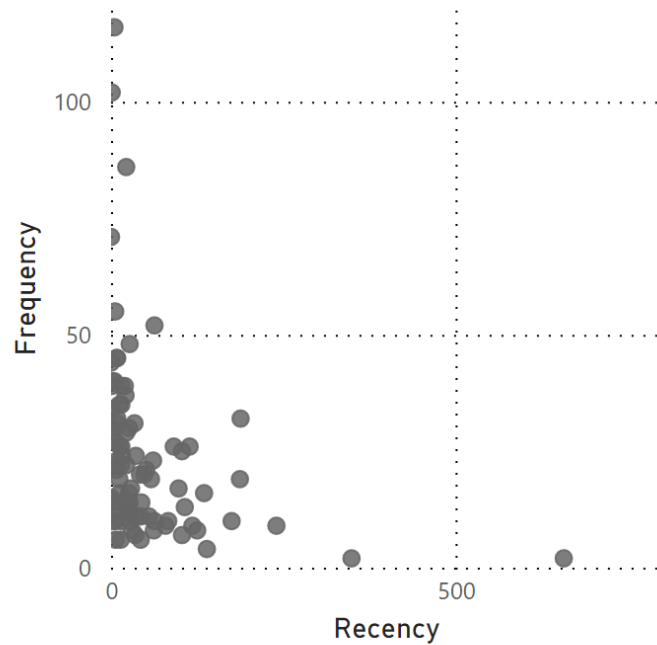
Quantiles	R Score	FM Score
0.25	4	1
0.50	3	2
0.75	2	3
1.00	1	4

RFM Score calculation involves combining the **R & FM** scores for each **customer** into a single **RFM** score

RFM Score
4 1 1
3 2 2
2 3 3
1 4 4

Correlation between Recency, Frequency, & Monetary
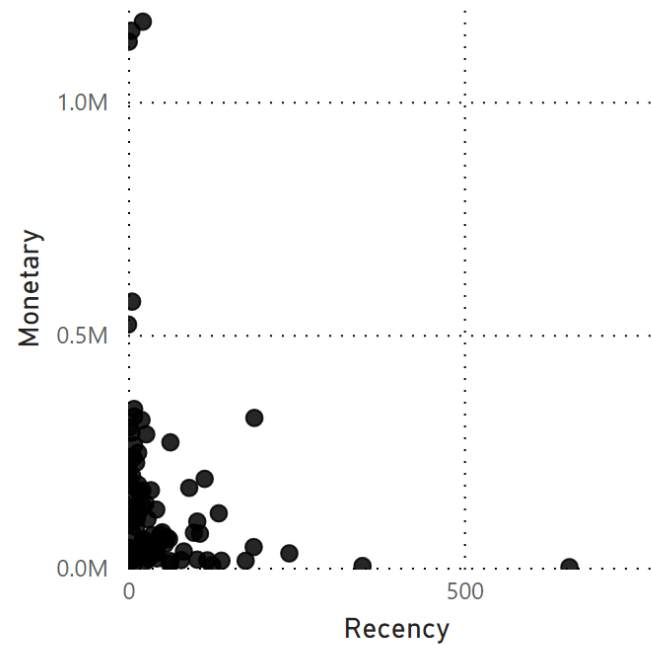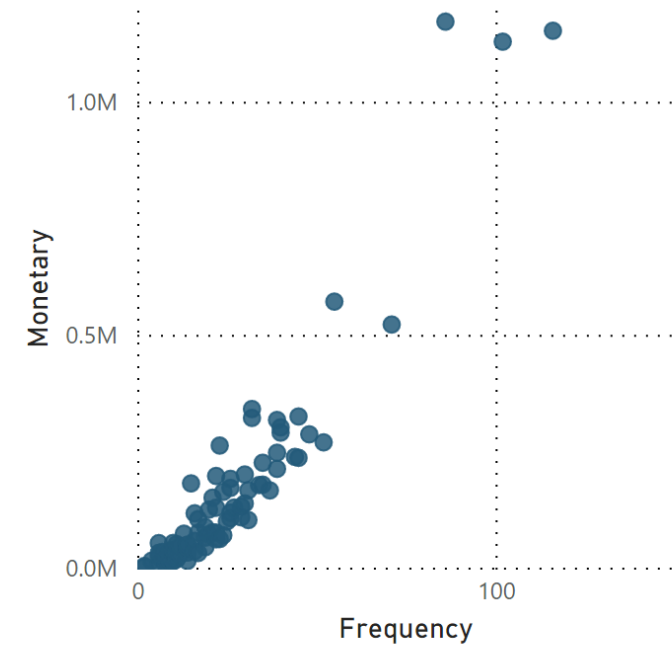
Types of Our Customers

