TheAnalyticsTeam

Sprocket Central Pty Ltd

Data analytics approach

Overview and Structure

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

Introduction

Analyse the Data and recommend Potential Customers.

- Aims and Objective:
- To study, explore and analyse the data.
- To visualise the data in a meaningful way.
- Determine ways to boost the sales of Spyrocket Central Pty Ltd.
- Aim to know the Potential Customers that increase the sales.

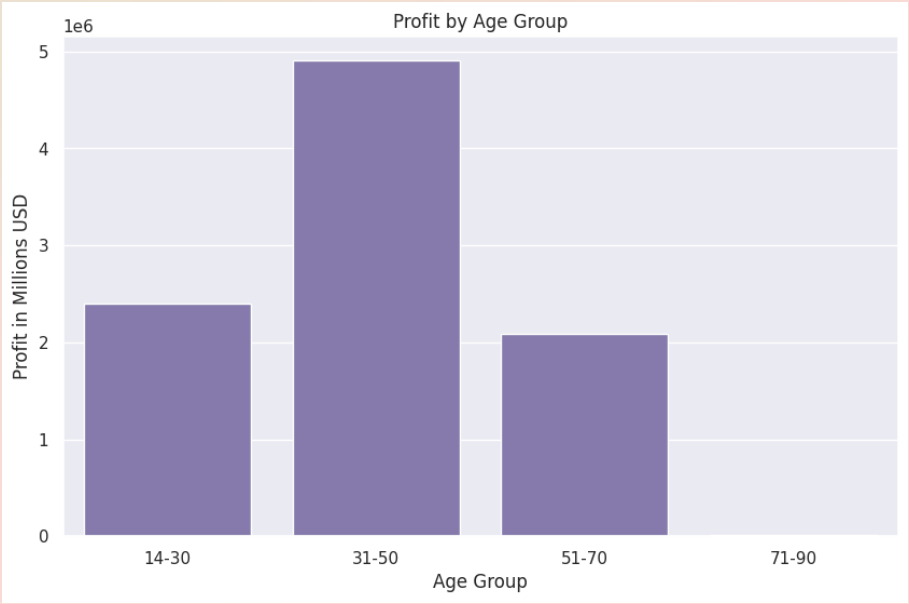
Data Analysis Approach:

- Age Distribution of Customers to maximum profit.
- Order Distribution by Wealth Segment.
- Distribution of Order by State, Gender.
- Distribution of Order by Job industry and Job Title.
- Gender vs Owns a Car.
- State vs Owns a Car.
- Order and Profit Distribution by Wealth Segment.
- RFM(Recency Frequency Monetary) Analysis

Data Exploration

Customers Age Distribution to maximum profit

The customers in the Age Group 31-50 gives the maximum profit. This Age group should be targeted.



