

TheAnalyticsTeam

Sprocket Central Pty Ltd

Data analytics approach

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Agenda



1. Introduction
2. Data Exploration
3. Model Development
4. Interpretation

Sprocket Central Pty Ltd has given us a new list of 1000 potential customers with their demographics and attributes. However, these customers do not have prior transaction history with the organisation.

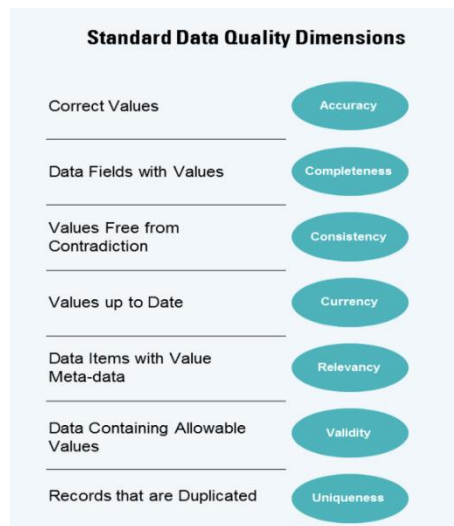
The marketing team at Sprocket Central Pty Ltd is sure that, if correctly analysed, the data would reveal useful customer insights which could help optimise resource allocation for targeted marketing. Hence, improve performance by focusing on high value customers.

Introduction

- Sprocket Central Pty Ltd is a company selling high-quality bikes and accessible cycling accessories to riders.
- The company is looking to boost business by analysing their existing customer dataset to determine customer trends and behaviour.
- The company provided KPMG with 3 datasets:
 - Customer Demographic
 - Customer Addresses
 - Transactions data in the past 3 months
- From the 3 datasets provided by the client we could extracted the following information
 - Age, Gender, Residing State
 - Wealth segment, ownership of car, property value
 - Job industry, Job Title, Tenure
 - Past 3 year bike purchases
 - Transaction dates, sale price, product sold.

Introduction

- Notable data quality issues were encountered, various methods were used to mitigate the identified data inconsistencies.
- Below is a list of the Data Quality dimensions followed to evaluate the dataset:



- Furthermore, recommendations have been provided to avoid the reoccurrence of data quality issues and improve the accuracy data.

Data Exploration

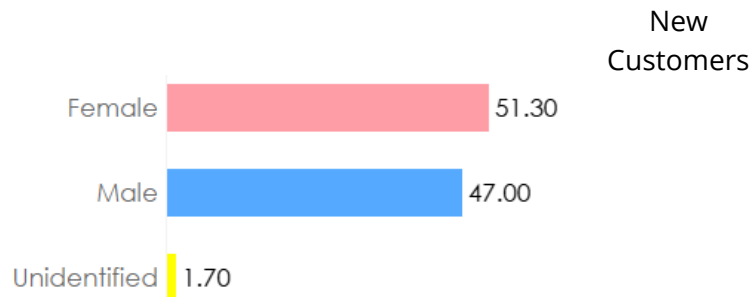
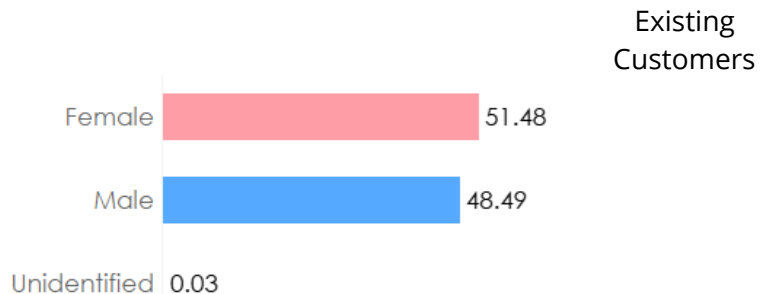
In this session we will understand the details regarding the existing customers and compare them with the new customers.

