TheAnalyticsTeam

Sprocket Central Pty Ltd

Data analytics approach

Sowmiya Muralidharan

Agenda

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

Recommendation of Top 1000 customers to target for improving the performance

- Sprocket Central is a company that specializes in high-quality bikes and cycling accessories.
- Their marketing team is looking to boost business sales by analyzing provided datasets.
- Using the 3 datasets provided the aim is to analyze and recommend 1000 customers that Sprocket Central should target to drive higher value for the company.

Content For Analysis:

1. Bike related purchases for past 3 years by Gender.
2. RFM and customer segmentation.
3. Industry wise Profit and distributions.
4. Number of cars owned and not owned by state.
5. Profit generation in different brands.
6. Customer Age wise Purchases.
7. Wealth Segmentation of customers.

Data Quality and Pre-Processing

Key issues in Data Quality:

- Accuracy : Appropriate values
- Completeness : Data field with values
- Consistency : Values free from contradictory
- Currency : Up to date values
- Relevancy : Values related to the field
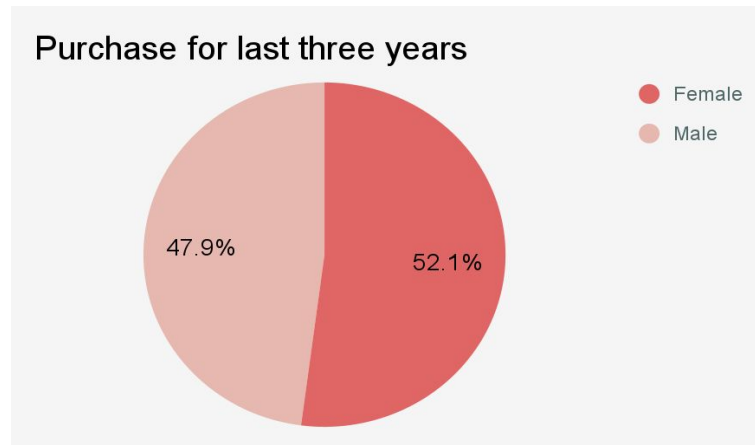- Validity : Data containing allowable value
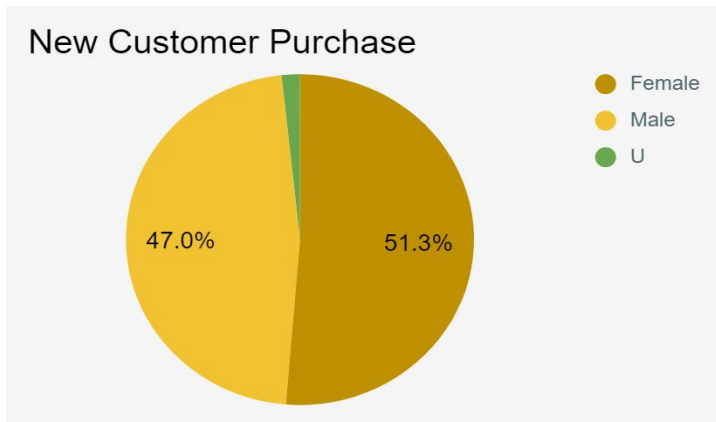- Uniqueness : Duplicated records

Data Quality and Pre-Processing

Table name	Accuracy	Completeness	Consistency	Currency	Relevancy	Validity	Uniqueness
Transactions	Missing Profit	**Blanks removed from:** Transaction_date, online_order,order_status and Brand				**Product_first_sold_date:** Converted to Date format from number. **List price:** Converted to currency	
New Customer List		**Blanks removed:** Last name, DOB, Job title				**Values are converted to numbers:** Past_3_year_bike_related_purchase, Property valuation	
Customer Demographic		**Blanks removed:** DOB, Job-title	**Gender:** Inconsistency	**DOB:** Error Data	**Default column:** Irrelevant		
Customer Address							Renaming Duplicate state entries

Bike related purchases for the past 3 years by Gender

- Over the last 3 years, 52% bike related purchases are made by Females to 48% of Males and unknown gender.