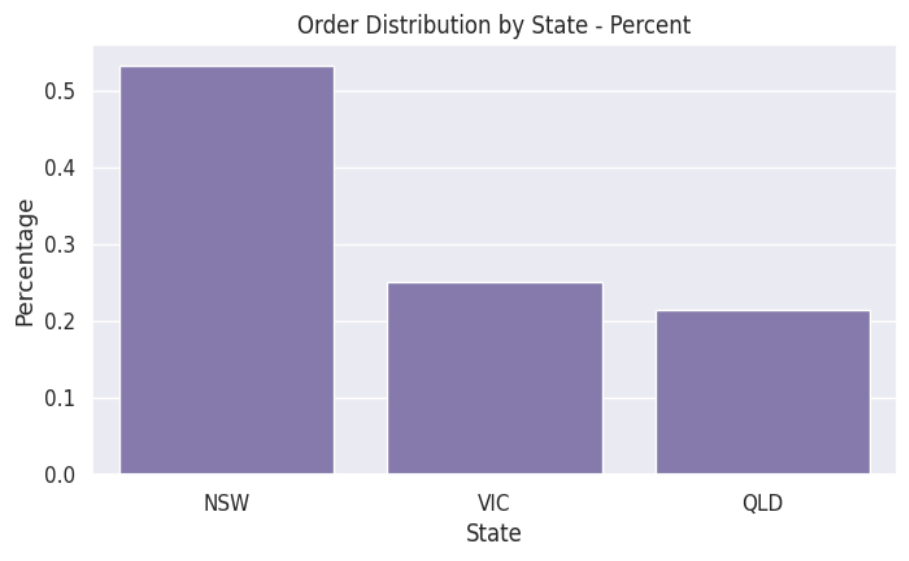
Data Exploration

Order and Profit Distribution by Wealth segment

Mass Customer shows the highest total Sum of Profit at $4,683325.11, followed by High Net Worth at $2368052.46 and Affluent Customer at $2352496.71.

Data Exploration

Order Distribution according to the States



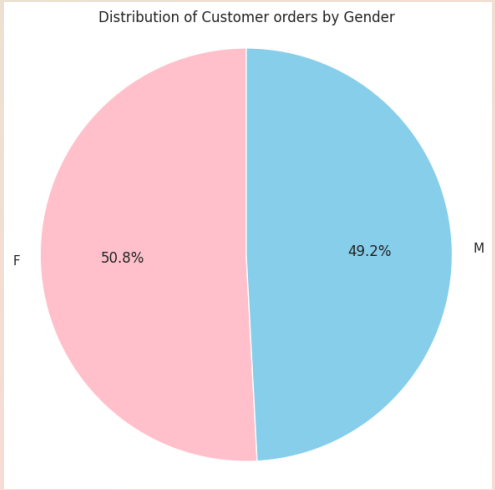
The State New South Wales has the highest order of 53.294152 and Victoria has 25.160153.

Data Exploration

Distribution of Customer orders according to the Gender.

Female forms the 50.8% of the market whereas Male forms 49.2%.

The target audience for our marketing and advertising should be inclined to provide focus on females than males

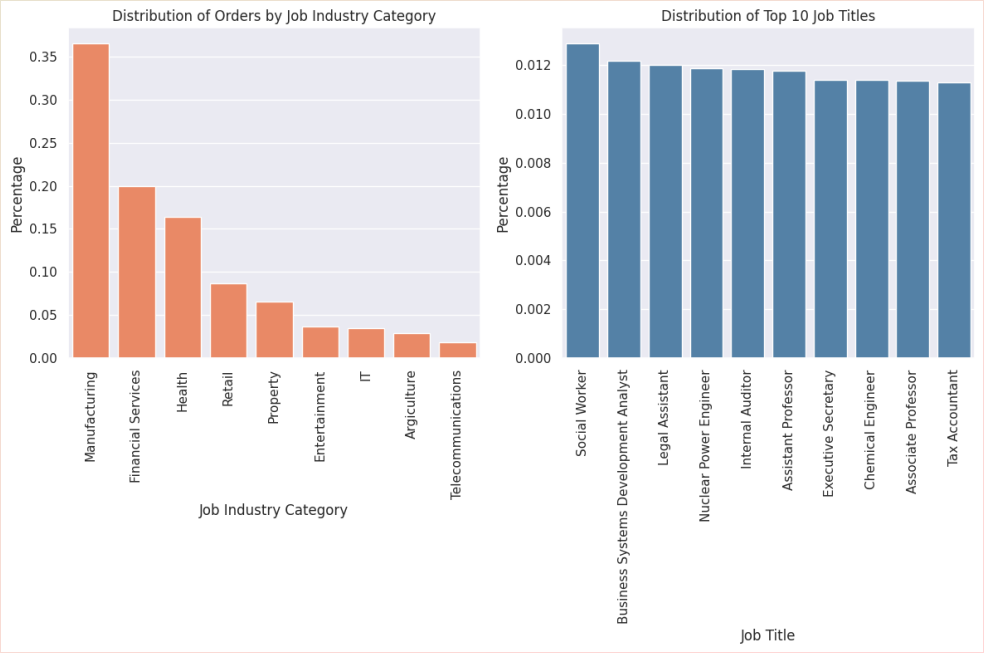


Data Exploration

Order Distribution according to Job Industry and Job Title.

