DATA ANALYSIS

Consumer Purchases

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Overview

   Sprocket Central, a bikes & cycling accessories company wants to grow its customer database through a targeted marketing strategy.

   To improve performance, their marketing team wants to focus on high value customers and target them.

   Hence a task has been given by Sprocket Central to analyze their existing 4,000 customer database and check for patterns and trends that would be used to know the high value customers from their new 1,000 customer dataset

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Overview

To complete this task, the following analysis were done;

- Assessed the quality of data and cleaned the data using the data quality framework tool.
- Identified data quality issues and limitations of the data.
- Analyzed the transaction history of their existing 4,000 customer dataset and recognized trends and patterns
- Sorted the high value customers from the new dataset

Data Quality

Data exploration and data cleaning was done on the existing customer dataset provided in order to improve data quality and check for faults and limitations

To clean the data, the following data quality framework factor tools were used :

- Accuracy
- Completeness
- Validity
- Uniqueness
- Consistency

Note : The existing customer dataset is attached to this file.

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Faults and Limitations

After exploring the data, the following faults were found
- Some cells were empty
- Some cells were incorrect and in the wrong format
- Some data were hidden

To solve these data quality issues, formats were changed and the data was unhidden.

The only limitation to this data were empty cells which was a barrier in completeness giving an unknown customer category.

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Trends

To get the high value customers from the new customer dataset, trends and patterns were analyzed from the existing customer dataset.

The following factors were used;

- Location
- Job Industry
- Wealth Segment

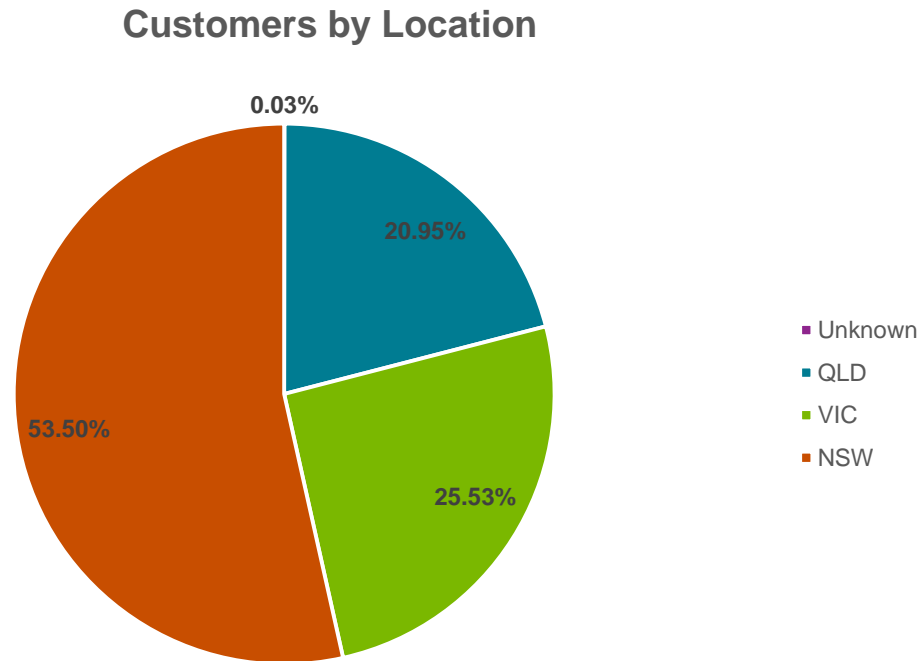**KPMG**

Existing Customers by Location

From the data below, it shows that majority of those who purchased sprocket's products are from New South Wales(NSW) with a total of, 2140 customers giving a 53.5%.

From this analysis, our target customers for the new dataset would be from New South Wales(NSW) based on the history of the existing customer purchases.

Row Labels	Percentage of Customers	Number of Customers
Unknown	0.03%	1
QLD	20.95%	838
VIC	25.53%	1021
NSW	53.50%	2140
Grand Total	100.00%	4000

Existing Customers by Location

A graphical representation of the existing customer dataset by location

Customers by Location

Pie chart values:
- 0.03% Unknown
- 20.95% QLD
- 25.53% VIC
- 53.50% NSW

Existing Customers by Job Industry

From the data below, it shows that majority of those who purchased sprocket's products are from the financial industry, health industry and manufacturing industry with a 19.35%, 15.05% and 19.98% purchase rate respectfully, giving a total of 54.38%. This is a total of 2155.

