

Data Analyst  
Mini Project

# Customer Segmentation Report

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Data Consultant Bootcamp 2023



Microsoft



Data  
Science  
Learning  
Studio

# Outline

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1

Introduction



2

RFM



3

Customer  
Segmentation



4

Dashboard



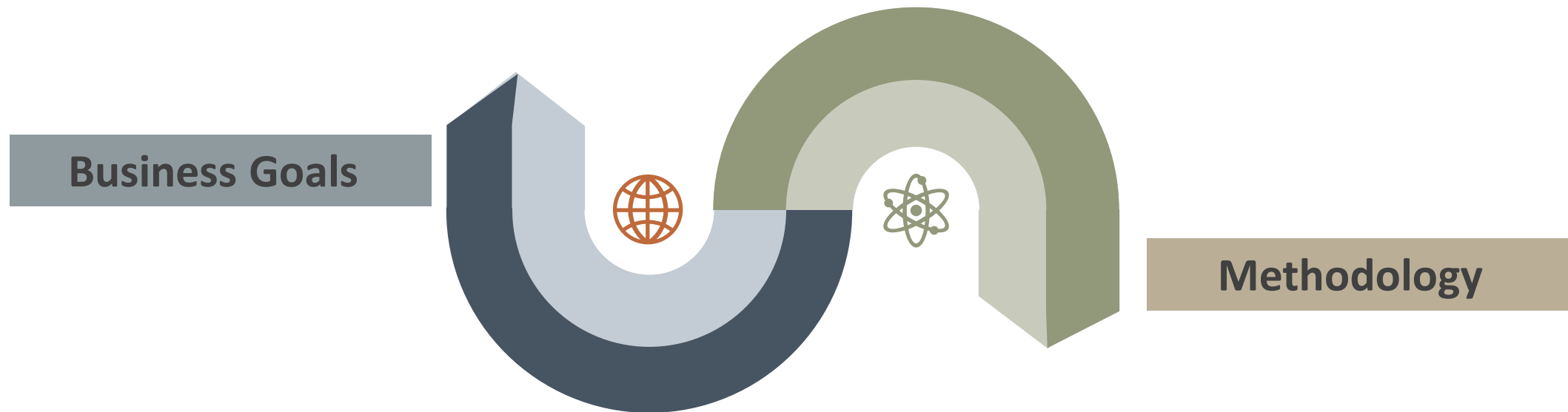
5

Decision

# Introduction

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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

## 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

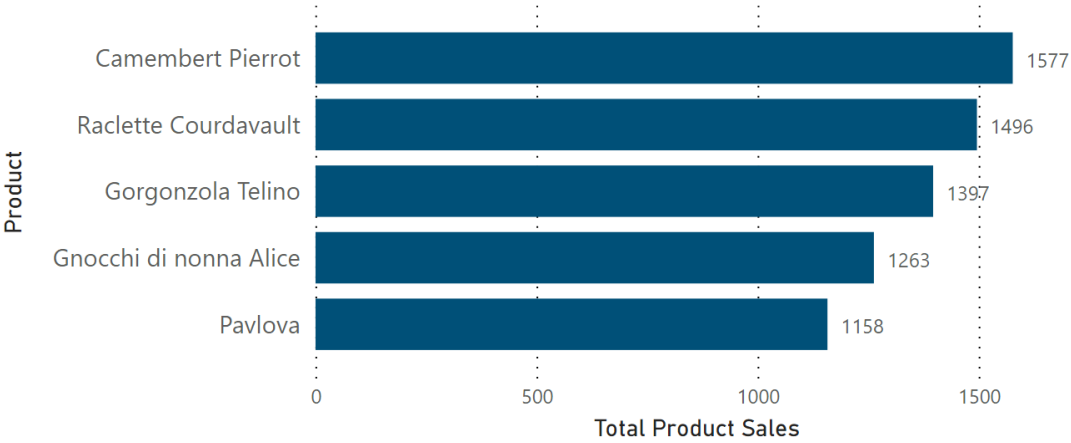
Assign scores to each customer based on their **Recency**, **Frequency**, and **Monetary** values that the scores can be determined using a variety of methods, such as percentile ranking or quintile scoring