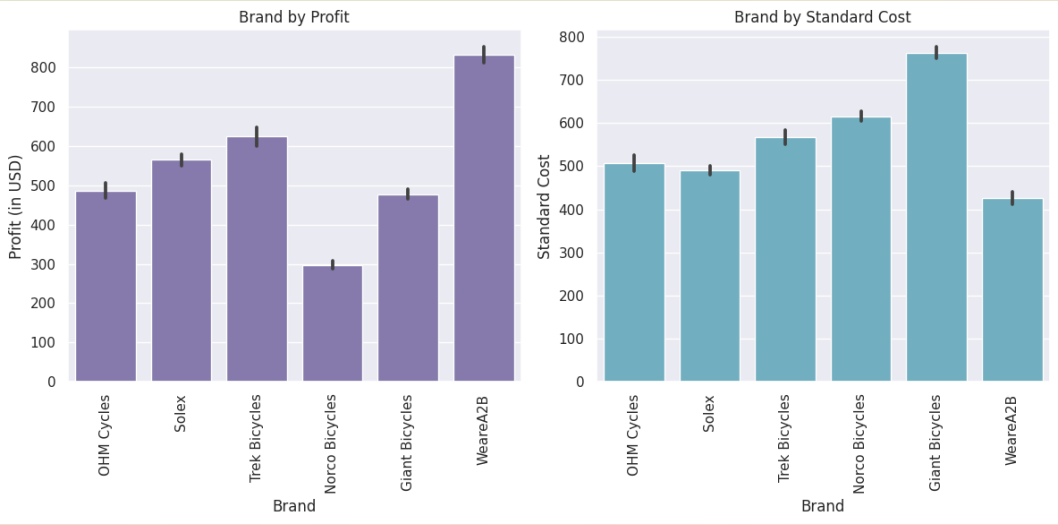
Manufacturing sector shows the highest Distribution of orders.
Therefore, the Manufacturing sector, Financial Services sector and Health should be the focus.

In the distribution of Top 10 Job Titles Social Worker tops it, followed by Business Systems Development Analyst.



Data Exploration

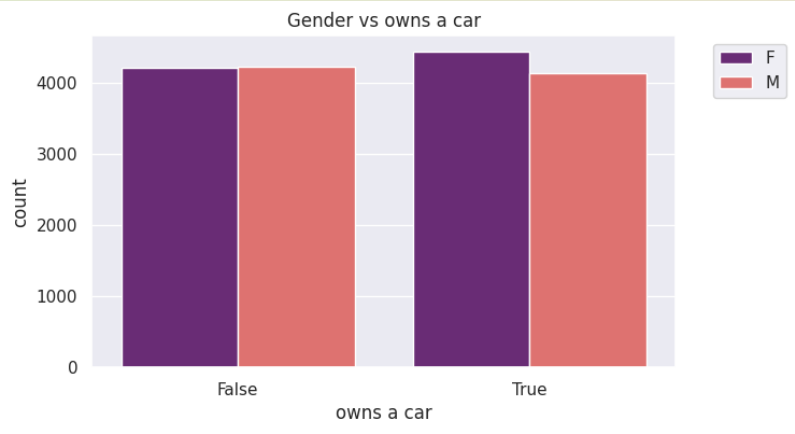
Brand vs Profit and Brand vs Standard Cost

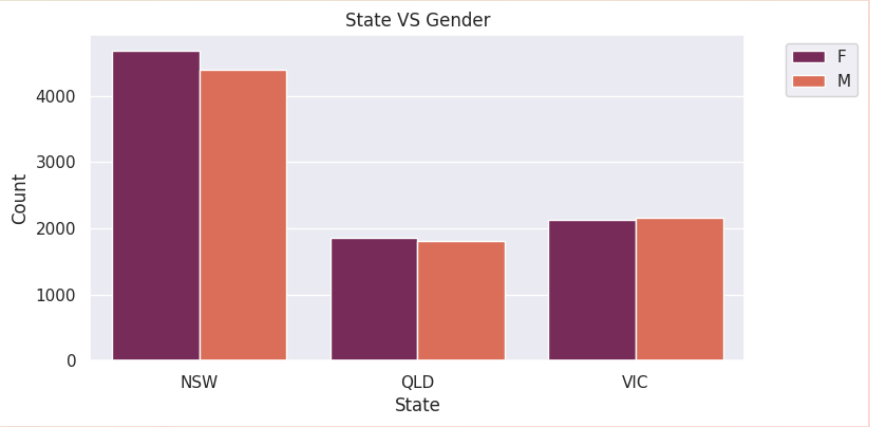


The Brand WeareA2B makes the most profit with the lowest standard cost.