A tableau dashboard is developed to for ensuring easy visualization of data

Data Exploration

Proportion Of Men And Women In Dataset

- Proportion of men and women in both the datasets is almost same.
- But, the proportion of women is slightly more in both the datasets.
- There are few customers who did not wish to be identified with a particular gender.



Data Exploration

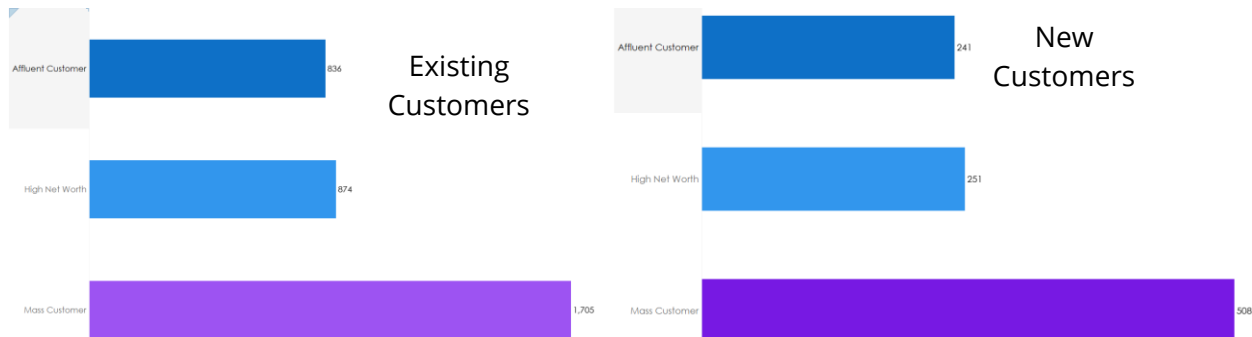
Residing State of Customers

- Most customers from both the datasets belong to NSW.
- Customers from Victoria and Queensland is almost same.



Wealth segment of customers

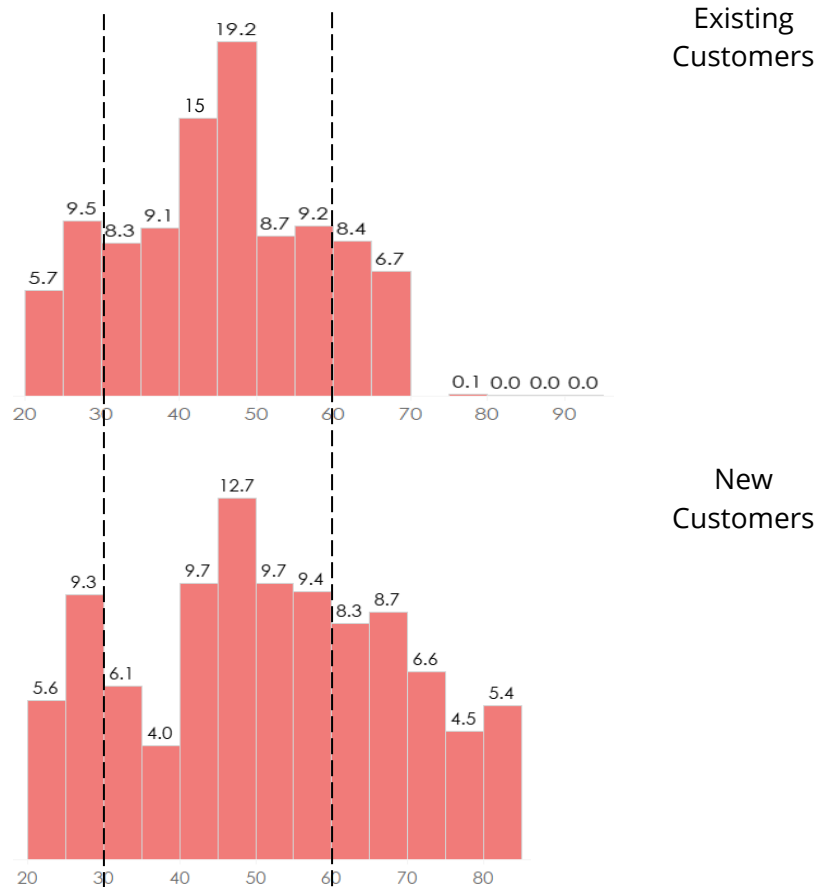
- Most our customers are mass customer.