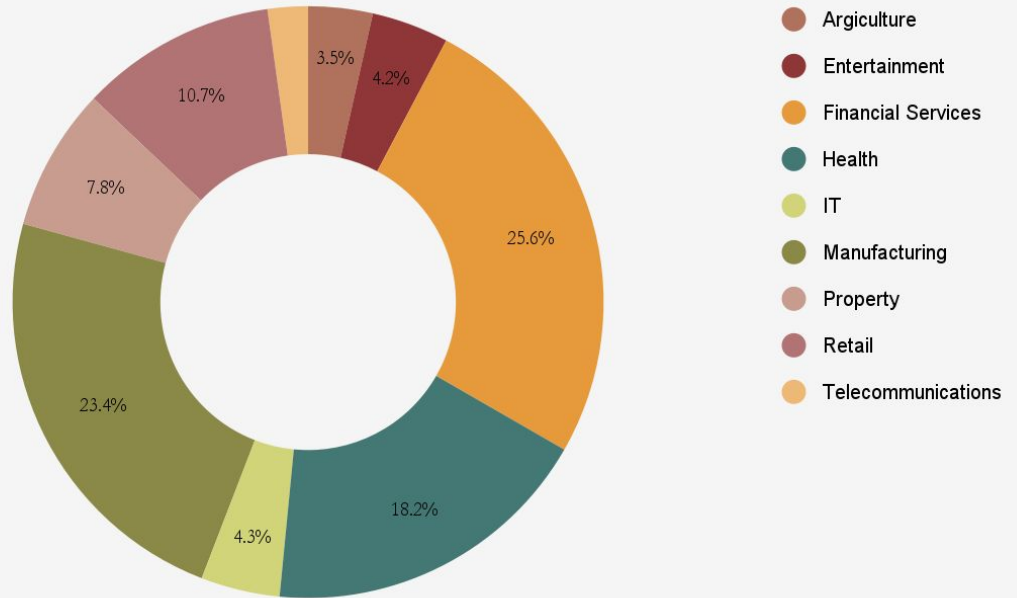- Females make up majority of bike related purchases.

Purchase for last three years

Female
Male

47.9%   52.1%

New Customer Purchase

Female
Male
U

47.0%   51.3%

Job Industry Distribution

- 25% of customers are from Manufacturing and Financial services.

- The smallest number of customer are from Telecommunications and agriculture at 3%.
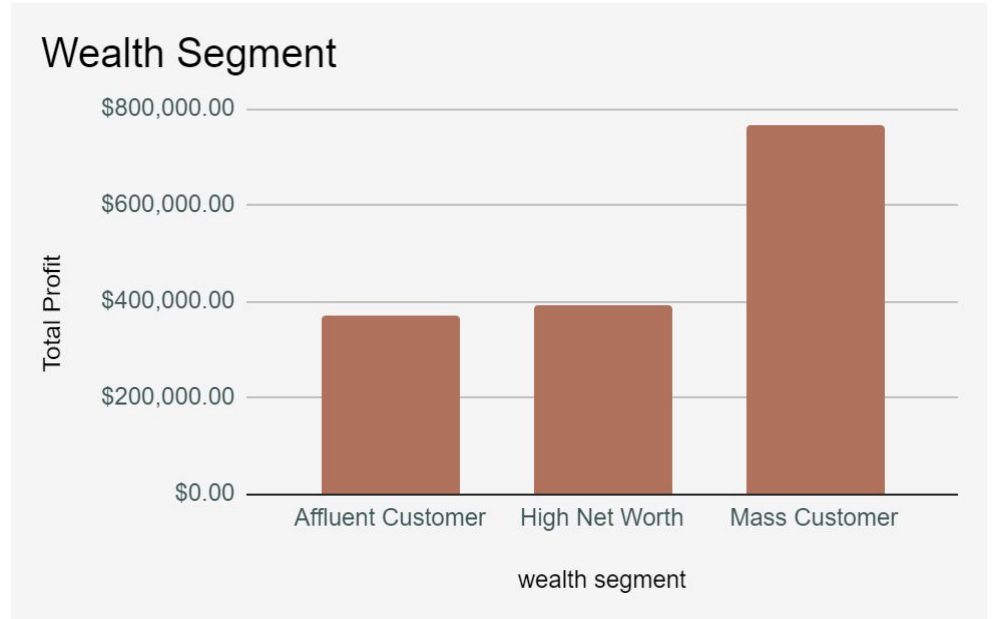

Industry wise Profit

Wealth Segmentation

- In reference to profit and by age, the largest number of customers are classified as "Mass Customers".