Data Exploration

Gender vs Owns Car and State vs Gender





Greater number of Females who owns a car buys bikes.

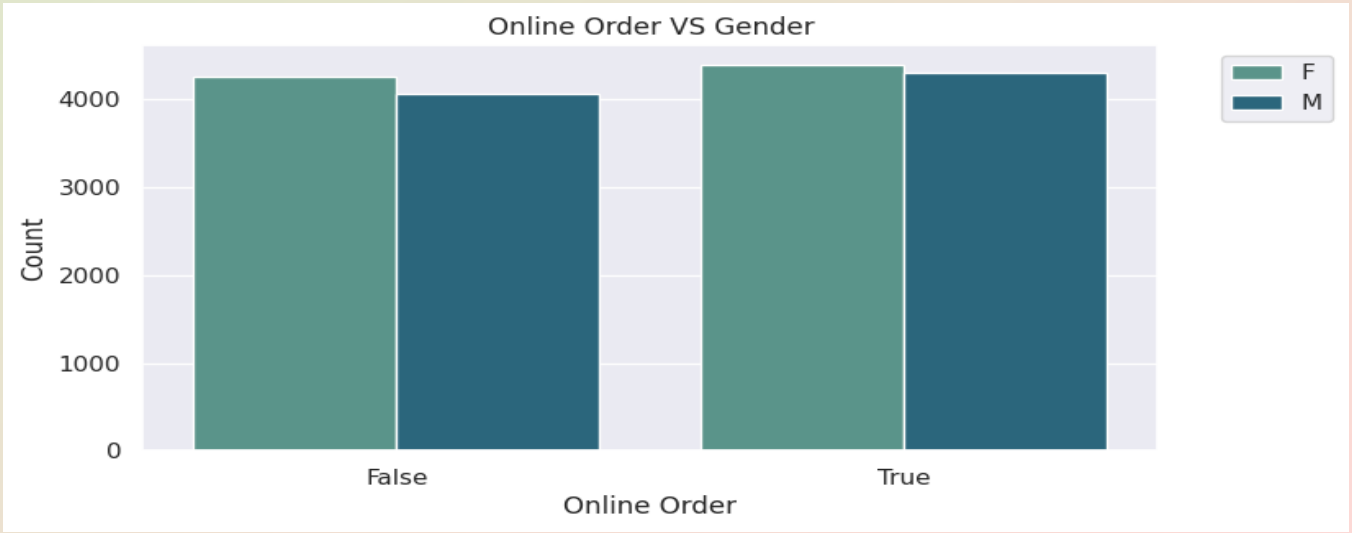
Greater number of Males who does not owns a car buys bikes.

New South Wales has the highest count of customers.

Females customers are more than males.

Data Exploration

Online Order vs Gender

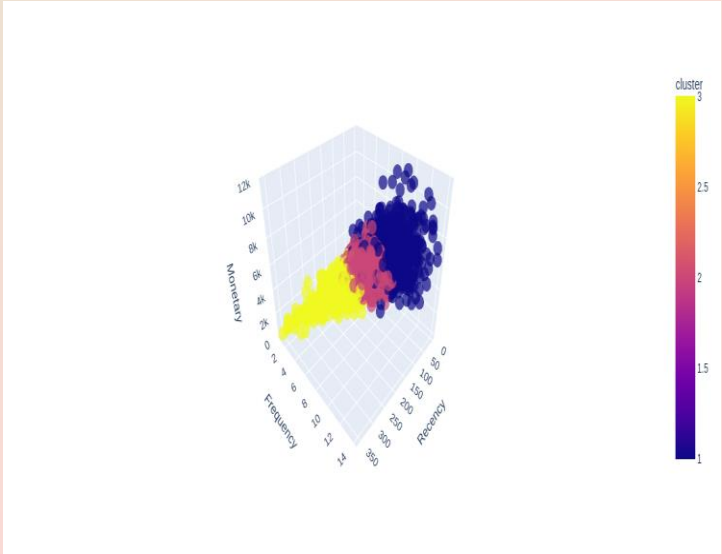


Females buys bikes online more than Males do.

