

TheAnalyticsTeam

Sprocket Central Pty Ltd

Data analytics approach

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Agenda

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

Introduction

SProcket Central : high-quality bikes and accessible cycling accessories to riders

Problem:

The marketing team wanting to boost business sales from

- 1) 1000 New list customer whom should be focus to drive higher value company but the company lost data transactions of them
- 2) Exist customer data

Analysis:

- Exploratory all customer
- What is the good customer?
RFM Analysis to clustering old Data to find character of mostly good customer
- Appropriate ranking new list customer by According near character of group good customer
- How behavior good customer group with product ?

Data Exploration

Data Wrangling

Customer Demographic		
Data Quality Dimension	Column name	Strategies
Accuracy	age	Calculate from DOB and filter inappropriate age out
Completeness	last_name	Blank
	job_title	Delete contained missing value row
	job_industry_category	Delete contained missing value row
	tenure	Fill missing value with mean
	age	Fill missing value with mean
Consistency	customer_id	Filter customer_id that doesn't appeared on customer address out
Relevancy	default	Delete this column
Validity	gender	Re-format "F" and "Female" to Female and "M" to Male. Delete rows that contain "U"

Model Development

Data Wrangling

Customer Address		
Data Quality Dimension	Column name	Strategies
Consistency	customer_id	Filter customer_id that doesn't appeared on customer demographic out
Validity	state	Re-format "New South Wales" to "NSW" and "Victoria" to "VIC"

Interpretation

Data Wrangling

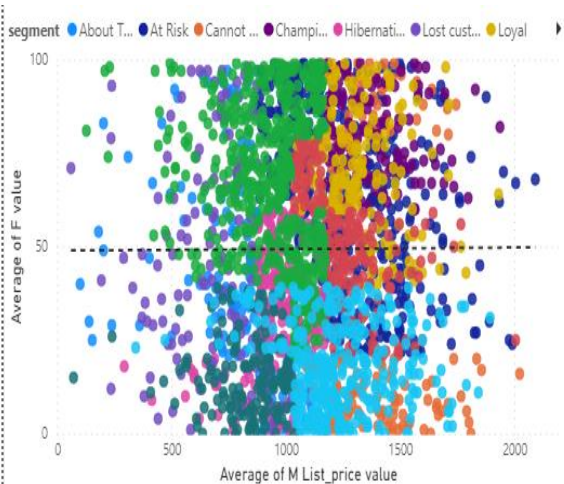
Transactions		
Data Quality Dimension	Column name	Strategies
Accuracy	profit	Calculated by subtract list_price with standard_cost
Completeness	online_order	Delete contained missing value row
	brand	Delete contained missing value row
	product_line	Delete contained missing value row
	product_class	Delete contained missing value row
	product_size	Delete contained missing value row
	standard_cost	Delete contained missing value row
	first_sold_date	Delete contained missing value row
Relevancy	Cancelled order_status	Filtered out
Validity	product_sold_date	convert float to datetime.date

Data Exploration

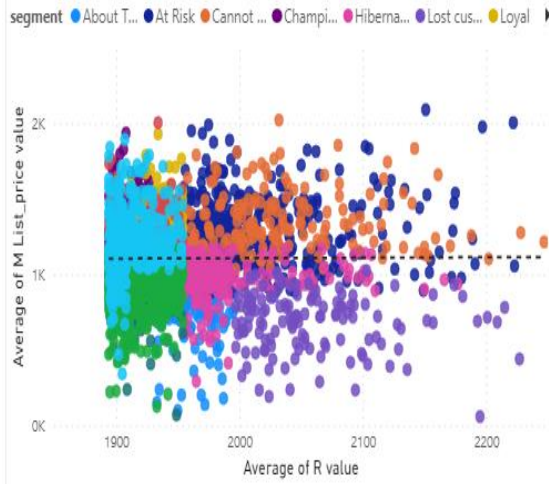
Scatter plot RFM analysis : relationship