# Joining Data

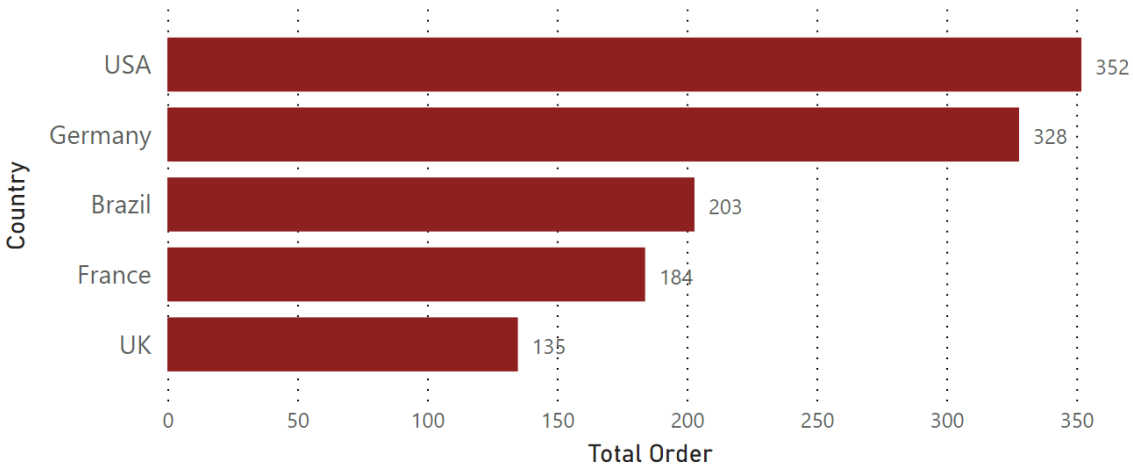


# Top 5 of **Products**, **Country**, & **Contact Title**

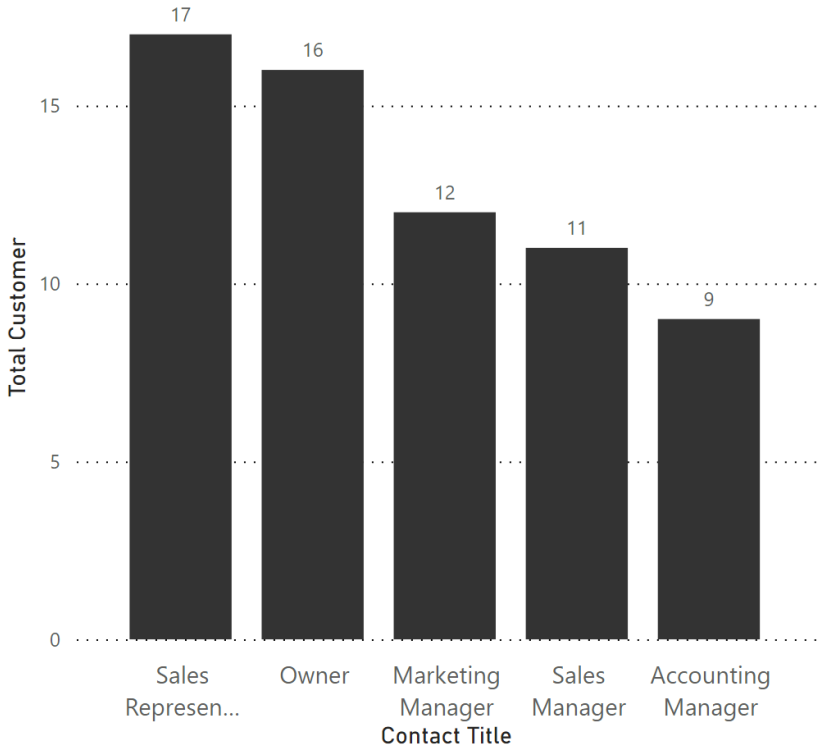
Total Product Sales by Product



Total Order by Country



Total Customer by Contact Title



**RFM Model** is a **customer segmentation** technique used in marketing to analyze customer behavior and predict future behavior

```
graph TD; RFM[RFM Model] --> Recency[Recency]; RFM --> Frequency[Frequency]; RFM --> Monetary[Monetary];
```