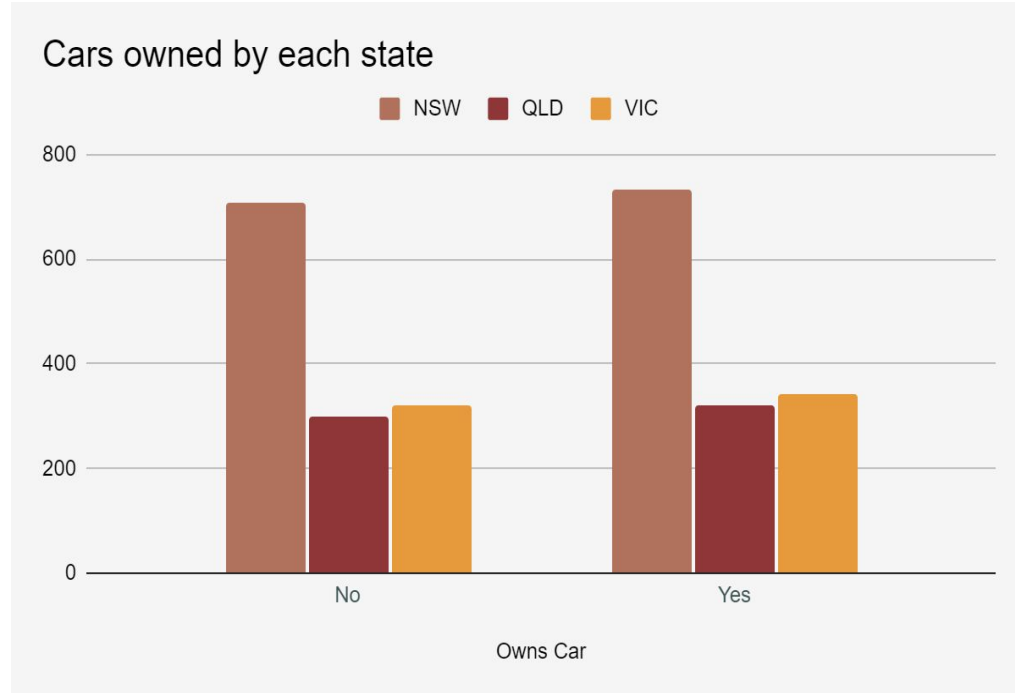- The next category is "High Net Worth" customers.

Wealth Segment

Number of cars owned and not owned by each state

- NSW has the largest number of people who owns and does not own cars at the same time, shows skewness in data. Which seems where larger number of data are collected.

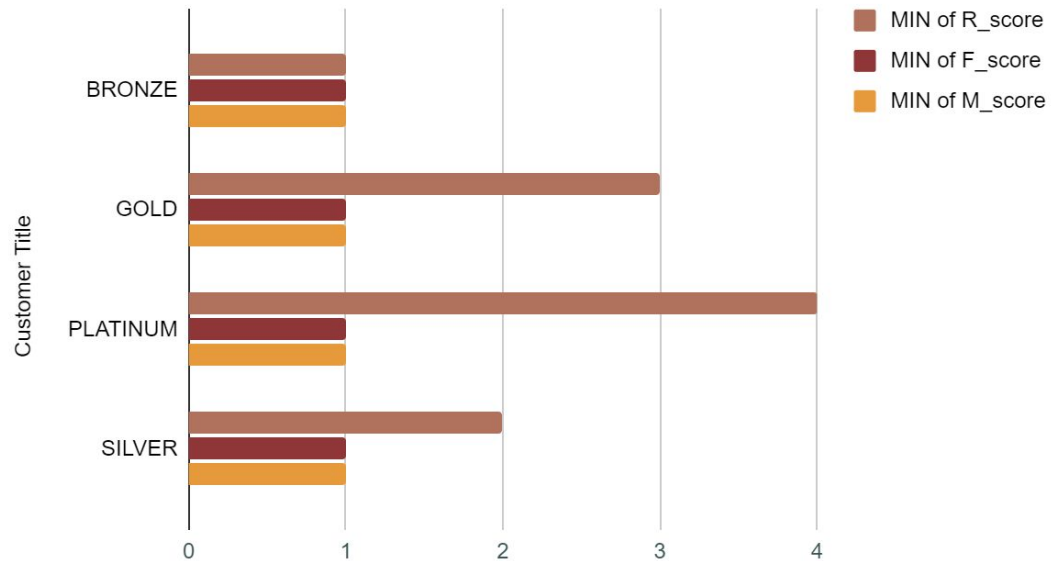- QLD has relatively high number of customers that own a car.