- No relationship among 3 parameter

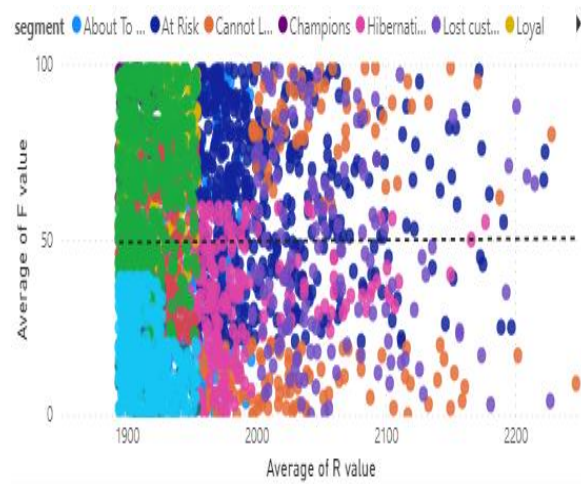
F vs M



M vs R



F vs R



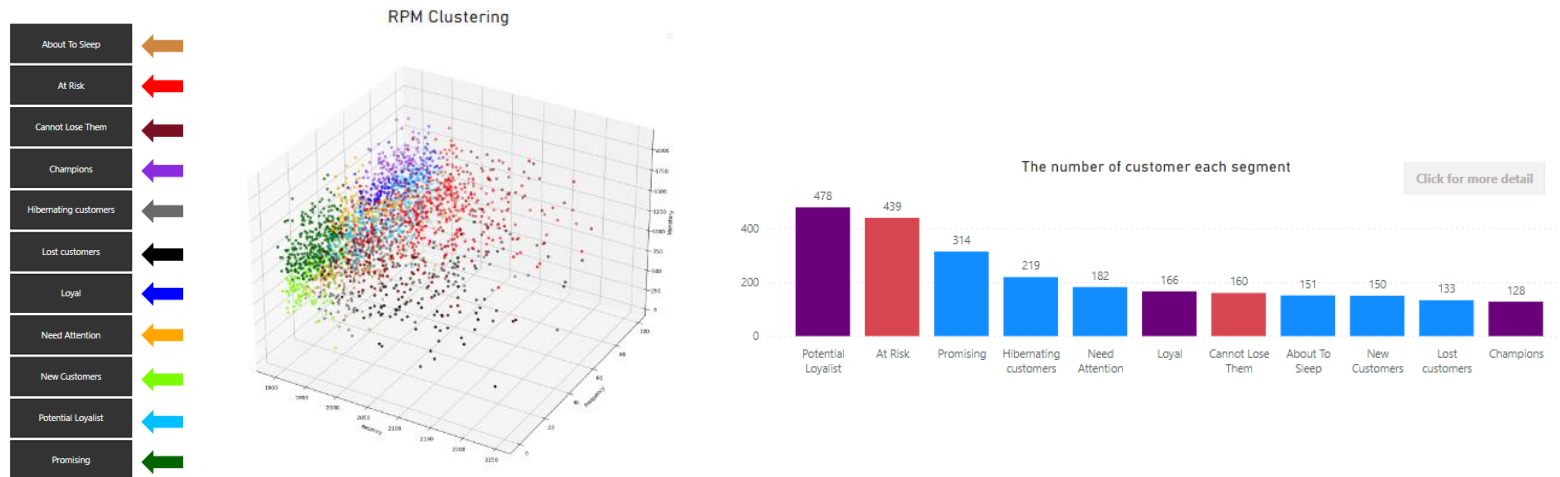
Model Development

What is the good customer?