Data Exploration

Age Distribution Among Customers

- Distribution of age between existing customers and new customers is very different.
- Most of the existing customer belong to 30-60 years of age(working age).
- New customer data has more customers above 60 years of age(retired age).



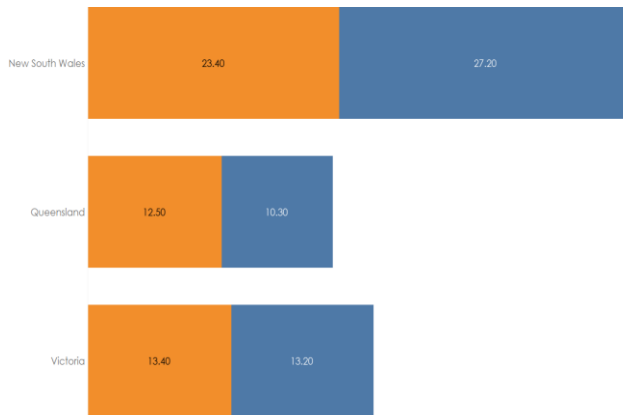
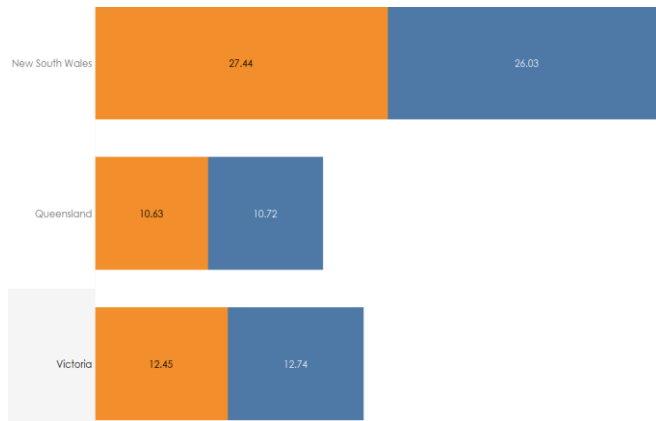
Data Exploration

Car Owners

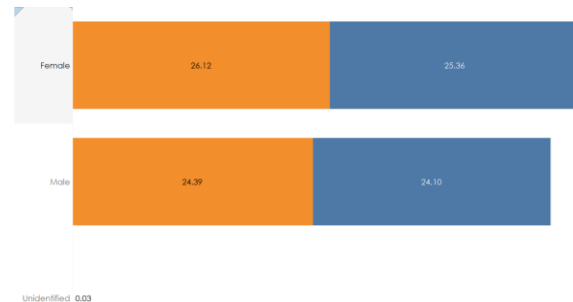
- Distribution of car owners and non-car owners is almost same in both the datasets.
- Proportion of car owners is more from New South Wales in existing dataset.
- Proportion of female car owners is slightly more in both the datasets.

