TheAnalyticsTeam

Sprocket Central Pty Ltd

Data analytics approach

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Agenda

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

Introduction

Identify and Recommend Top 1000 Customer to Target from Datasets

Outline of Problem

- 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.

This will be done with the three phases of: Data Exploration, Model Development, and Interpretation.

Contents of Data Analysis

- 'New' and 'Old' Customer Age Distributions
- Bike related purchases over the last 3 years by gender
- Job industry distributions
- Wealth segmentation by age and gender category
- Number of cars owned and not owned by state
- RFM analysis and customer classification

Data Exploration

Data Quality Assessment and 'Clean Up'

Key Issues for 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

Table Summary

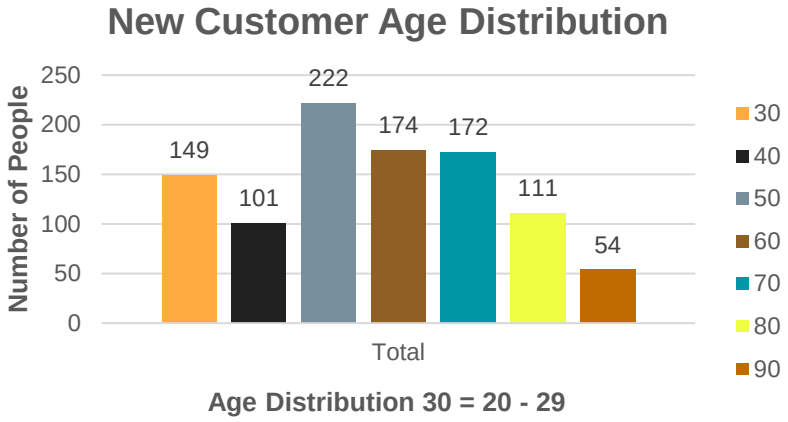
Table Name	Accuracy	Completeness	Consistency	Currency	Relevancy	Validity
Customer Demographic	DOB: Inaccurate Age: Missing	Job Title: Blanks Customer ID: Incomplete	Gender: Inconsistency	Deceased Customers: Filter out	Default Column: Delete	
Customer Address		Customer ID: Incomplete	States: Inconsistency			
Transactions	Profit: Missing	Customer ID: Incomplete Online Order: Blanks Brand: Blanks			Canceled Status Order: Filter Out	List Price: Format Product Sold Date: Format

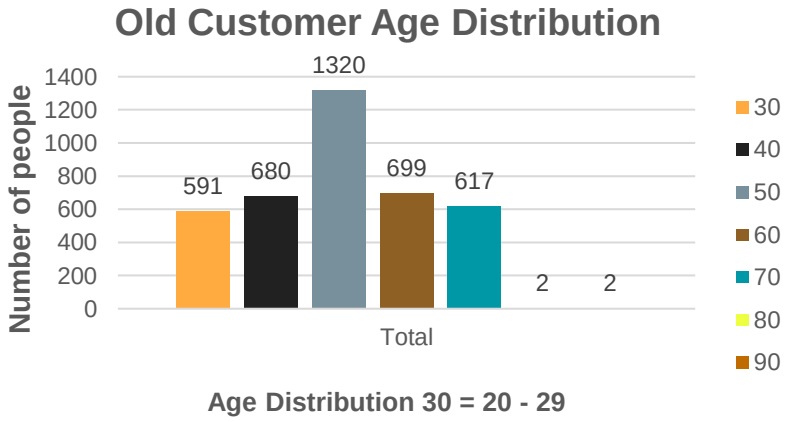
An in-depth analysis has been sent via email.

Data Exploration

'New' and 'Old' Customer Age Distributions

- Most customers are aged between 40 - 49 in 'New.' In 'Old' majority of customers are aged between 40 - 49 also.
- The lowest age groups are under 20 and 80+ for both.
- 'New' and 'Old' customer lists suggest that age groups 20 - 29 and 40 - 69 are the most populated.
- The 'Old' customer list suggests 20 - 69.
- There is a steep drop of customers in the 30 - 39 age group in 'New."



