

Sprocket Central Pty Ltd

Data analytics approach

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Agenda

1

Introduction

2

Data Exploration

3

Model Development

4

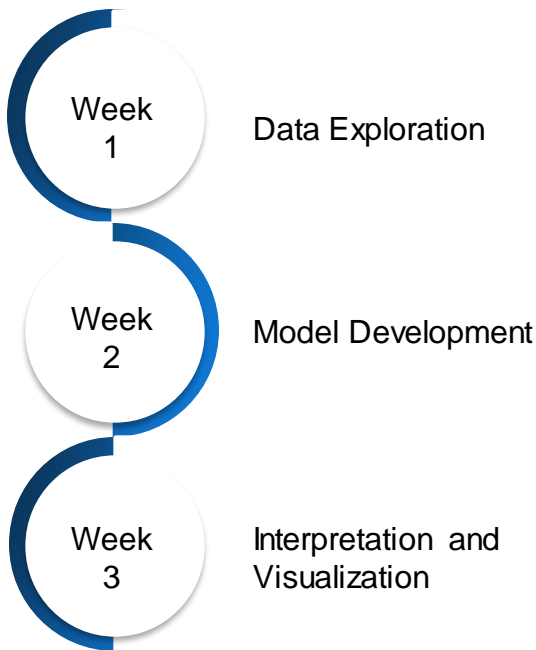
Interpretation

Introduction

Problem

- Identify patterns in customer demographics and transactions.
- Optimize resource allocation for strategic marketing.
- Enhance customer satisfaction and drive business growth.
- Recommend potential 1000 new customers.

Process



Solutions

- Assess data quality and preprocess for accuracy.
- Explore data for customer insights.
- Feature selection for enhanced analysis.
- Segment customers and identify potential leads.
- Develop a dashboard.
- Provide actionable insights for strategic decisions.

Data Exploration: Data Quality Assessment

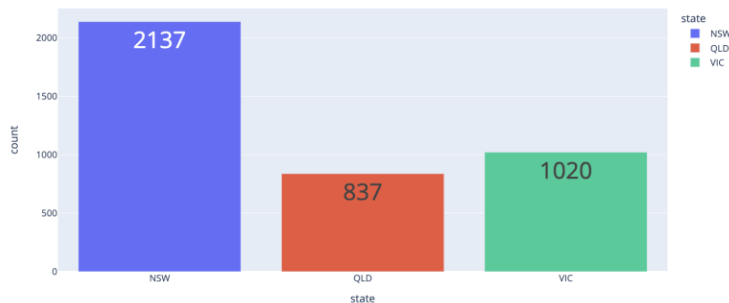
Issues	Action	Transaction	Customer Demographic	Customer Address
Missing more than 50% information.	Drop those records since it insufficient data for further analysis.	✓		
Missing categorical values	Replace with 'unknown' or mode value.	✓	✓	
Missing numerical values	Replace with mean value of the corresponding column.	✓	✓	
Invalid values	Replace with mean values		✓	
Inconsistency values	Replace with correct values		✓	✓
Datetime format	Convert to the date time format	✓	✓	

Data Exploration

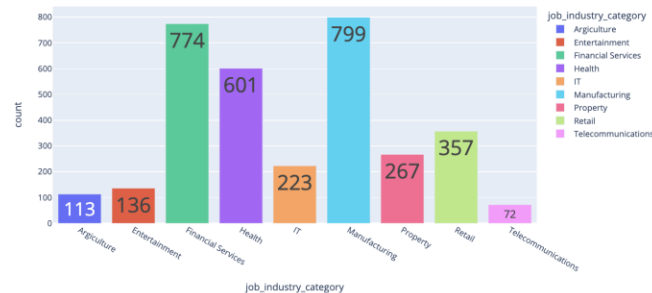
Customer distribution by demographic.

- Predominantly aged between 40 to 50 years old.
- Slightly higher representation of female customers compared to male customers.
- Majority of customers reside in New South Wales.
- Primary customer occupations are in the financial services and manufacturing industries.