Cars owned by each state

RFM Analysis and Customer Segmentation

- RFM analysis is used to determine which customers a business should target to increase its revenue and value.

- RFM(Recency, Frequency, Monetary) model shows customers that have displayed high level of engagement with business in the three categories mentioned.


RFM Segmentation

Legend:
- MIN of R_score
- MIN of F_score
- MIN of M_score

Customer Title categories: BRONZE, GOLD, PLATINUM, SILVER

Scatter plot for RFM Analysis

- The chart shows that customers who purchased recently have generated more revenue than customer who visited a while ago.

- Customers who visited within 200 days has generated a moderate amount of revenue.

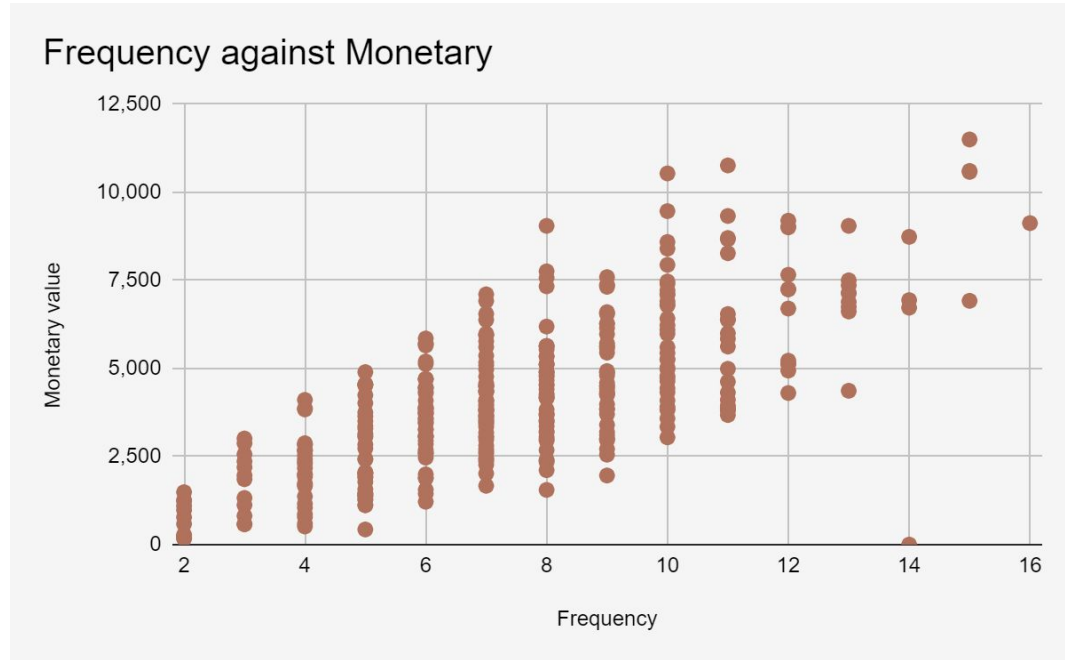- Those who visited more than 300 days has generated low revenue than others.