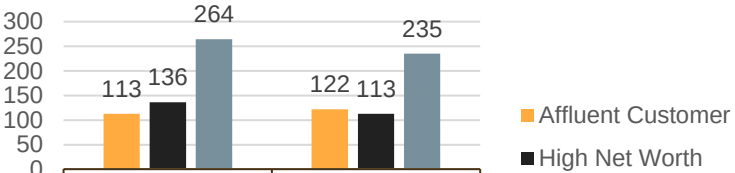


Data Exploration

Customer Wealth Segment By Gender

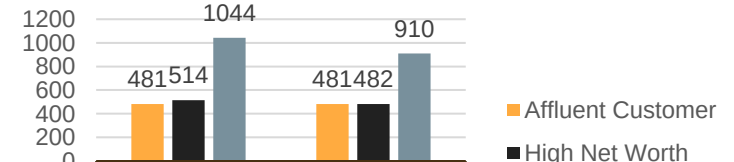
- The ‘Affluent Customers’ is topped by the Male in the ‘New’ list, while the ‘Old’ customers are equal.
- The ‘High Net Worth’ customers are topped by the ‘Females’ in both ‘New’ and ‘Old’.
- The ‘Mass’ customers are topped by the ‘Female’ in the ‘New’ and ‘Old’ customers.
- The ‘Male’ and ‘Female’ ‘Mass’ customers have the highest patronage in both ‘New’ and ‘Old’.

New Customer Wealth Segment By Gender



	Female	Male
Affluent Customer	113	122
High Net Worth	136	113
Mass Customer	264	235

Old Customer Wealth Segment By Gender

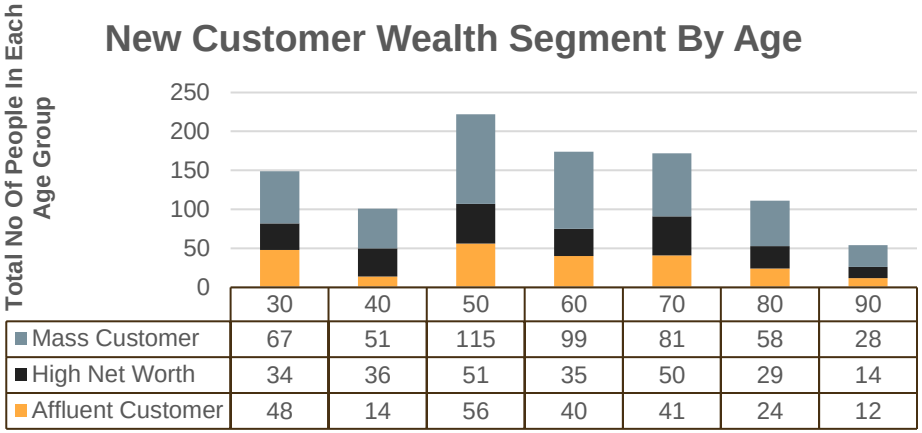


	Female	Male
Affluent Customer	481	481
High Net Worth	514	482
Mass Customer	1044	910

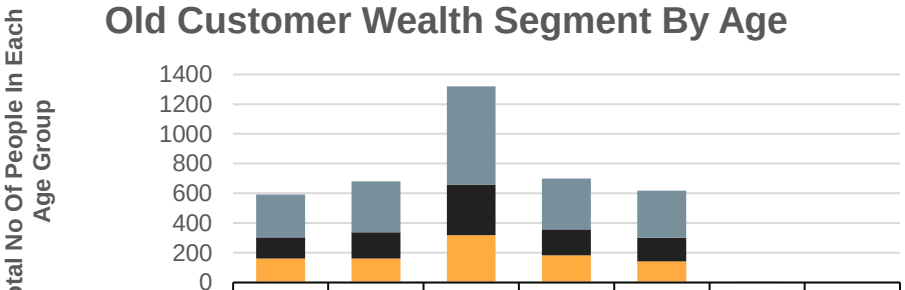
Data Exploration

Wealth Segment By Age Category

- In all age categories, the largest number of customers are classified as 'Mass Customers'.
- The next category is the 'High Net Worth' which has the highest number of customers between the ages of 50 – 70 in the 'New' list and 40 – 60 in the 'Old' .
- The 'Affluent Customer' are far higher in the 'Old' list compared to the 'New', from the ages of 30 – 60, with one difference in the 40s from the 'New' list.



	30	40	50	60	70	80	90
Mass Customer	67	51	115	99	81	58	28
High Net Worth	34	36	51	35	50	29	14
Affluent Customer	48	14	56	40	41	24	12