Existing Customers

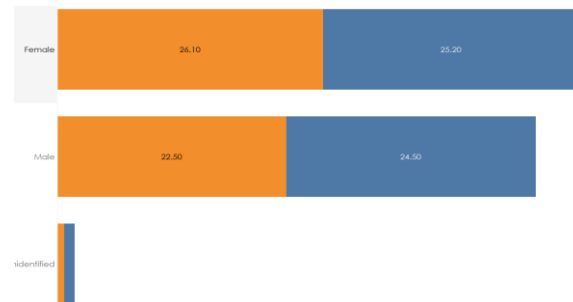
New Customers



Existing Customers



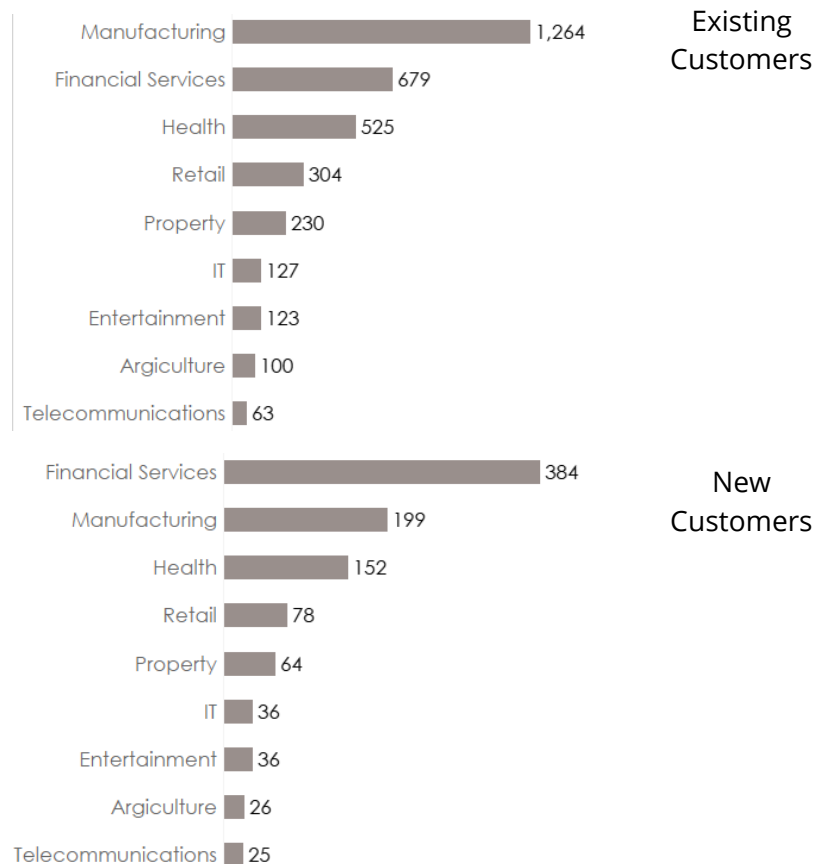
New Customers



Data Exploration

Customers per Industry

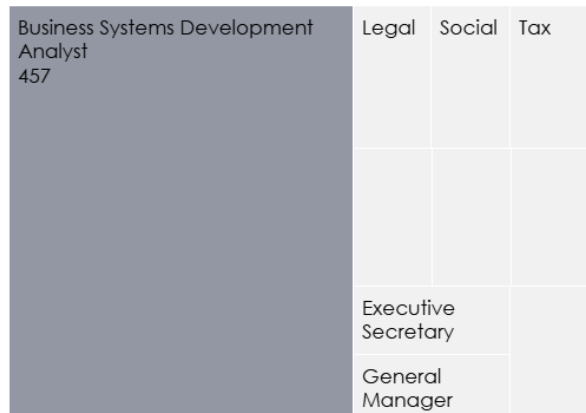
- About half of the customers are working either in manufacturing industry or in financial services.
- Existing dataset had more number of customers working in Manufacturing industry.
- Number of customers working in financial services is almost half of those working in manufacturing industry.
- In new customer list more number of customers are from financial services.
- Manufacturing industry has half the number compared to financial services.
- Very few customers are working in agriculture and telecommunications as compared to those working in manufacturing and financial services.