RFM Analysis Recency, Frequency, and Monetary

is clustering customer which parameter from behavior customer in transaction

- assist in developing marketing strategy by providing the appropriate customer group
- help find character of good customer focus in 3 groups **Potential Loyalist, Loyal, Champions**



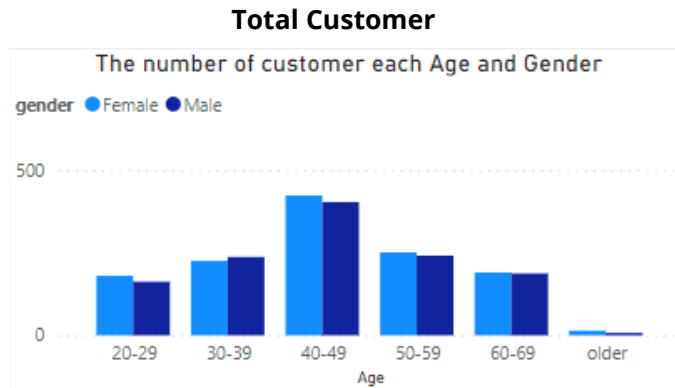
Interpretation : 1) strategy take action in each group customer

Customer Segment	Activity	Actionable Tip
Champions	Bought recently, buy often and spend the most!	Reward them. Can be early adopters for new products. Will promote your brand.
Loyal Customers	Spend good money with us often. Responsive to promotions.	Upsell higher value products. Ask for reviews. Engage them.
Potential Loyalist	Recent customers, but spent a good amount and bought more than once.	Offer membership / loyalty program, recommend other products.
Recent Customers	Bought most recently, but not often.	Provide on-boarding support, give them early success, start building relationship.
Promising	Recent shoppers, but haven't spent much.	Create brand awareness, offer free trials
Customers Needing Attention	Above average recency, frequency and monetary values, May not have bought very recently though.	Make limited time offers, Recommend based on past purchases. Reactivate them.

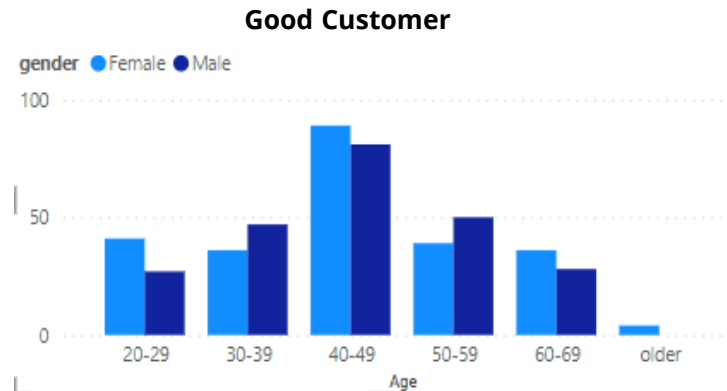
Customer Segment	Activity	Actionable Tip
About To Sleep	Below average recency, frequency and monetary values. Will lose them if not reactivated.	Share valuable resources, recommend popular products / renewals at discount, reconnect with them.
At Risk	Spent big money and purchased often. But long time ago. Need to bring them back!	Send personalized emails to reconnect, offer renewals, provide helpful resources.
Can't Lose Them	Made biggest purchases, and often. But haven't returned for a long time.	Win them back via renewals or newer products, don't lose them to competition, talk to them.
Hibernating	Last purchase was long back, low spenders and low number of orders.	Offer other relevant products and special discounts. Recreate brand value.
Lost	Lowest recency, frequency and monetary scores.	Revive interest with reach out campaign, ignore otherwise.