Loyal Customer

- Highest of total orders(**an average of 61 times**)
- The average spend is **$546,795.33**

Big Spenders

- Active orders (**an average of 25 times**)
- The average spend is **$211,062.87**

Gold Customer

- Active orders (**an average of 25 times**)
- The average spend is **$115,899.52**

Silver Customer

- Medium active orders (**an average of 16 times**)
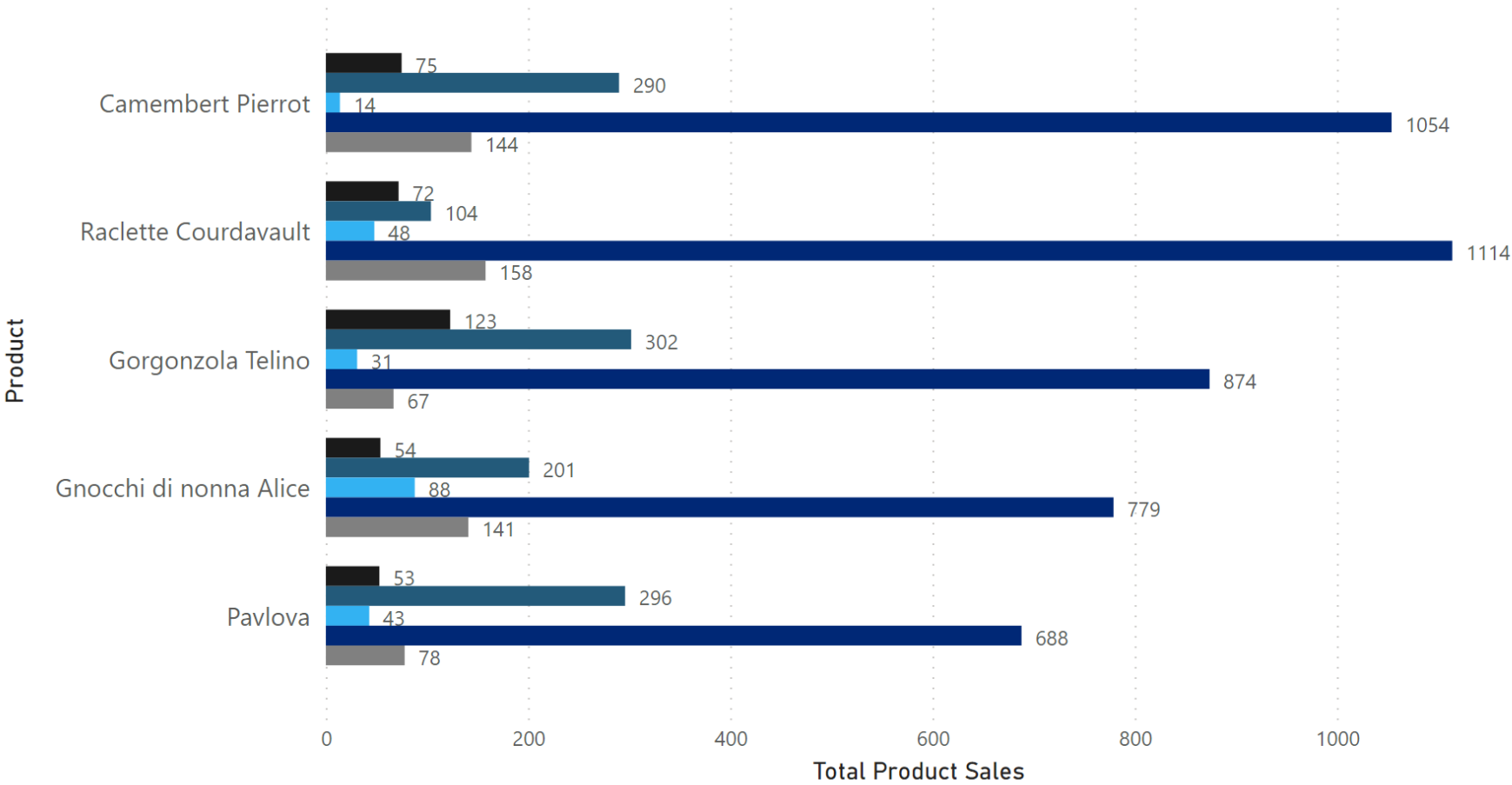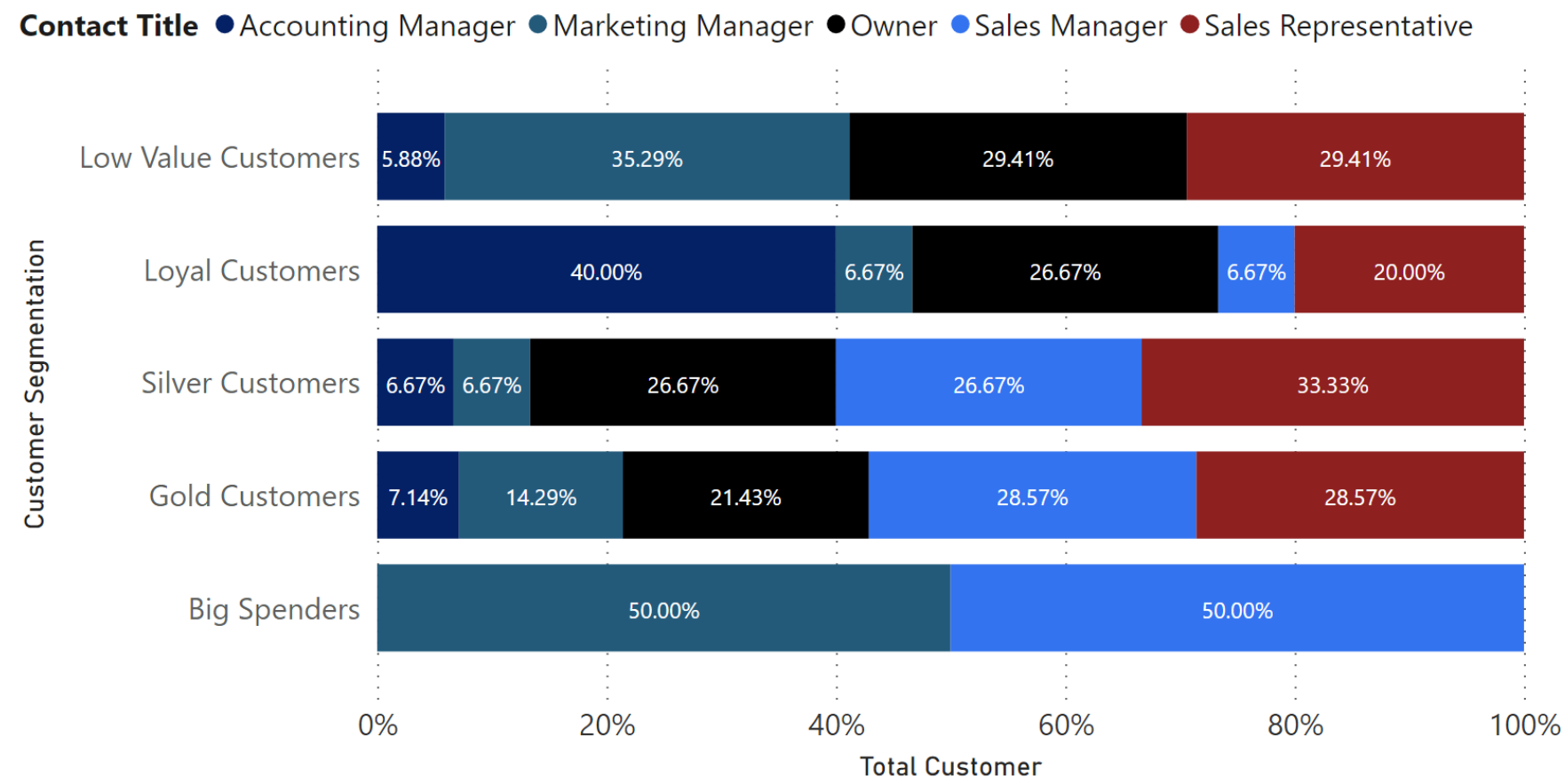- The average spend is **$68,100.63**

Low Value Customer

- Non active orders (**an average of 8 times**)
- The average spend is **$25,470.28**