From this analysis, our target customers for the new dataset would be from the financial, health and manufacturing industry based on the history of the existing customer purchases.

Row Labels	Percentage of Customers	Number of Customers
Argiculture	2.83%	113
Entertainment	3.40%	136
Financial Services	19.35%	774
Health	15.05%	602
IT	5.58%	223
Manufacturing	19.98%	799
n/a	16.40%	656
Property	6.68%	267
Retail	8.95%	358
Telecommunications	1.80%	72
Grand Total	100.00%	4000

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Existing Customers by Job Industry

A graphical representation of the existing customer dataset by job industry

Customers by Job Industry
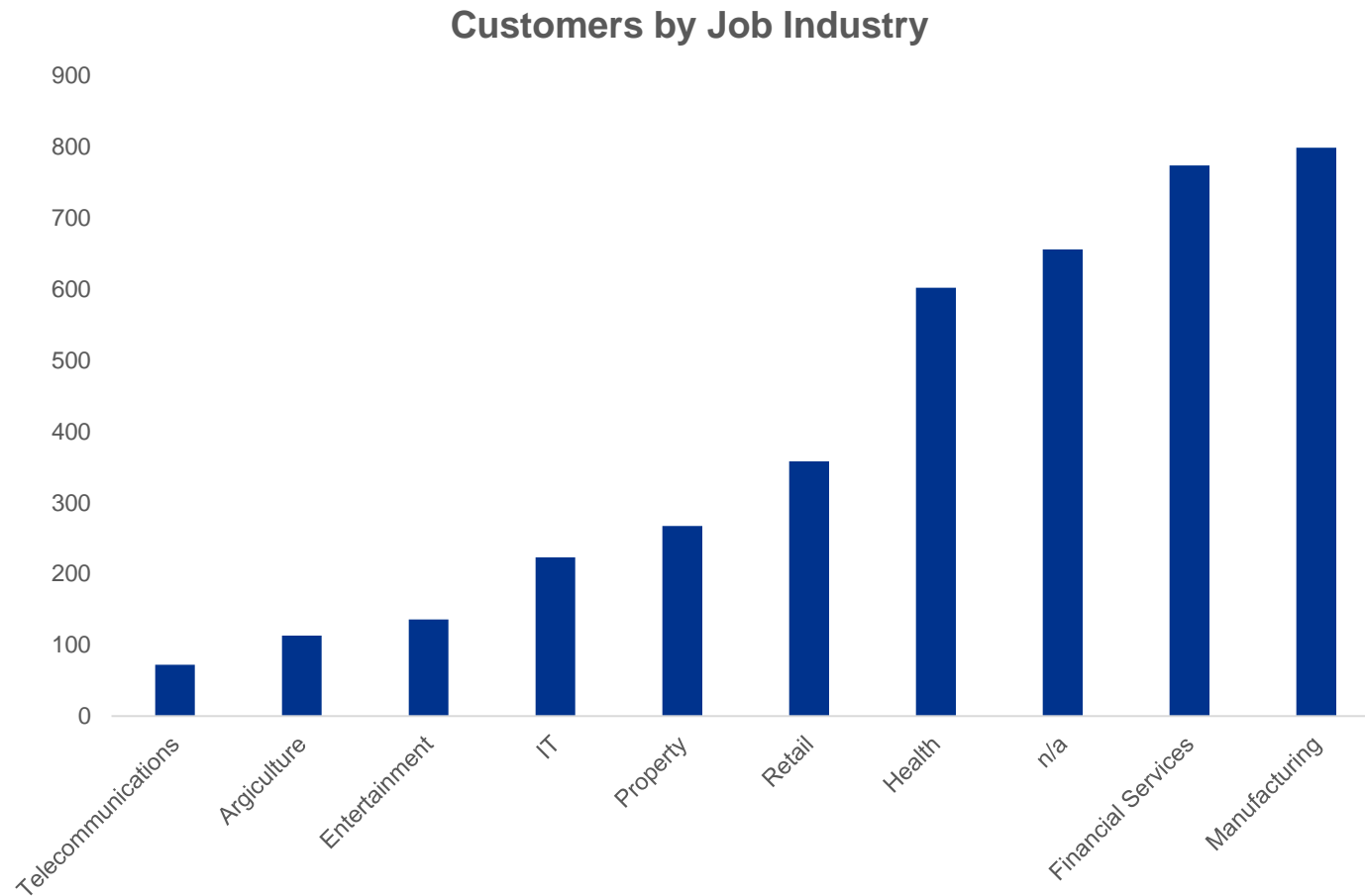
Existing Customers by Wealth Segment

From the data below, it shows that majority of the customers who purchased sprocket's products are mass customers with a total of 2000 customers, that is half of the consumers.