Interpretation 2) find character of good customer

The number of customer each age and gender



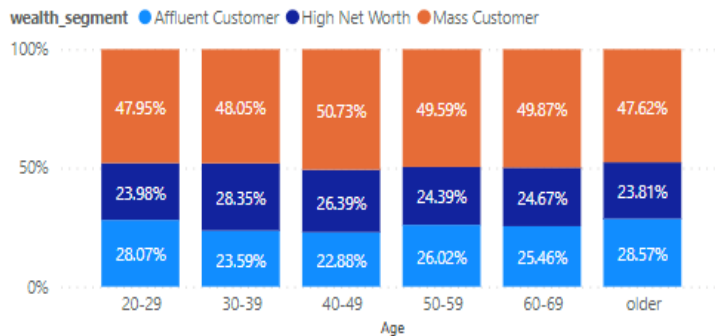
Vs



Interpretation 2) find character of good customer

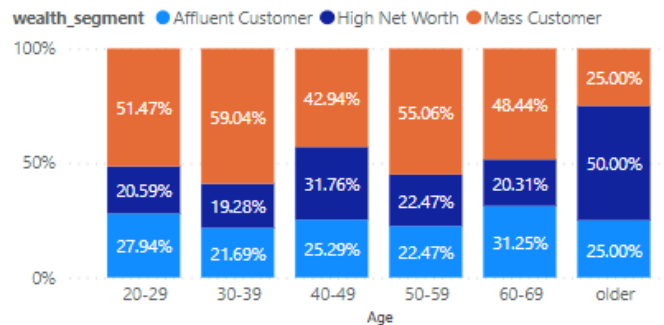
The proportion of customers in each wealth segment