United Package Becomes The Most Popular Ship Via

ShipVia ●1 ●2 ●3

1. Speedy Express
2. United Package
3. Federal Shipping

Customer Segmentation	ShipVia 1	ShipVia 2	ShipVia 3
Loyal Customers	31.71%	40.06%	28.24%
Gold Customers	29.85%	39.43%	30.72%
Silver Customers	25.79%	40.57%	33.65%
Low Value Customers	30.81%	38.39%	30.81%
Big Spenders	23.76%	45.54%	30.69%
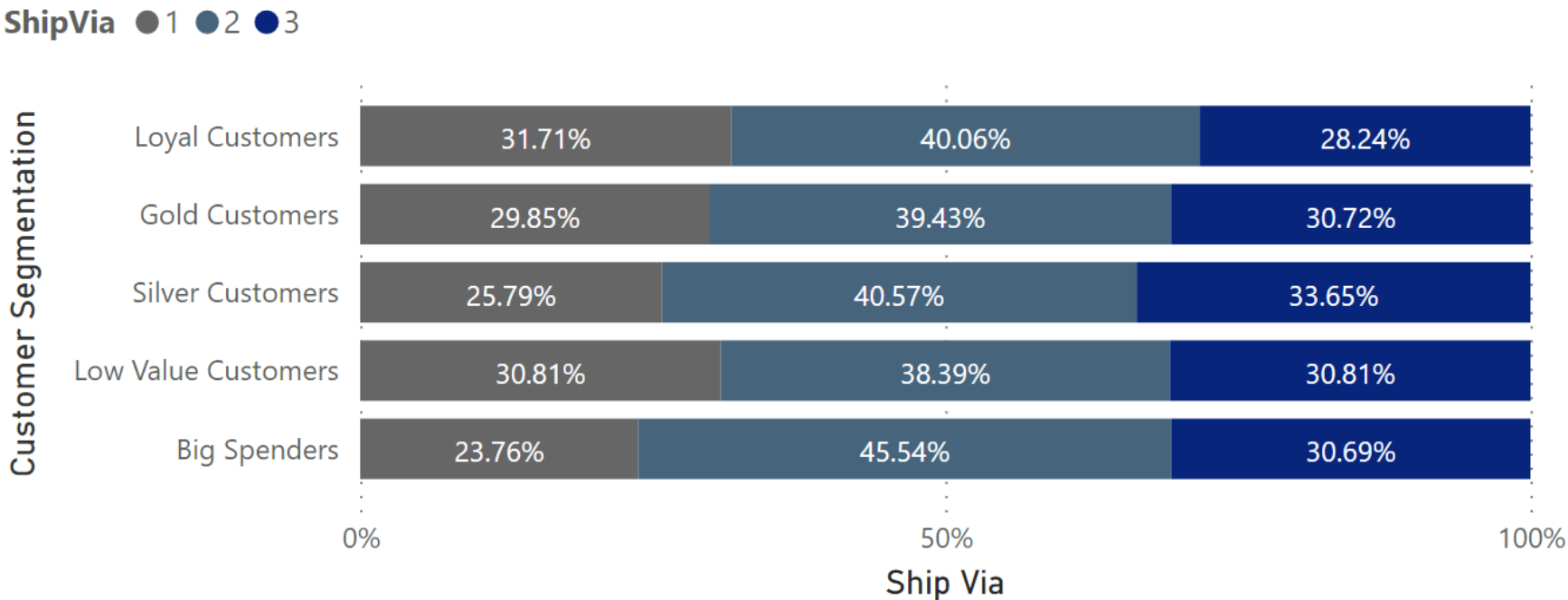
Ship Via
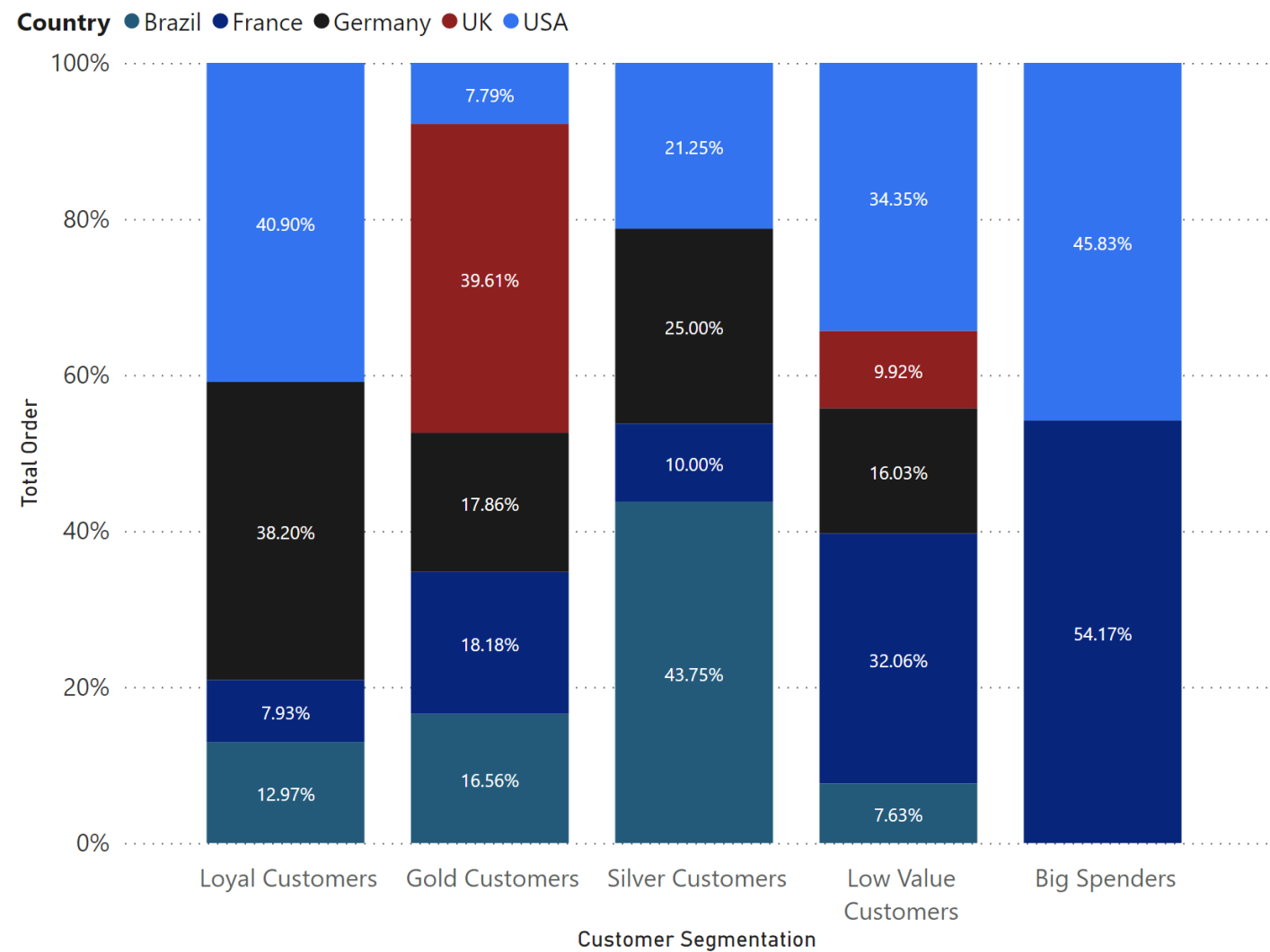
Northwind Dashboard