Model Development

Customer Segmentation using RFM Analysis.

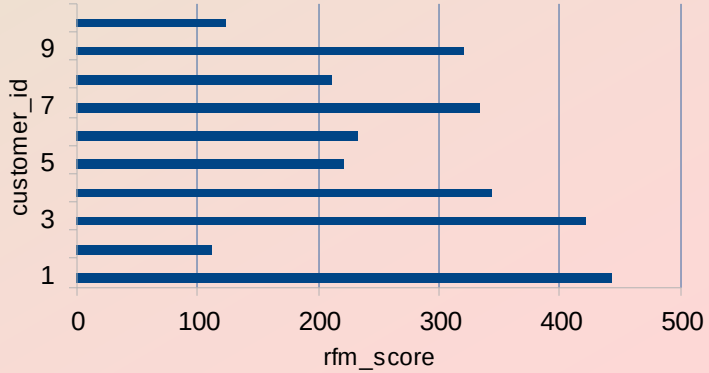
RFM stands for Recency, Frequency and Monetary value,
Each value signifies key features of the customers.
RFM metrics are indicators of customers behavioural pattern
Because customer's lifetime value is affected by the frequency and monetary value. The retention and measurement of engagement is affected by the recency value.
Recency denotes the freshness of customer's activity, it can be in the form of purchase or simply a visit to the store. It signifies how much a customer is engaged with the product.
Frequency denotes the total number of transactions or average time engaged between transaction and visits.
Monetary denotes the intention of a customer to spend or purchase a product that is the "purchasing power of the customer".



Model Development

Customer Id and rfm_score

The rank of the customers is calculated by combining the individual R, F, and M rankings to get an aggregate value which is called RFM score. This score is the average of the individual R, F, and M scores obtained by giving weights to each attributes of RFM.



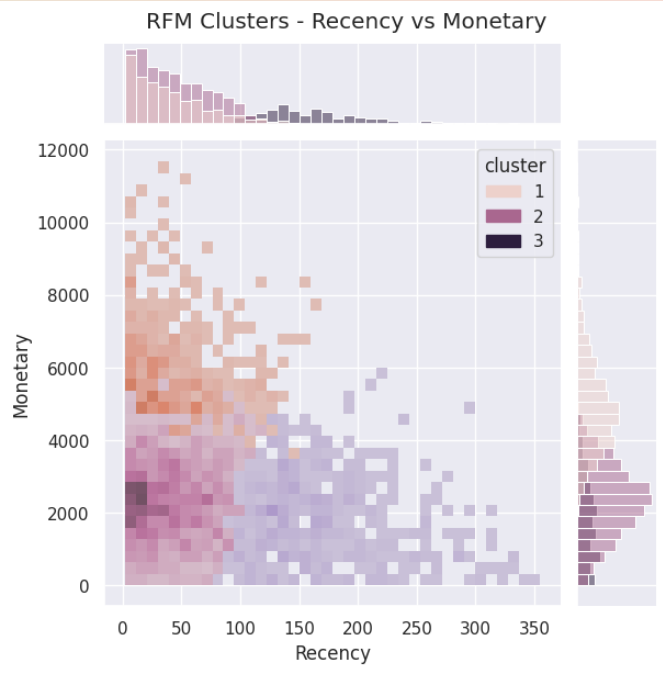
Model Development

Joint-plot based on Recency vs Monetary

The relationship between a potential customer and its engagement can be estimated by the customers who has purchased recently contributed higher monetary value.

Customers in the top-left of the joint-plot in cluster2 denotes greater recency value and greater monetary value which combines to form potential customers who are active and purchases high value products. Business and marketing heads should concentrate on engaging and retaining them.

