

TheAnalyticsTeam

Sprocket Central Pty Ltd

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Agenda

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

Introduction

Problem Outline

- Sprocket Central is a company that specializes in high-quality bikes and cycling accessories
- The marketing team's goal is to boost business and maximize profits by analyzing three provided datasets.
- The company aims to acquire 1,000 new customers to increase the overall company value.

Customer Data Analysis

- ❖ Customer Age Distributions
- ❖ Number of bike purchases over the last 3 years.
- ❖ Job industry distributions
- ❖ Wealth segmentation
- ❖ Number of cars owned by each state
- ❖ RFM Analysis and Customer Segmentation

Data Exploration

Data Quality Assessment

- **Accuracy:** Correct Values
- **Completeness:** Data Fields with Values
- **Consistency:** Values Free from Contradiction
- **Currency:** Values up to Date
- **Relevancy:** Data Items with Value Meta-data
- **Validity:** Data Containing Allowable Values
- **Uniqueness:** Records that are Duplicated

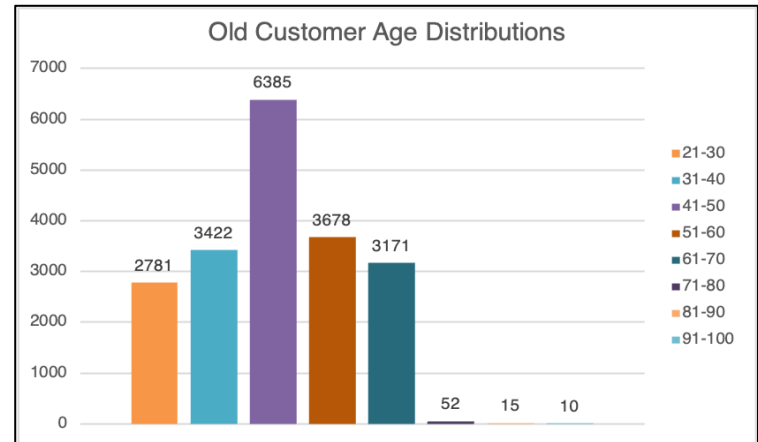
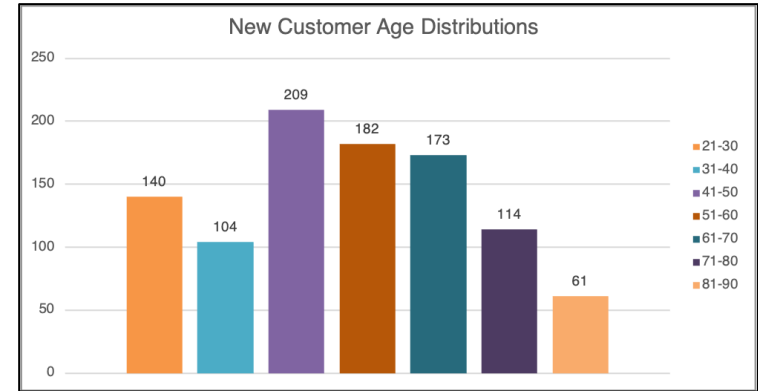
Summary Table

	Customer Demographics	Customer Address	Transaction
Accuracy	<ul style="list-style-type: none">• DOB: Inaccurate• Age: Missing		<ul style="list-style-type: none">• Profit: missing
Completeness	<ul style="list-style-type: none">• Job_Title: Blanks		<ul style="list-style-type: none">• Online order: blanks• Brand: blanks
Consistency	<ul style="list-style-type: none">• Gender: Inconsistency	<ul style="list-style-type: none">• State: Inconsistency	
Currency	<ul style="list-style-type: none">• Deceased_Customer: filtered		
Relevancy	<ul style="list-style-type: none">• Default_column: deleted		<ul style="list-style-type: none">• Order Status: filtered
Validity			<ul style="list-style-type: none">• List Price: format• Product Sold Date: format