- **Improving efficiency**: Stakeholders can monitor the **productivity** and **performance levels** of the **sales** team more **efficiently**, enabling them to make **better business decisions**

- **Improving decision-making**: Stakeholders can make decisions easily to see **market trends** and **patterns** and decide on the **right strategy**

- **Improving customer retention**: Stakeholders can monitor **customer activity**, **identify customers** with **problems**, and offer **appropriate solutions** to **retain customers**

Decision

Loyal Customer

Decision: Offer exclusive rewards program to increase customer loyalty.

Recommendation: Create a loyalty program that offers discounts, free shipping, and early access to new products. The customer dashboard to track the performance of the loyalty program and adjust it as necessary.

Big Spenders

Decision: Offer personalized promotions to encourage repeat purchases.

Recommendation: Use data from the customers dashboard to create targeted promotions for big spenders that include discounts on high-end products and free shipping.

Gold Customer

Decision: Provide exceptional customer service to maintain high satisfaction levels.

Recommendation: Assign a dedicated account manager to each gold customer to provide personalized service and address any issues quickly.

Silver Customer

Decision: Increase engagement with personalized product.

Recommendation: The customer dashboard to provide personalized product recommendations based on each customer's purchase history and preferences.

Low Value Customer

Decision: Focus on increasing customer value and encourage repeat purchases.

Recommendation: The sales dashboard to identify products that low-value customers are most likely to buy and offer promotions to encourage repeat purchases.

Hendra Kuswantoro

Thank You!

Feedback or suggestions are welcome