Customers in the top-right of the joint-plot in cluster1 denotes lower recency value with greater monetary value.
This shows the customers at risk who spent a significant amount in the past but did not made any transaction recently.



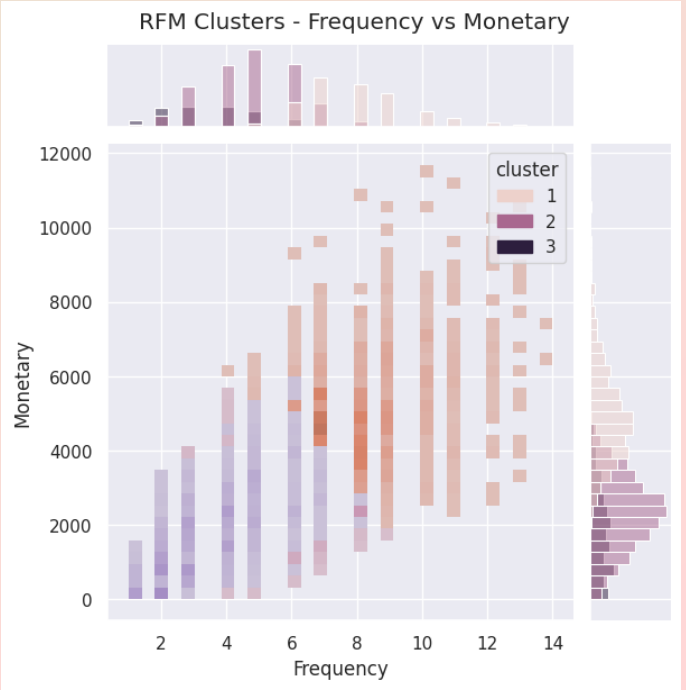
Model Development

Joint-plot based on Frequency vs Monetary

Customers who purchases frequently tend to spend more and hence contribute to higher monetary value.

In the joint-plot the customers in cluster 1 in the top-right position are the potential customers who spend a large amount of money frequently. Businesses and marketing heads should focus on nurturing relation with them.

In the top-right of the joint-plot are the customers that spends significantly but are low in numbers. So, they should be targeted to increase the sales by cross-selling.

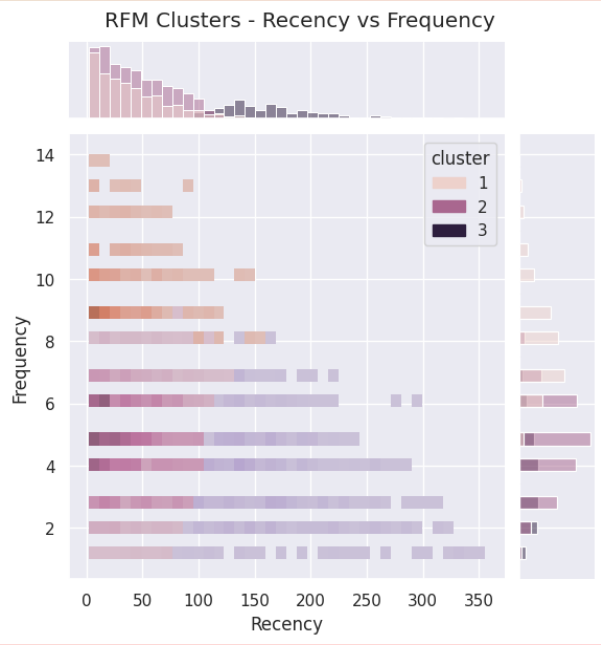


Model Development

Joint-plot based on Recency vs Frequency

In the joint-plot, the top-left position denotes high frequency and high recency with customers who are active and engaged. The transaction made by these customers are recent and frequent.