From this analysis, our target customers for the new dataset would be from the mass customer segmentation based on the history of the existing customer purchases.

Row Labels ▼	Percentage of Customers	N.umber of customers
Affluent Customer	24.48%	979
High Net Worth	25.53%	1021
Mass Customer	50.00%	2000
Grand Total	100.00%	4000

Existing Customers by Wealth Segment

A graphical representation of the existing customer dataset by wealth segment

Customers by Wealth Segment

- Affluent Customer
- High Net Worth
- Mass Customer

24.48%

25.53%

50.00%

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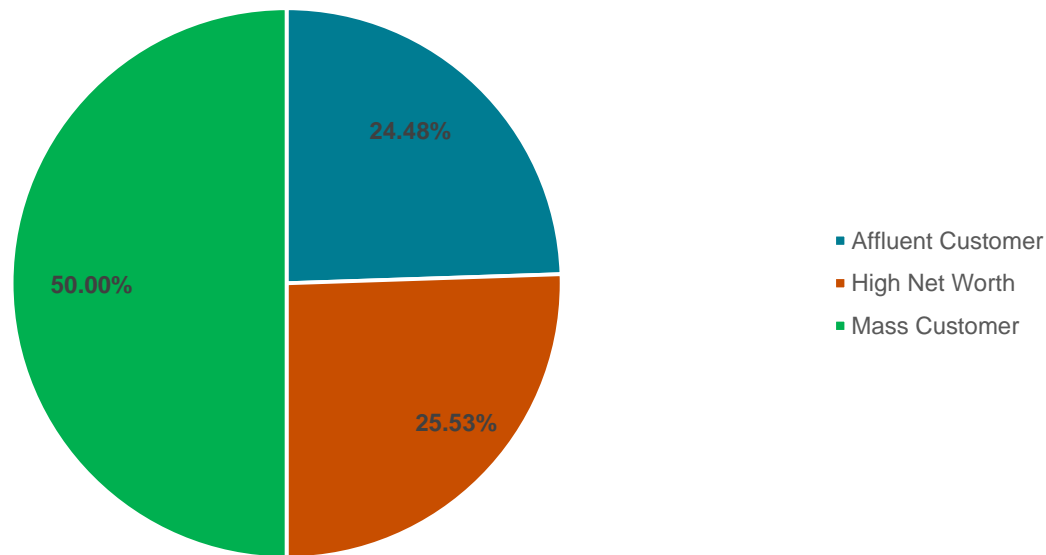
Trends

After checking for the customer trends in the existing customer dataset, the trends and patterns we got from the customer dataset would be used to determine the high value consumers in the new dataset.

- Location : New South Wales
- Job Industry : Finance, Health and Manufacturing
- Wealth Segment : Mass Consumer

New Customer Dataset

Note : The new customer dataset is attached to this file.

New Customers by Location

The high value customers that would be targeted are the 50.60% from New South Wales based on the history of the purchase rate from the existing customer data, a total of 506 customers.

Row Labels	Percentage of Customers	Number of Customers
NSW	50.60%	506
QLD	22.80%	228
VIC	26.60%	266
Grand Total	100.00%	1000

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New Customers by Location

A graphical representation of the new customer dataset by location

Customers by Location

- NSW
- QLD
- VIC

26.60%
50.60%
22.80%
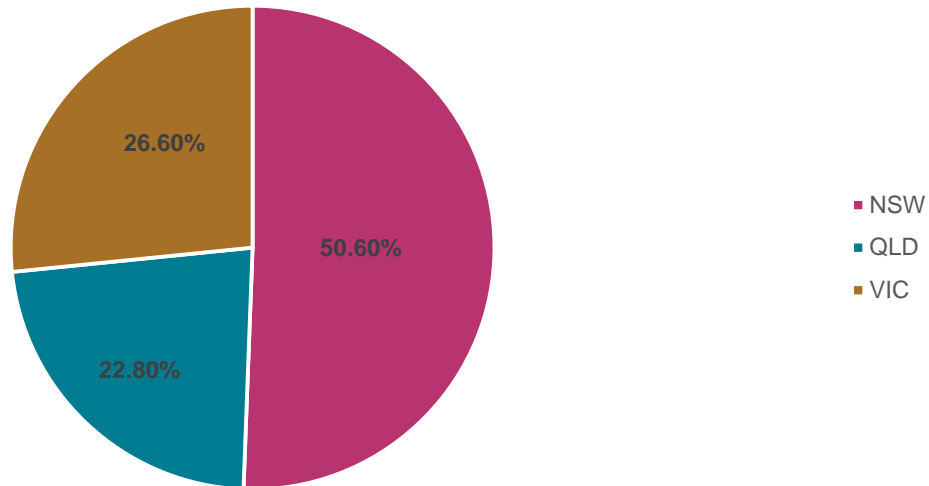
New Customers by Job Wealth Segment

From this analysis, it shows that our target customers which are the mass customers, are a total of 508 and are our high value customers based on the purchase history of our existing customer data.