### **Recency**

How recently a **customer** made a **purchase**, with more **recent purchases** being given a higher score

### **Frequency**

How often a **customer** makes a **purchase**, with more **frequent purchasers** being given a higher score

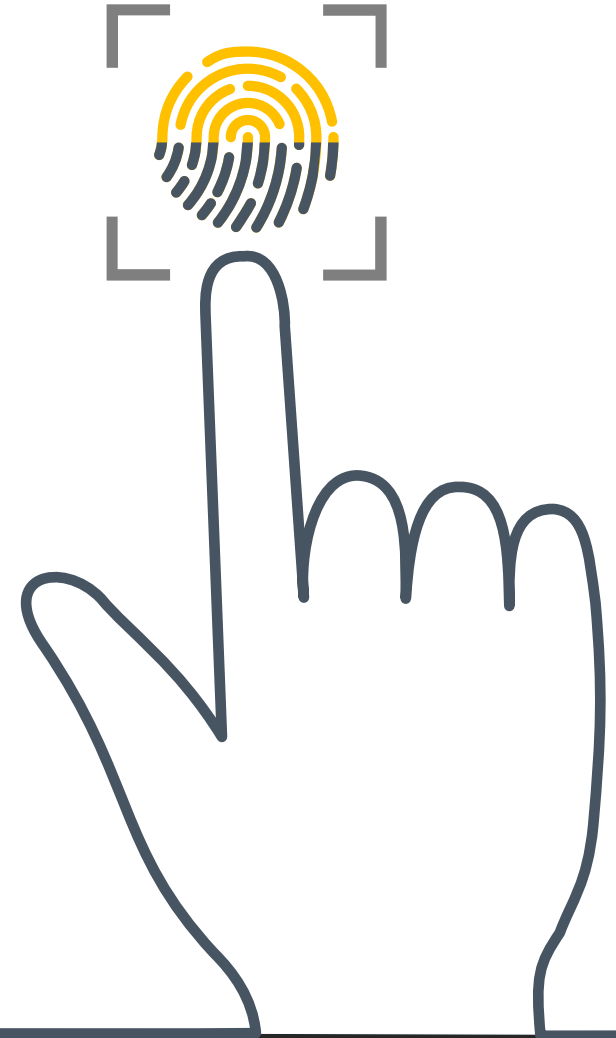
### **Monetary**

the amount of money a **customer spends**, with **customers** who **spend** more money being given a higher score



# 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

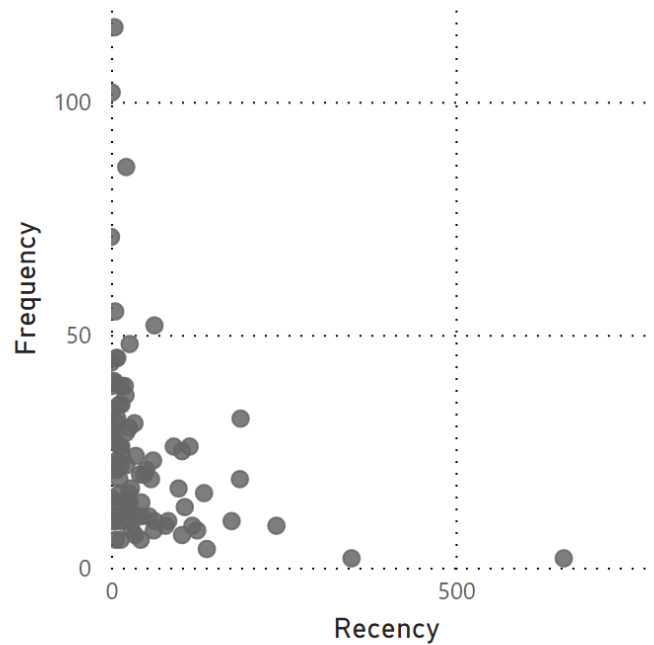
**RFM** Score calculation involves combining the **R & FM** scores for each **customer** into a single **RFM** score