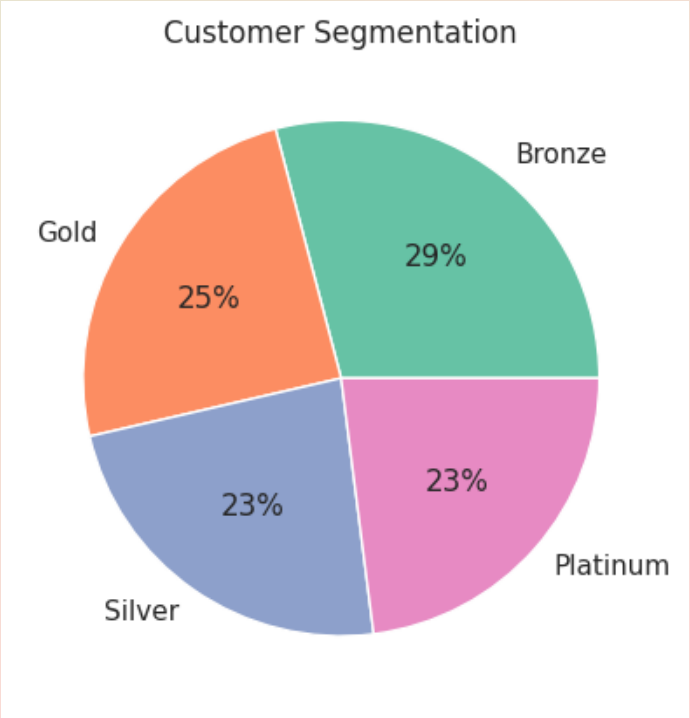
In the joint-plot, the bottom-left position denotes low frequency customers who made transactions recently who represent new customers. Business and marketing heads should focus on nurturing the relationship with them and encourage their number of purchases by increasing their engagement.



Model Development

Customer Segmentation in the dataset

The customer profile column is created by creating the Customer profile ranking. These ranks include Bronze, Silver, Gold and Platinum.



Model Development

Customer Segmentation – Target Potential Customers

In the new customer list, following customers should be focused :

- Customers in the age-group 31-50.
- Mass customers in the wealth segment.
- Most of the high value customers are females compared to males.
- Customers working in manufacturing, financial services and health sector.
- Customers living in the New South Wales and Victoria.

Interpretation

Potential Customers to target from the New Customers List Dataset.

customer_id	first_name	last_name	gender	DOB	job_industry_category	wealth_segment	owns_car	state
84	Gale	Disbrow	Female	1977-05-14	Financial Services	Mass Customer	Yes	VIC
228	Daryl	Pauncefort	Female	1979-06-18	Financial Services	Mass Customer	Yes	NSW
289	Katleen	Arnoult	Female	1976-11-24	Manufacturing	Mass Customer	Yes	NSW
291	Jammie	Seldner	Female	1975-02-25	Health	Mass Customer	Yes	NSW
327	Amabel	NaN	Female	1981-09-14	Financial Services	Mass Customer	Yes	NSW
411	Raye	Roo	Female	1976-03-07	Financial Services	Mass Customer	Yes	VIC
427	Biddie	Gorce	Female	1988-01-30	Financial Services	Mass Customer	Yes	NSW
458	Ajay	Worham	Female	1979-09-30	Manufacturing	Mass Customer	Yes	NSW
497	Leisha	McConway	Female	1975-10-31	Financial Services	Mass Customer	Yes	VIC
526	Dodi	Kiggel	Female	1980-08-15	Financial Services	Mass Customer	Yes	NSW
540	Selle	Casper	Female	1978-03-27	Health	Mass Customer	Yes	NSW
588	Alexina	Mabley	Female	1975-10-12	Manufacturing	Mass Customer	Yes	NSW
598	Emelia	Ackwood	Female	1988-09-30	Financial Services	Mass Customer	Yes	QLD
613	Bertine	Smalles	Female	1983-12-10	Financial Services	Mass Customer	Yes	VIC
698	Lillis	Eshmade	Female	1974-10-12	Financial Services	Mass Customer	Yes	QLD
707	Sibby	Skinner	Female	1981-05-05	Manufacturing	Mass Customer	Yes	QLD
748	Rosene	Beckey	Female	1974-05-21	Health	Mass Customer	Yes	NSW
795	Claudetta	Ricciardiello	Female	1974-04-30	Financial Services	Mass Customer	Yes	VIC

Thank you.