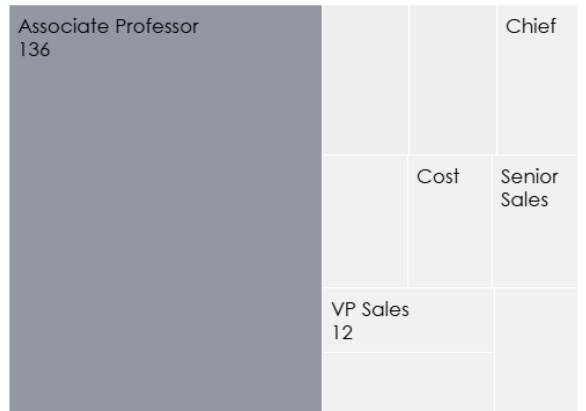
Data Exploration

Customers per Job Title

- Existing customer data had more number of Business systems development analyst and the new customers data has a lot of associate professors.



Existing
Customers

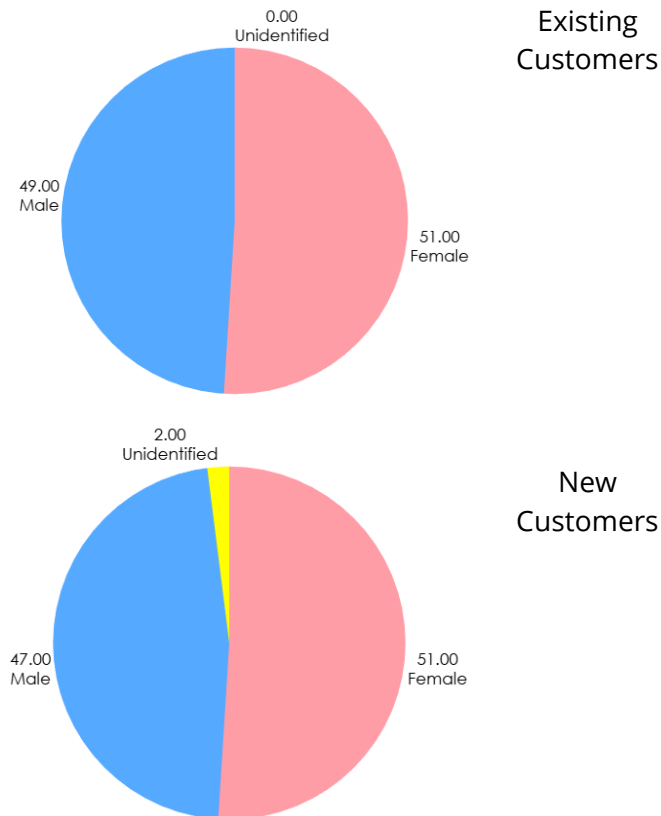


New
Customers

Data Exploration

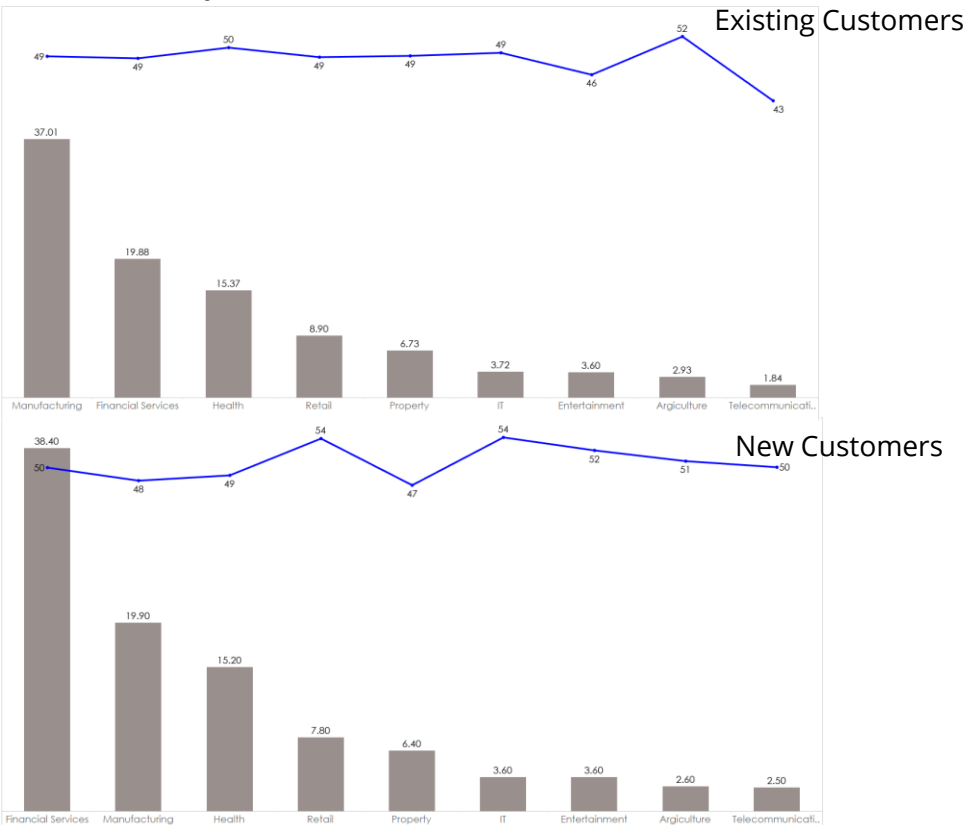
Last 3 years purchase summary

- Proportion of product purchase between male and female customers is almost same with proportion of product purchases by female customers being slightly more than male customers.
- There is no significant difference between average purchases among customers working in various industry sectors.
- More purchases in last 3 years are by database administrator and programmer among existing customers
- But in new customers, office administrator and research assistant have more purchases.