Total Customer



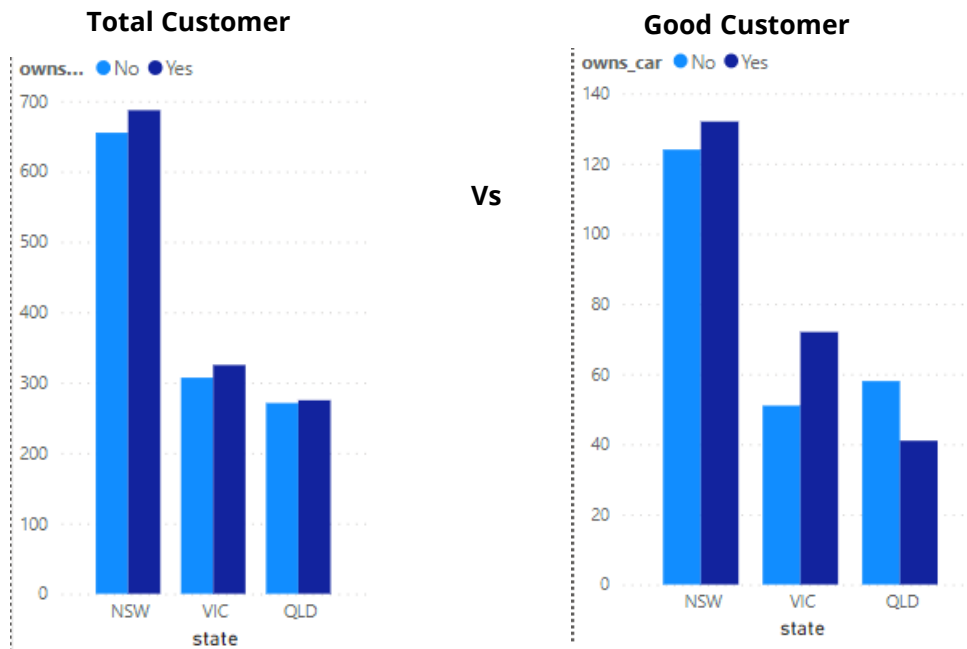
Vs

Good Customer



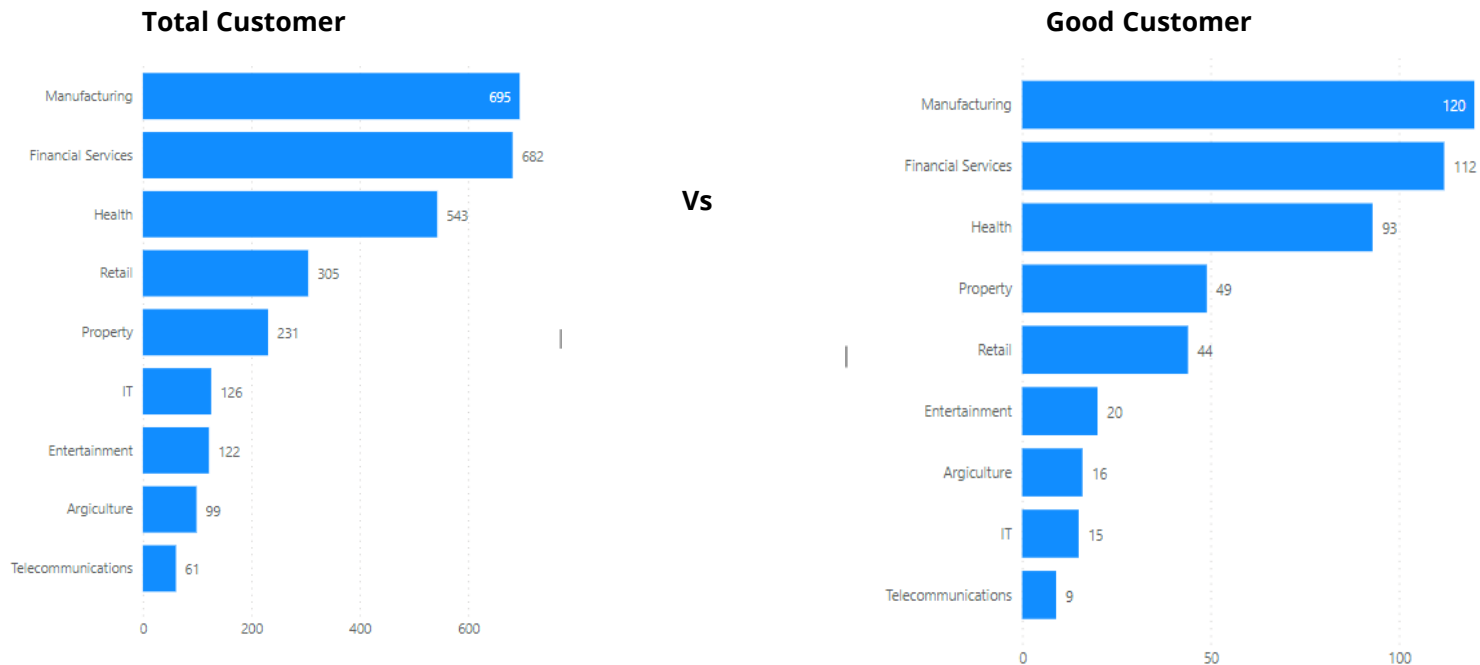
Interpretation 2) find character of good customer

The number Own car each state



Interpretation 2) find character of good customer

The number of Customer each jobcategory



Interpretation 2) find character of good customer

The distribution property valuation

Total Customer



7.48
Avg Property_value

vs

7.43
Avg Property_value

Same

Good Customer



Interpretation 2) find character of good customer

Calculate the likelihood of a good customer occurring in each category

are scored to determine rank as same as character of good customer ;

What is the top rank among 1,000 customers?



Rank Customer	Full Name	job_title	address	postcode	state
1	Myrtie Ostrich	VP Quality Control	320 Acker Drive	2251	NSW
1	Rosmunda Duxbarry	Executive Secretary	989 Graedel Terrace	4208	QLD
3	Anson Dearnaly	Data Coordinator	6060 Veith Crossing	2103	NSW
3	Isak Bergstram	Pharmacist	68 Karstens Pass	2176	NSW
3	Tomkin Bernlin	Food Chemist	0492 Kings Street	2480	NSW
6	Alick Baise	Pharmacist	096 Gateway Road	2747	NSW
6	Flin Yoskowitz	Registered Nurse	9940 Manley Drive	2574	NSW
8	Symon Mawne	Human Resources Assistant IV	37439 High Crossing Circle	3350	VIC
9	Wolf Craft	Database Administrator III	7513 Swallow Drive	2148	NSW
10	Nalani Hallad	Environmental Specialist	1 Oriole Crossing	3184	VIC
11	Amil Ennor	Health Coach II	2093 Amoth Pass	3109	VIC
11	Lura Fawdrie	VP Sales	67183 Anniversary Parkway	4211	QLD
13	Gilli Christophers	Database Administrator IV	53870 Jay Pass	4575	QLD
14	Dwain Hatch	Marketing Assistant	5 Hovde Lane	3028	VIC
14	Geoff Gwilym	Clinical Specialist	1 Eliot Plaza	2323	NSW