Quantiles	R Score	FM Score
0.25	4	1
0.50	3	2
0.75	2	3
1.00	1	4

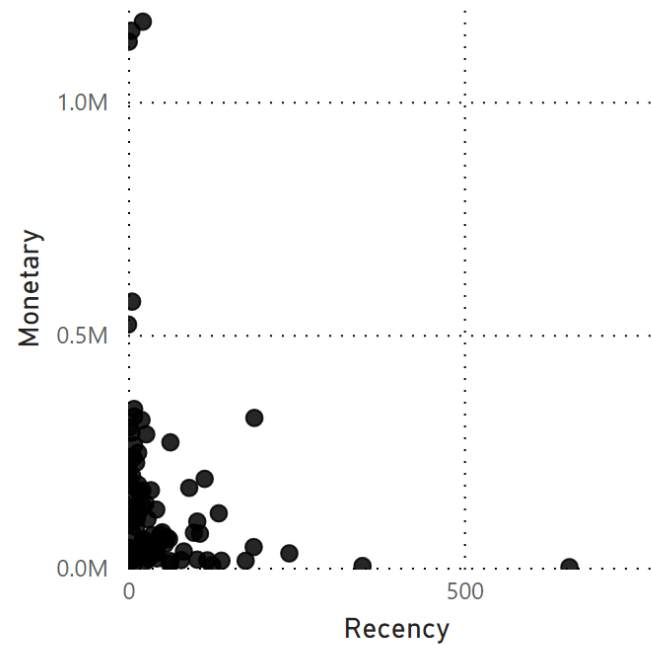
RFM Score
4 1 1
3 2 2
2 3 3
1 4 4

# Correlation between Recency, Frequency, & Monetary

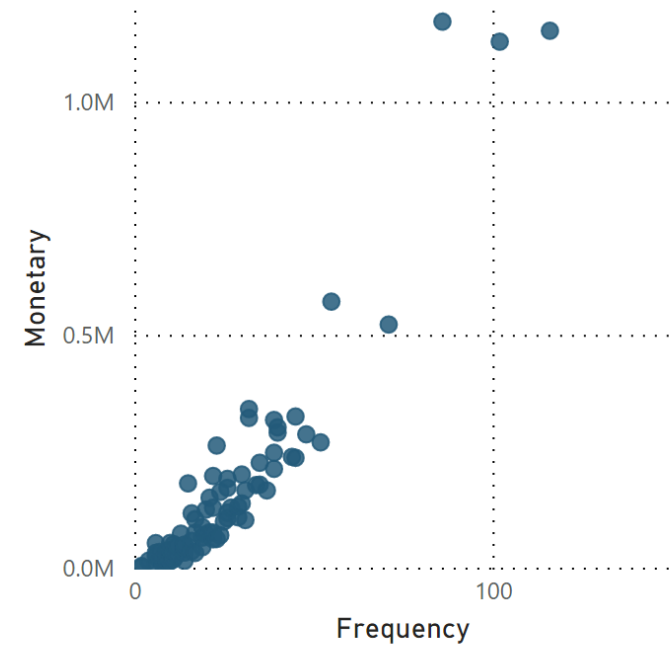