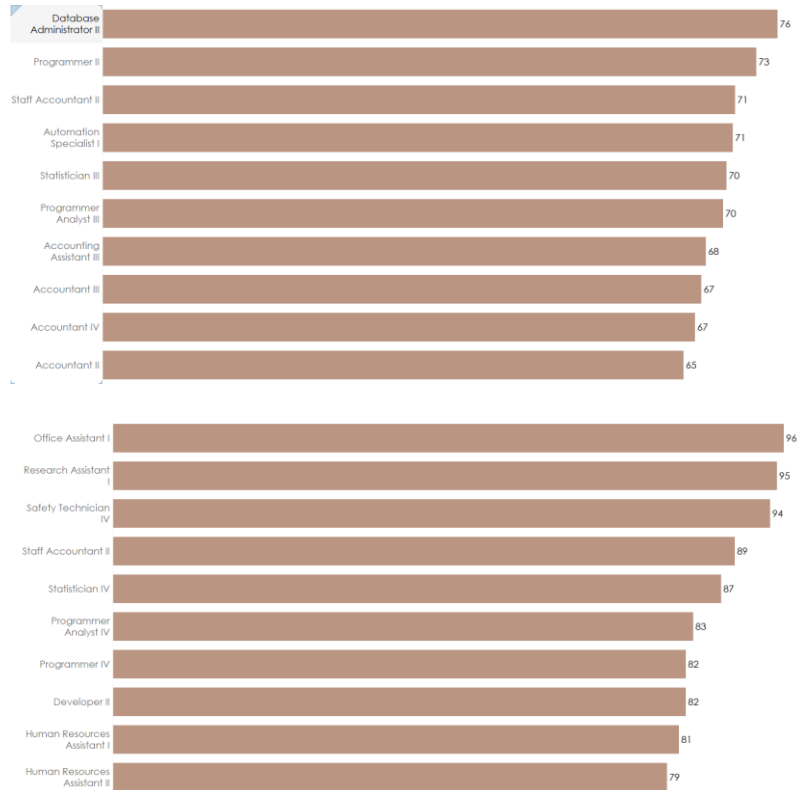


Data Exploration

average purchases among customers working in various industry sectors



average purchases by job title



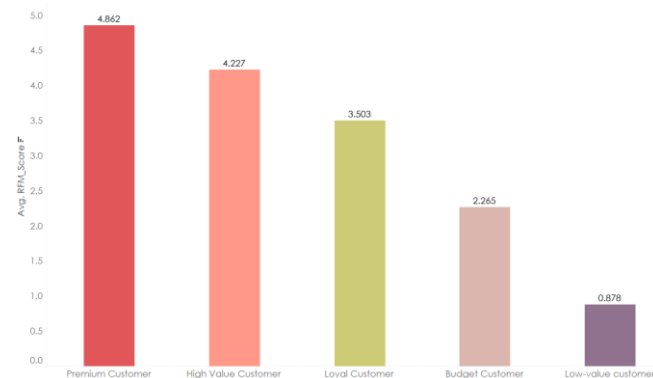
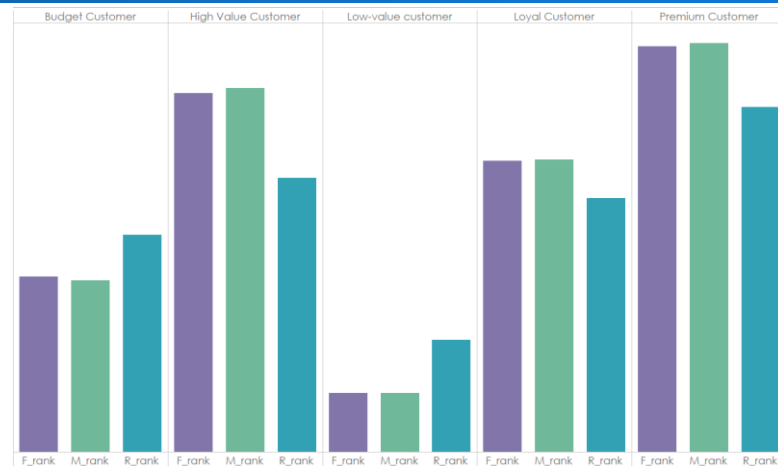
Model Development

RFM methodology is used for customer segmentation.
This session focuses on customer segmentation and associated traits.

Model Development

RFM Analysis

- RFM stands for recency, frequency, monetary value.
- In business analytics, we often use this concept to divide customers into different segments, like high-value customers, medium value customers or low-value customers, and similarly many others.
- For this dataset we have created 5 segments.