Data Exploration

'New' and 'Old' Customer Age Distributions

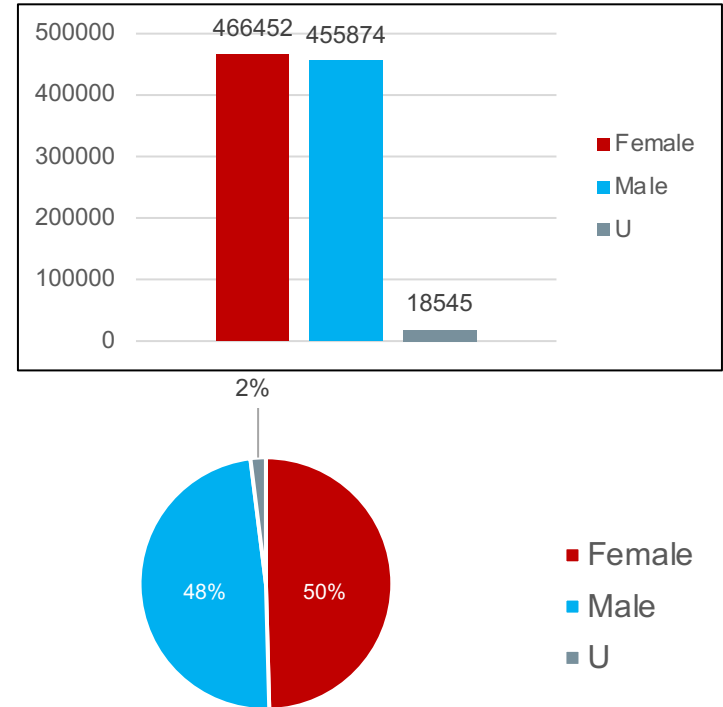
- Based on the visualization, we can see that both the 'old' and 'new' customers' age distributions majority are in the age of 41-50 years old range, while the lowest group for both distributions is at the age of 80 and above.
- It can be concluded that middle-aged customers are the most potential buyers for the company.
- One of the major differences that is present is the age group 31-40 shows a significant drop in the new customer age distribution in comparison to the old one.



Data Exploration

Number of Bike Purchased Over the Last Three Years by Gender

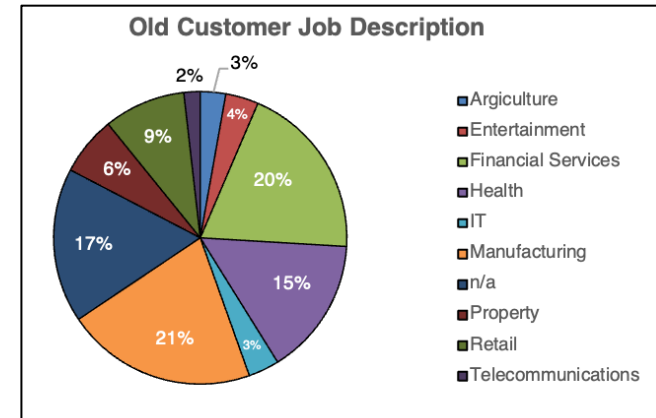
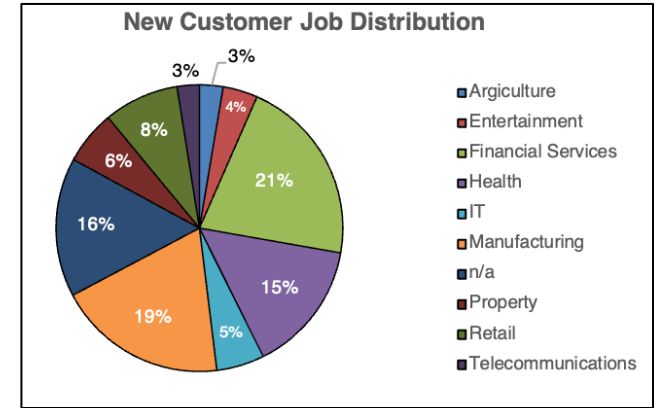
- Over the last three years, there has been a similar number of purchases between male and female customers, where 50% of purchases are made by females, 48% made by males, and the rest 2% are made by unspecified gender.
- Therefore it can be concluded that female customers make up the majority of the company's bike sales with a total of 466,452 items.