Recency against Monetary
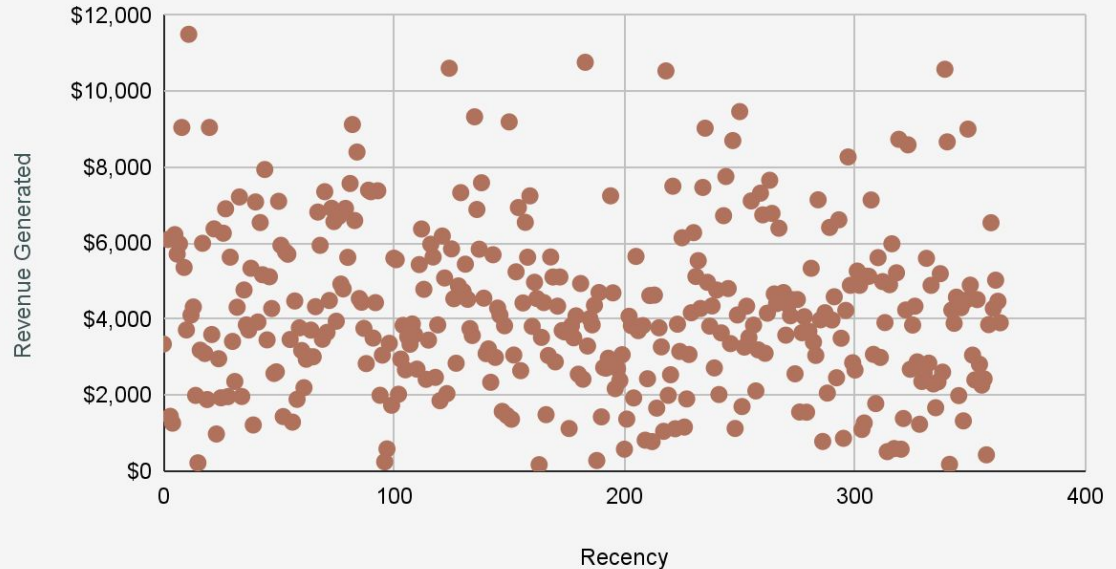
Scatter plot for RFM Analysis

- There is a natural correlation between the Frequency and Monetary gain of the business.

Frequency against Monetary
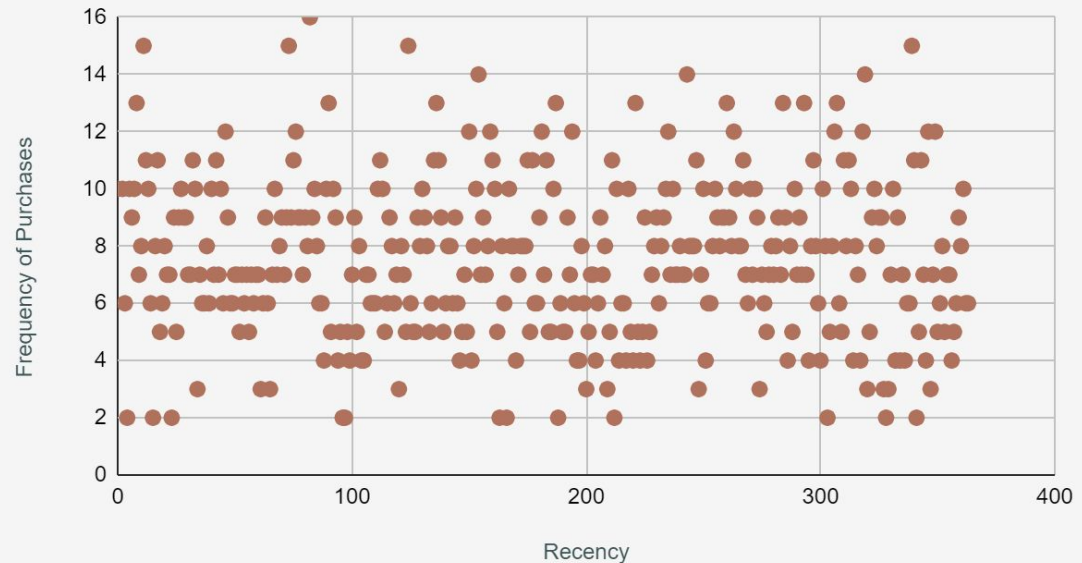
Scatter plot for RFM Analysis

- Customer who have visited recently has a high frequency than who visited long ago.

- Days within 6 to 10 days have high recency compared to other days.

Recency against Frequency

Customer to be targeted for further sales

- Customers between the age category of 40-60 can be targeted.

- People working in Financial services and manufacturing.

- Most of the High value customers are female compared to male.

- People living in NSW, VIC places in Australia.

THANKYOU