Recency and Frequency



Recency and Monetary



Frequency and 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**

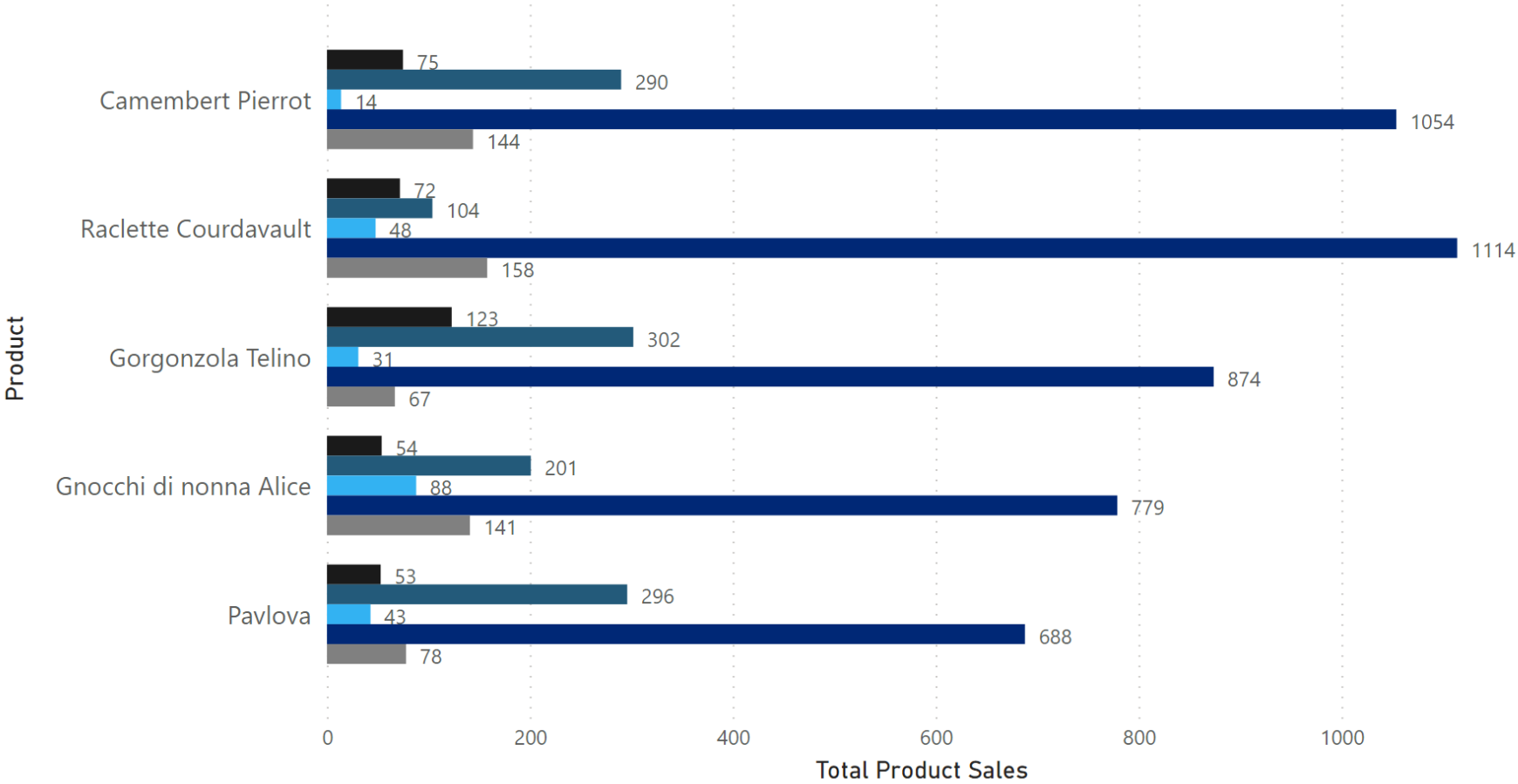


## Low Value Customer

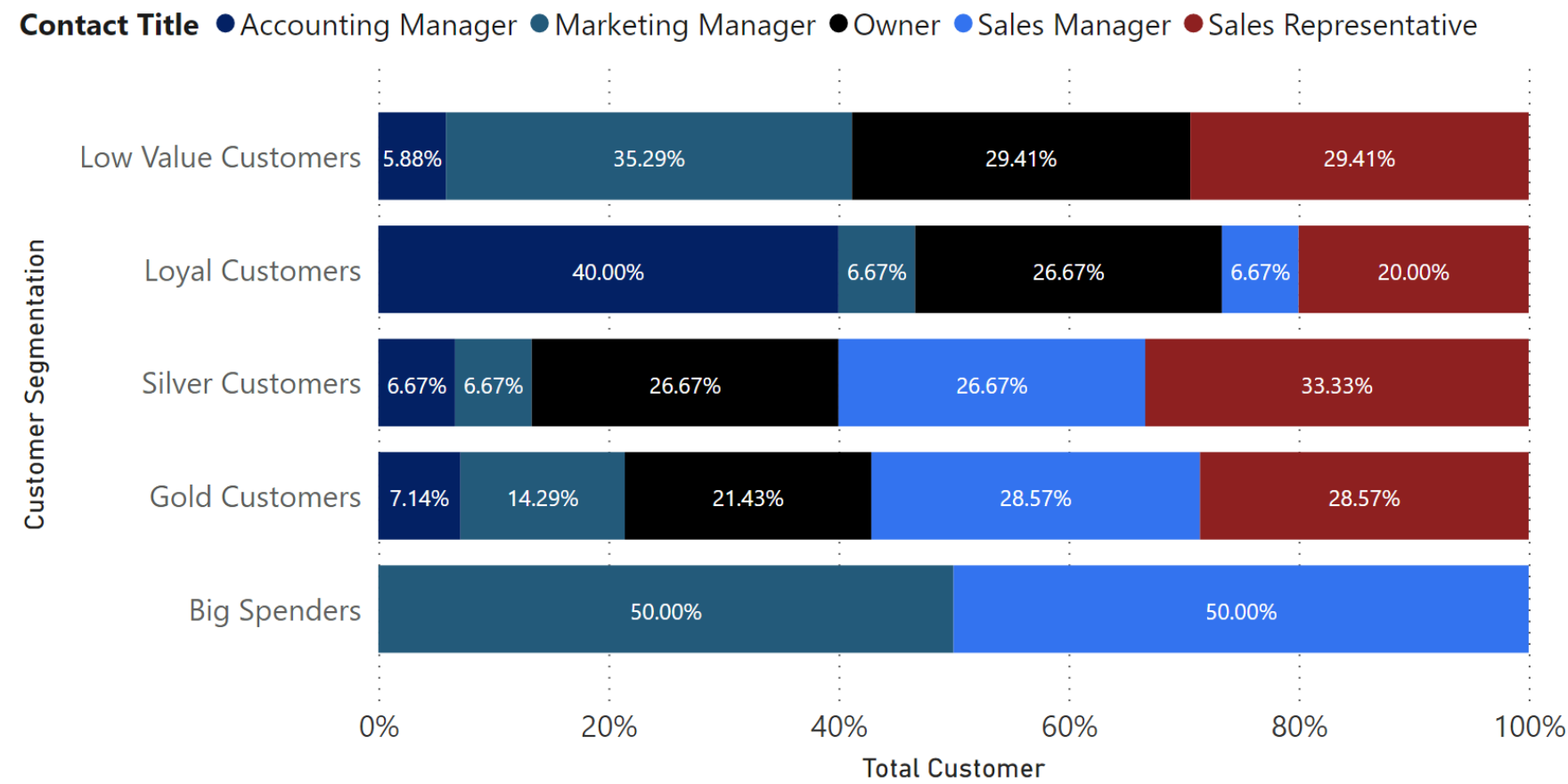
- Non active orders (an average of 8 times)
- The average spend is **\$25,470.28**

# Favorite Product of Our Customers

Customer Segmentation ● Big Spenders ● Gold Customers ● Low Value Customers ● Loyal Customers ● Silver Customers