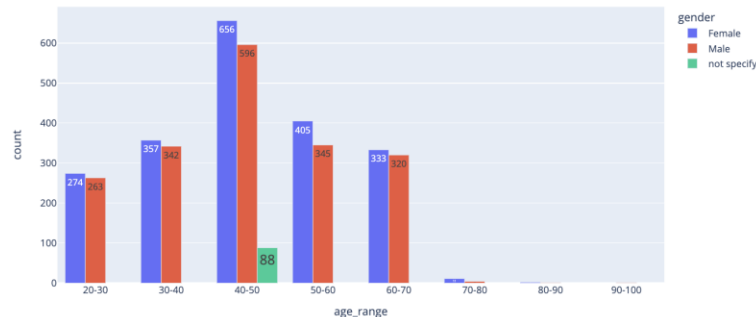
Total customer distribution by state



Total customer distribution by job industry



Total customer distribution by age range



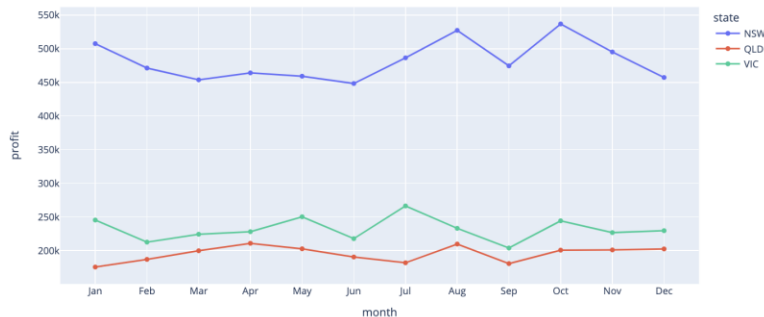
Data Exploration

Financial Highlights

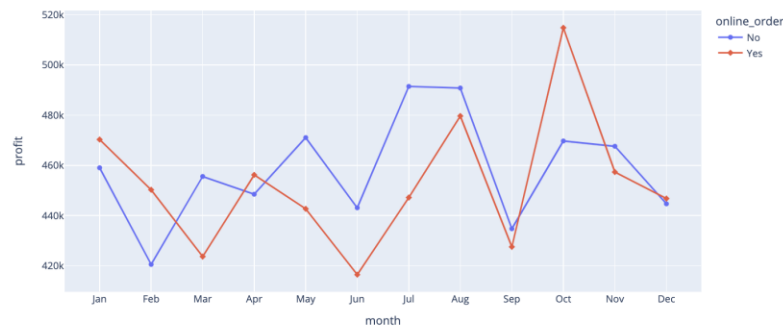
Assuming list price as the selling price and standard cost as the product cost, profit is calculated by subtracting standard cost from the list price.

- Online orders surged notably in October.
- The product brand "WeareA2B" recorded the highest sales.
- New South Wales achieved the highest revenue.

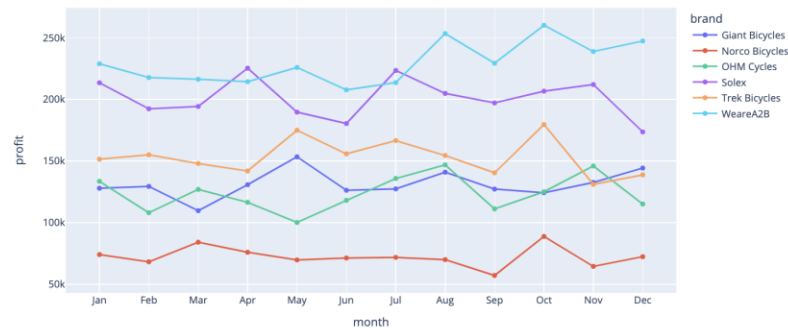
Monthly profit by state in 2017



Profit by order type, online, offline order



Monthly profit by product brand in 2017



Model Development

Model Building

- Calculate necessary field for better model performance such as profit column.

Feature Selection

- Select relevant features that might contribute to identifying potential customers. These could include transaction history, demographics, or any other relevant information.

Predict Potential Customers

- Trained model to predict the likelihood of being a potential customer.

Rank and Select Top 1000 Customers

- Rank the customers based on their predicted likelihood of being potential customers. Select the top 1000 customers with the highest scores.

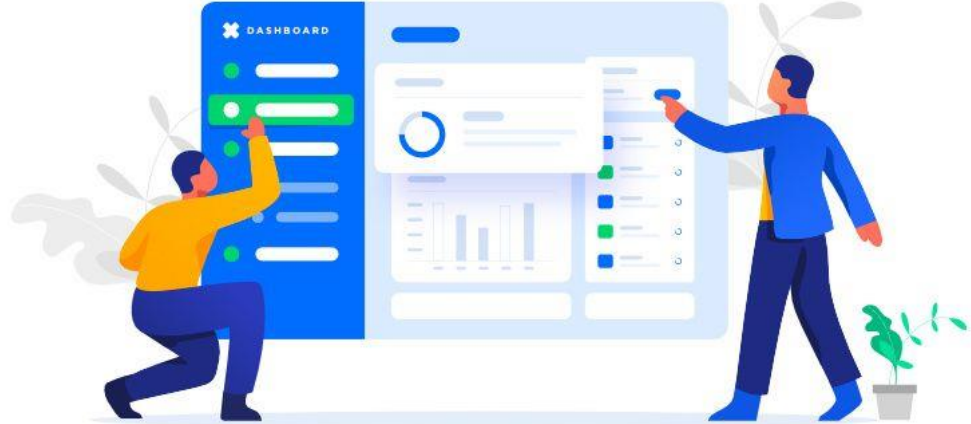
Interpretation

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We will deliver a comprehensive analysis to the client, encompassing strategic business growth plans, a concise summary report, and actionable insights derived from thorough data analysis.

Visualization

To improve readability and optimize data presentation, we will utilize powerful visualization tools such as Tableau, Power BI, and Excel.



Appendix