Data Exploration

Job Industry Distributions

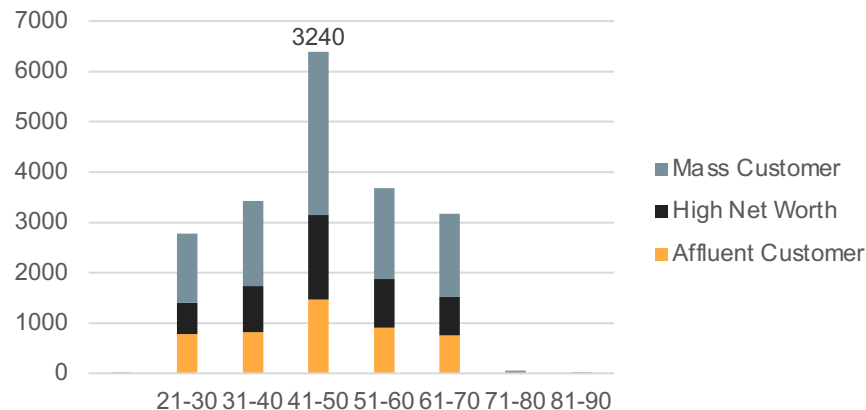
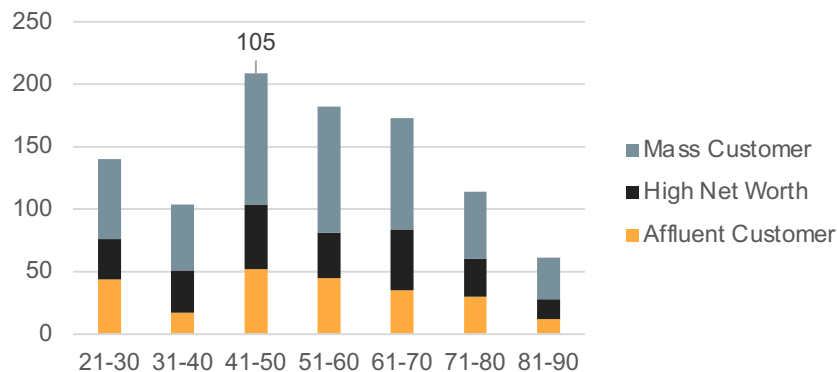
- The fifth of 'New' customers distribution are dominated by the Financial Services job.
- The smallest portion of the job distribution for old and new customer are Telecommunications and Agriculture
- Both old and new customer have a very similar job distributions, where the two biggest jobs categories are Financial Services and Manufacturing.



Data Exploration

Wealth Segmentation by Age

- Based on the visualization, it can be seen that the highest group of customer among all of the age groups is 'Mass Customer' where its peak reaches 105 in the new customer wealth segmentation graph.
- All of the age groups for old and new customer wealth segmentation, have the same order of category, 'Mass Customer' comes first, followed by 'High Net Worth', and last is 'Affluent Customer'



Data Exploration

Number of Cars Owned and Not Owned by State

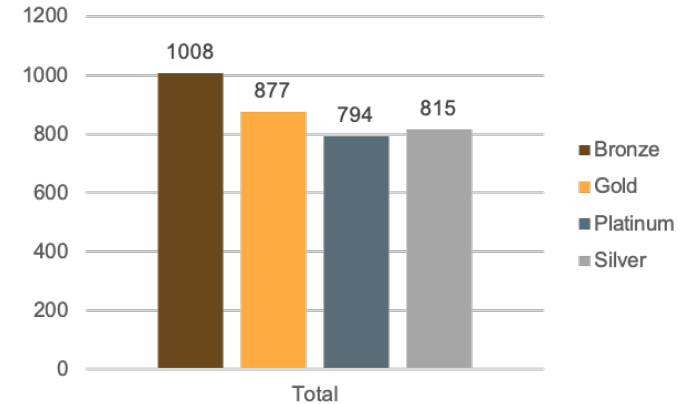
- The state New South Wales has the largest amount of people that do not own a car as well as having a higher number of people from which data was collected
- The state Victoria in this case has the same number of people who owns and doesn't own cars, despite having much lower number of people in comparison to NSW
- The people who lives in the state of Queensland, on the other hand, own cars more than those who don't, with the total number of people living there is the least out of all three states.