Row Labels ▼	Percentage of Customers	Number of Customers
Affluent Customer	24.10%	241
High Net Worth	25.10%	251
Mass Customer	50.80%	508
Grand Total	100.00%	1000

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New Customers by Job Wealth Segment

A graphical representation of the new customer dataset by wealth segment

Customers by Wealth Segment

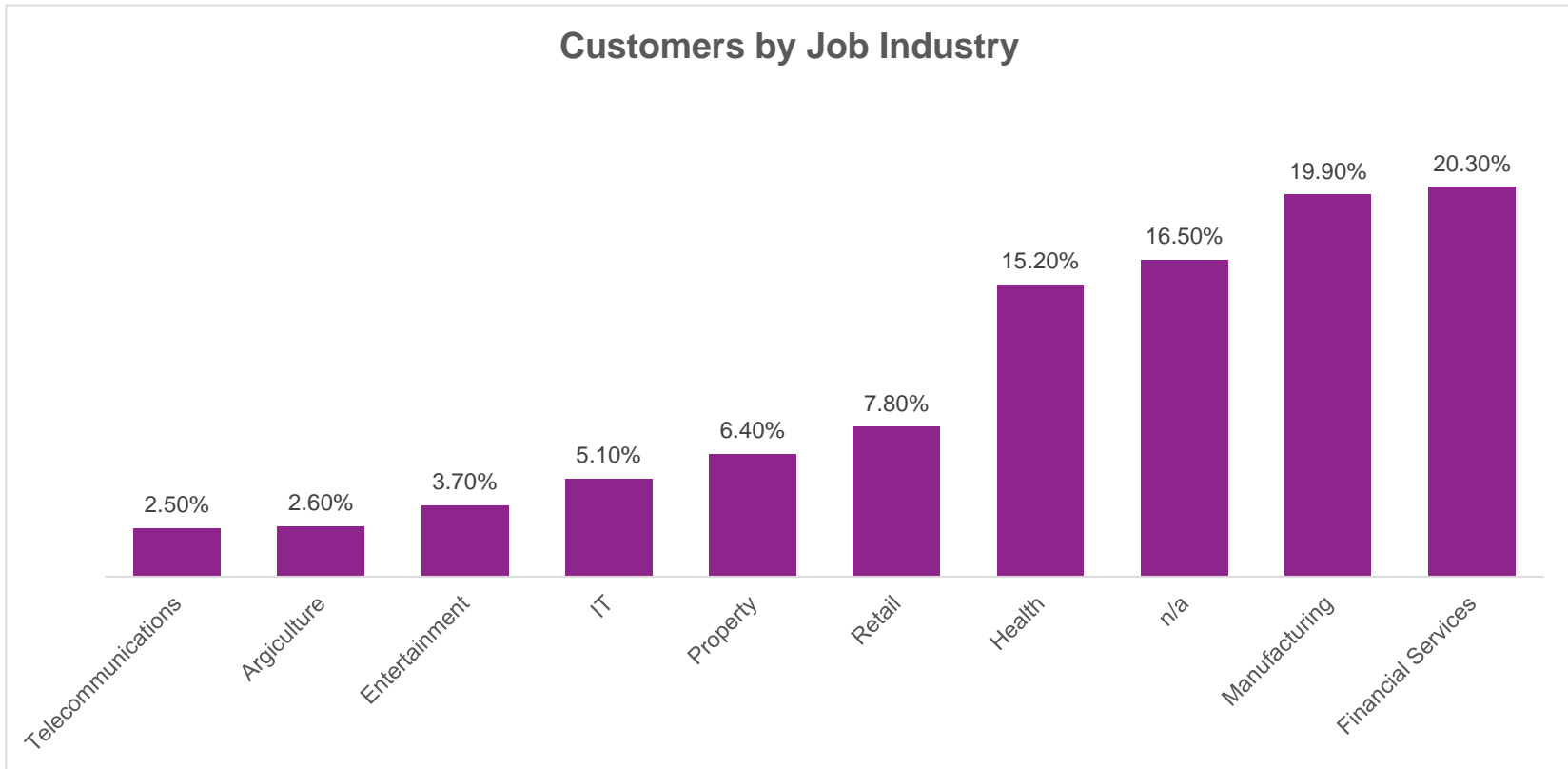| Affluent Customer	High Net Worth	Mass Customer
24.10%	25.10%	50.80%
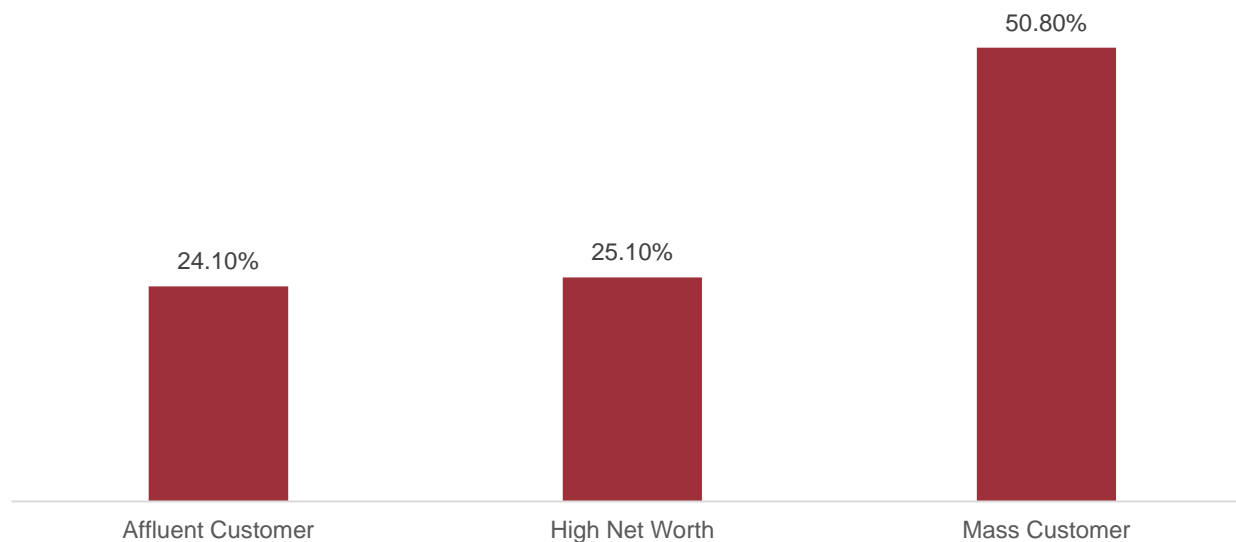
New Customers by Job Industry