- Premium customer, High-value customer, Loyal customer, budget customer and low value customer.
- Customers who are spending more, buying more products come under high-value customer and premium customer.



Model Development

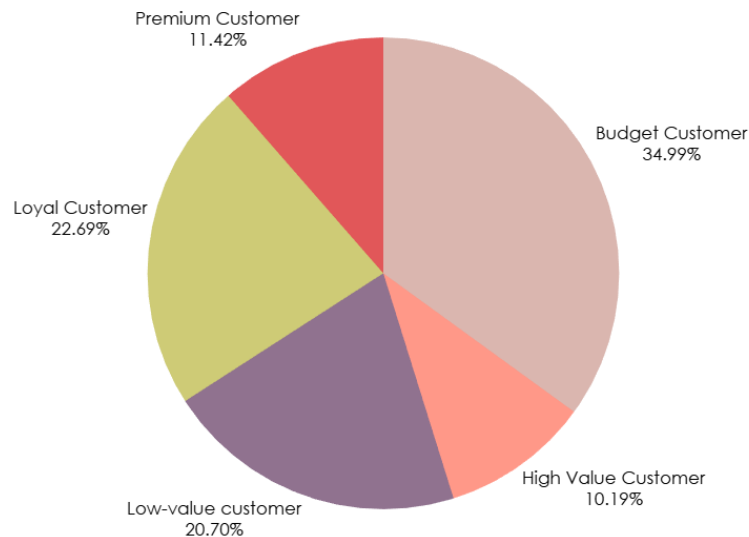
Insight into Customer Segment

Rank	Customer Segment	Description
1	Premium Customer	Customer who are engaged regularly buying more products and spending very high amount.
2	High Value Customer	Customer who spend high amount, brought more products and are engaged regularly.
3	Loyal Customer	Customer who spent, brought more products and are engaged frequently but not regularly
4	Budget Customer	Customer who are not very frequent but have been recent visitors
5	Low-value customer	Customers who spend less and are not frequent visitors