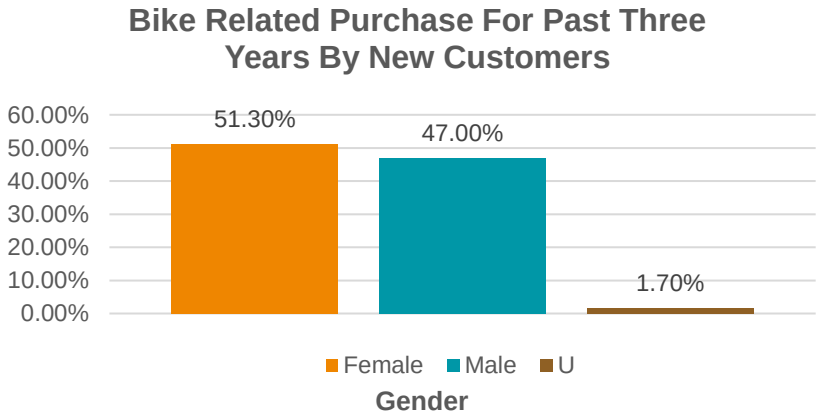


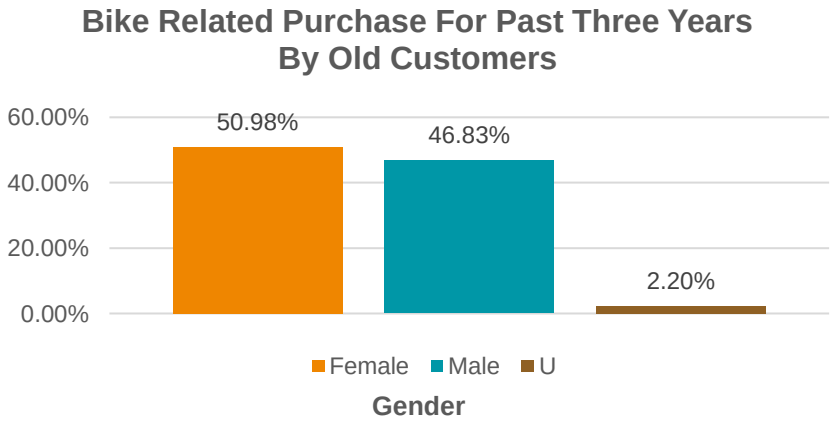
	30	40	50	60	70	80	90
Mass Customer	288	343	660	344	317		2
High Net Worth	143	177	342	174	159	1	
Affluent Customer	160	160	317	182	141	1	

Data Exploration

Bike-related purchases over the last 3 years by gender

- Over the last three years in both tables, about 50% of bike-related purchases were made by females compared to 47% of purchases made by males. Approximately 2% were made by unknown gender.
- Numerically, females purchase slightly more than males.
- Overall Females make up the majority of bike-related sales.