Customers from Finance, Manufacturing and Health are the highest purchasers based on our existing history hence they make up the high value customers in our new dataset. They account for 55.4% in total with a 20.30%, 19.90% and 15.20% respectively.

Row Labels	Percentage of Customers	Number of Customers
Telecommunications	2.50%	26
Argiculture	2.60%	37
Entertainment	3.70%	203
IT	5.10%	152
Property	6.40%	51
Retail	7.80%	199
Health	15.20%	165
n/a	16.50%	64
Manufacturing	19.90%	78
Financial Services	20.30%	25
of Customers		1000

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New Customers by Job Industry

A graphical representation of the new customer dataset by job industry

Customers by Job Industry

Industry	Percentage
Telecommunications	2.50%
Argiculture	2.60%
Entertainment	3.70%
IT	5.10%
Property	6.40%
Retail	7.80%
Health	15.20%
n/a	16.50%
Manufacturing	19.90%
Financial Services	20.30%

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Result

Analyzed Sprocket Central's new customer database to determine the high value customers. This was achieved through checking for trends, patterns and customer behavior from their existing customer database to know the highest purchase rate of their products.

The insights gotten from the analysis are as follows;

- Customers with the highest purchase rate are from New South Wales
- Mass customer segment had the highest purchase rate
- Customers that had jobs in finance, health and manufacturing had the highest purchase rate than customers in other industries.

These patterns and trends from the existing dataset were used to determine the high value customers.

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Skills and Technologies

The skills learnt in this project are; Research, marketing analytics, predictive analysis, descriptive analysis, data visualization, data mining, data modeling and data cleaning

The technologies used in this project are; excel, pivot table function and PowerPoint

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THANK YOU