Model Development

Distribution of customers by customer segment

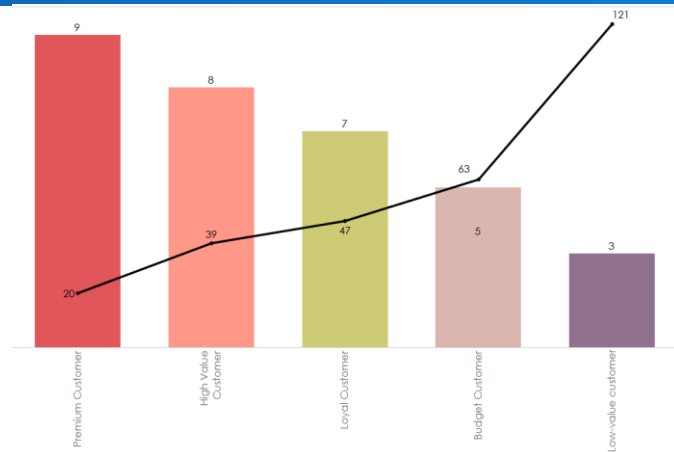
- Our existing dataset had more number of budget customers followed by loyal customers.
- More than half of our customers are budget customers or loyal customers.
- Combined proportion of premium customers and high-values customers is as much as low-value customers.



Model Development

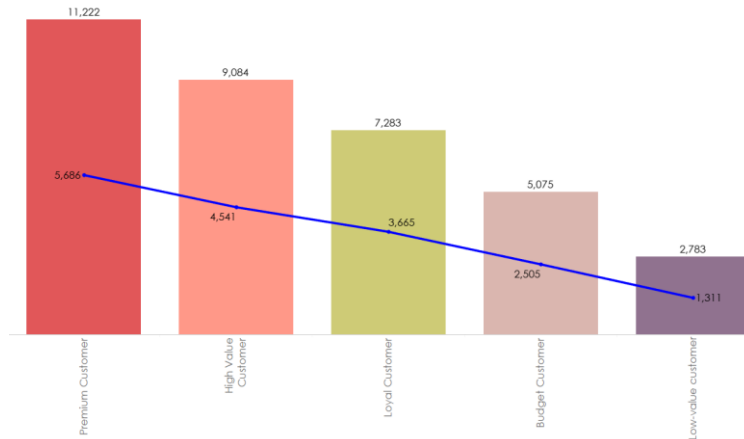
Frequency and Recency plot

- Based on our frequency and recency plot, Loyal customers and Budget customers have not visited the store since 45 days and more
- These customers made only 5-7 transactions.



Spending and Profit plot

- Spending of loyal customers is not far behind high value customers.
- Spending can be increased by providing offers and discounts.



Interpretation

Interpretation

Focus area & Suggestions

- The company needs to pay attention on loyal customers and budget customers to convert them to high value customers.
- Loyal customers and budget customers can be given offers and discounts to encourage them to engage more and purchase more products.
- We have a lot of mass customers we need to focus on acquiring affluent customers and high net worth customers.
- The company also needs to increase sales in Queensland and Victoria.
- Sprocket Central is definitely popular among women we need to understand what attracts women to our products and advertise the same to attract more women.
- We can conduct a market basket analysis to increase sales by better understanding customer purchasing patterns.

Thankyou