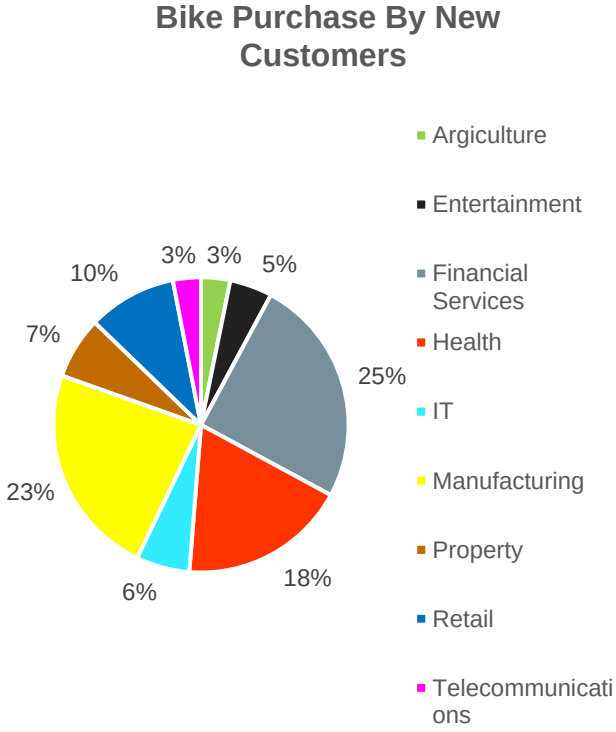


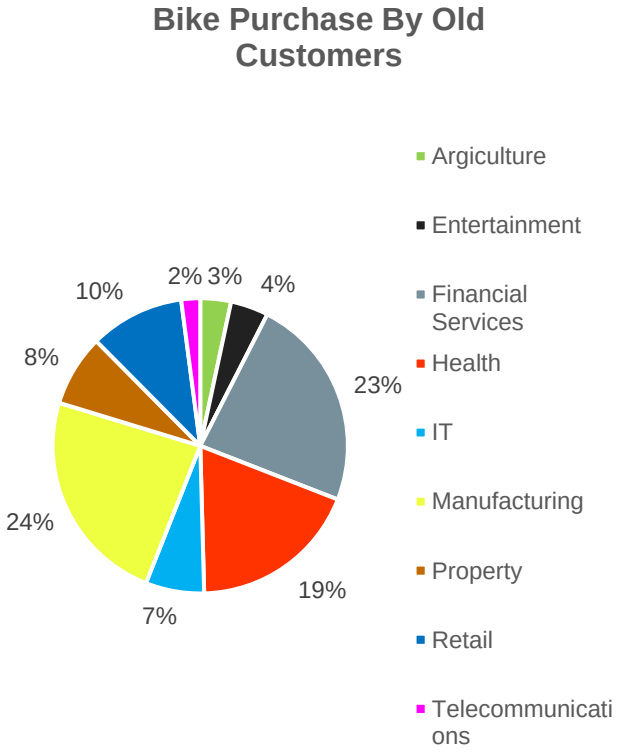


Data Exploration

Job Industry Distribution

- The top 3 Industry Sector bringing in the highest profit are: Financial Service, Health & Manufacturing.
- The smallest number of customers are in Agriculture and Telecommunications at 2% - 3%.
- The Industries in between are IT, Property & Retail.

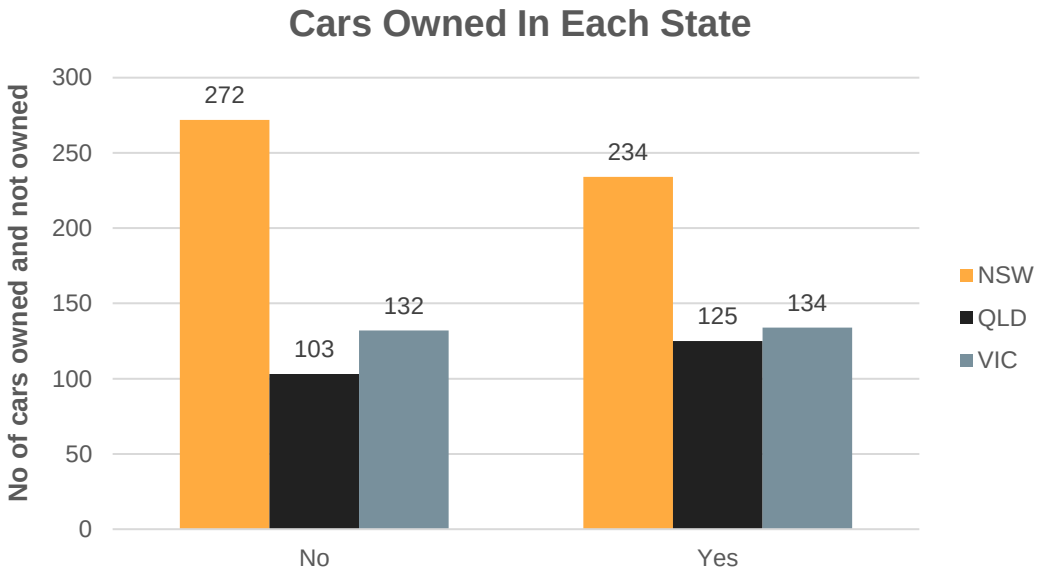




Data Exploration

Number Of Cars Owned And Not Owned By The State

- NSW has the largest amount of people that do not own a car. NSW seems to have a higher number of people from which data was collected.
- QLD has a relatively high number of customers that own a car.
- Victoria is also split quite evenly. But both numbers are significantly lower than those of NSW.



Model Development

Customer Classification – Targeting High Value Customers

These are the high Value customers that should be targeted from the new list.

- Most of the high value customers are Females compared to Males
- Working in the Financial Service, Health and Manufacturing industry sector
- Aged between 30 – 50
- Who are currently living in NSW, VIC

Interpretation

Summary Table for High Value Customers

- Here is a table of few customers that will come under the high value customer

First Name	Last Name	Bike Related Purchase for the last 3 Years	Age	Job Industry	Wealth Segment	Owns Car	State
Ardelis	Forrester	10	48	Financial Services	Affluent Customer	No	VIC
Rutledge	Hallt	23	46	Financial Services	Mass Customer	No	NSW
Melba	Spellacy	38	46	Health	Mass Customer	No	NSW
Winnifred	Beswetherick	83	47	Financial Services	Mass Customer	No	VIC
Sharron	Claibourn	62	43	Financial Services	High Net Worth	Yes	NSW
Sybilla	MacCart	88	36	Financial Services	Mass Customer	Yes	NSW
Maisie	Maddox	27	46	Financial Services	Affluent Customer	No	VIC
Mitchell	MacCague	58	44	Manufacturing	Mass Customer	No	VIC
Colene	Fishleigh	24	38	Financial Services	Mass Customer	No	VIC
Gale	Disbrow	59	46	Financial Services	Mass Customer	Yes	VIC

Thank You