Model Development

RFM Analysis and Customer Segmentation

- Recency, Frequency, and Monetary Analysis is a tool that is used to determine which customers a business should target to increase its value and revenue.
- By using RFM Analysis, we can divide our customer into four different group. 'Platinum' for our best and loyal customer, followed by 'Gold', then 'Silver', and last is 'Bronze'
- Based on the visualization, it can be seen that the majority of our customer still belongs to the 'Bronze' category, where in general, they have a pretty low recency, low monetary, and less frequent to purchase.



Recency	
Min	0
Q1	17
Median	44
Q3	85
Max	353

Monetary	
Min	15.08
Q1	1844.31
Median	2849.47
Q3	4223.91
Max	11668.95

Frequency	
Min	1
Q1	4
Median	6
Q3	7
Max	14

RFM Value	
Min	111
Q1	211
Median	311
Q3	411
Max	444

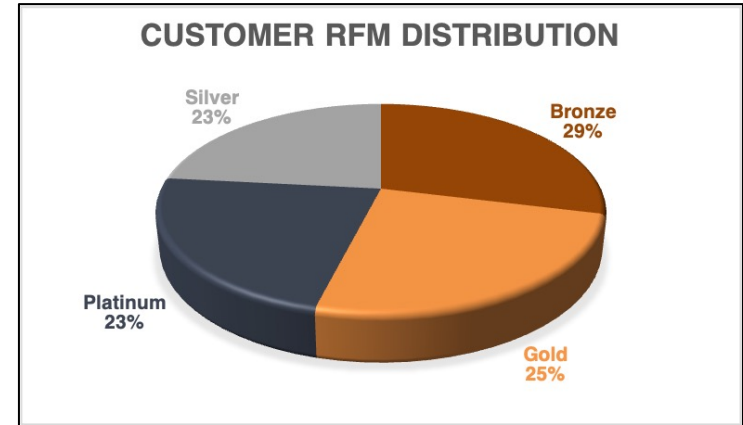
Customer Segmentation and Business Recommendation

- **Bronze:**

It is recommended to re-engage customer in this segment by sending personalized email campaigns, offering discount or incentives for their next purchase as well as ask for the customer's feedback from this segment to gain more understanding about why they are less active using surveys or feedback forms and address any issues they may have promptly to improve their experience.

- **Silver:**

As for our moderately engaged customer, we can continue to nurture and strengthen the relationship by sending regular updates, product recommendations, and special offer, such as loyalty program to reward their repeat business and leverage their previous purchase to make targeted recommendations



Interpretation

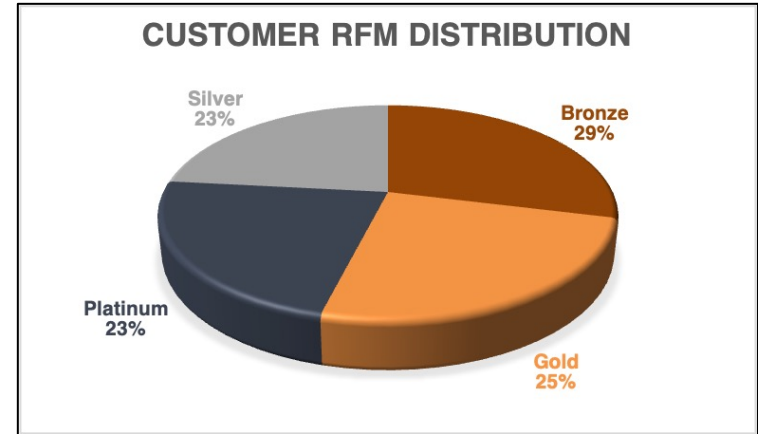
Customer Segmentation and Business Recommendation

- **Gold:**

This customer segment is highly valuable. So, it is recommended to treat them like VIPs by offering exclusive benefits, personalized support, and early access to new products or services. Consider to introduce premium or complimentary products or services to cater their needs and encourage them to refer others to your business as they are likely to be receptive to upsell offers.

- **Platinum:**

Platinum customers are the most valuable and loyal customer. It is highly recommended to go above and beyond to provide exceptional service, offer personalized shopping experiences, priority support, and custom solutions if applicable. Provide them with the highest level of exclusive rewards and benefits, i.e.: limited-edition products, concierge services, or invitations to exclusive events. Consider to encourage them to become our advocates for your brand and by offering them incentives for sharing their positive experiences.



Thank You