# Contact Title of Our Customers

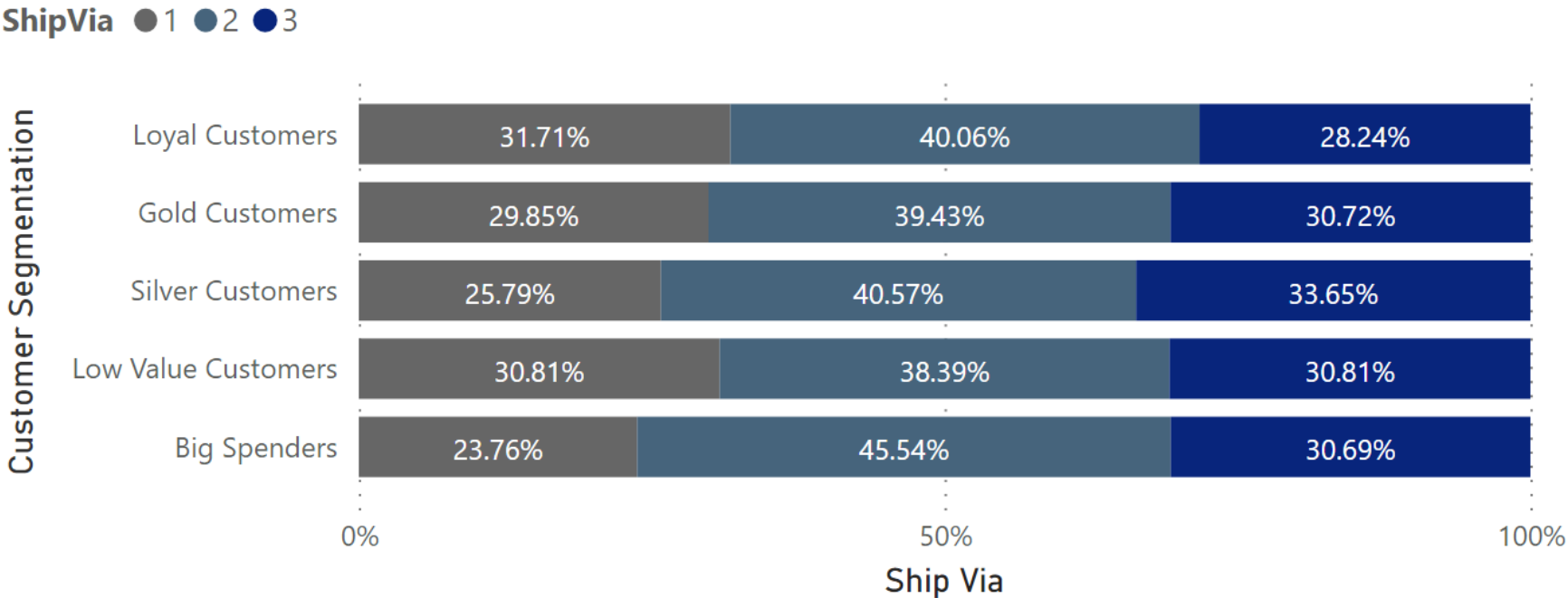


# Ship Via of Our Customers

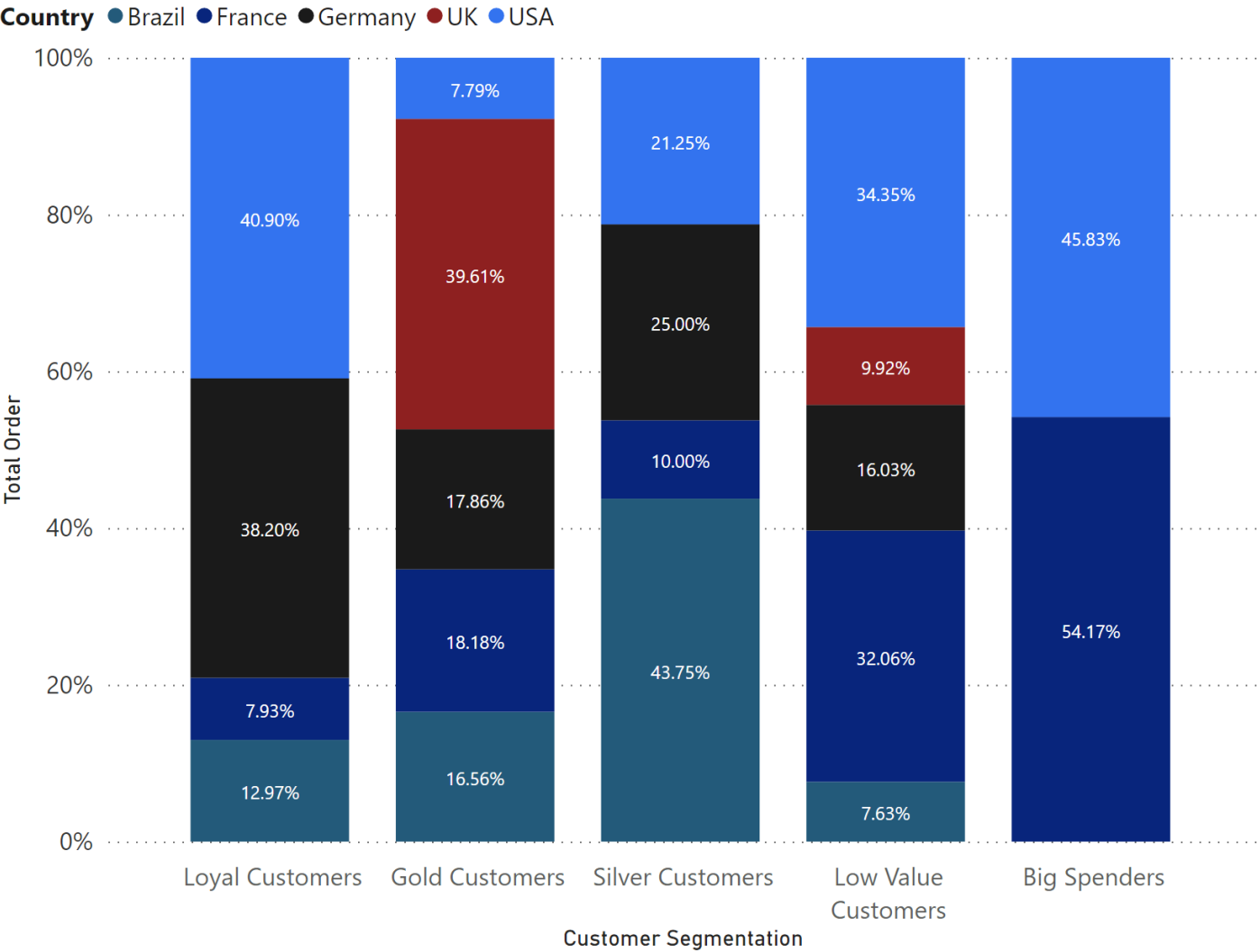
1. Speedy Express

2. United Package

3. Federal Shipping



# Country of Our Customers





# 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

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## Loyal Customer

The focus should be on **maintaining their loyalty** and **encouraging them** to continue **making purchases**, then **Personalized promotions** and **incentives**, such as **exclusive discounts** and **loyalty programs**, can be offered to these customers

## Big Spenders

The focus should be on **providing a high level** of **customer service** and offering **premium products** or services. These customers are willing to spend more for quality, so it is important to **provide them** with the **best possible** experience and offer products or services that meet **their needs** and **preferences**

## Gold Customer

The focus should be on **maintaining** and **strengthening** the relationship with these **high-value customers**. **Personalized communication**, **exclusive benefits**, and **personalized experiences** can be **provided** to ensure their loyalty

## Silver Customer

The focus should be on **incentivizing** them to **increase** their **spending** and become **Gold Customers**. **Special promotions**, **personalized recommendations**, and **upselling** can be used to **encourage** them to **increase** their **spending** and **loyalty**

## Low Value Customer

The focus should be on **providing value** and **encouraging** them to make **repeat purchases**. **Special promotions** and **incentives**, such as **discounts** and **free shipping**, can be used to **encourage** them to continue making **purchases** and **potentially** increase their **value** over time



**Hendra Kuswanto**

**Thank You!**

Feedback or suggestions are  
welcome