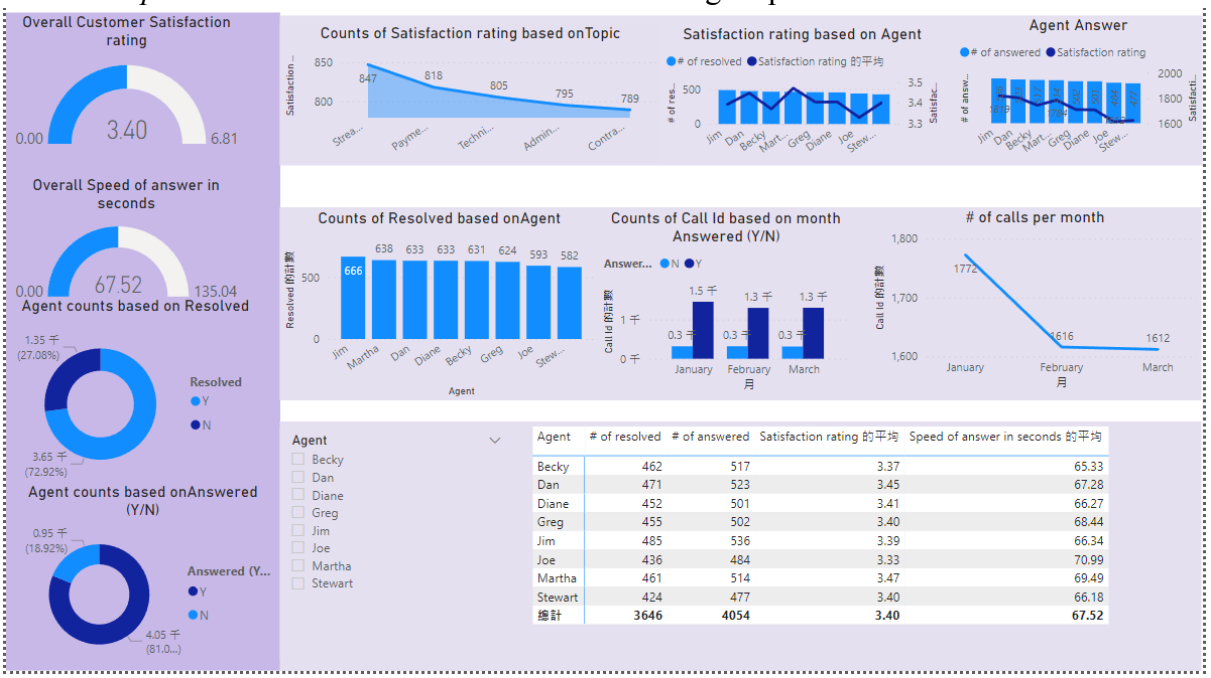
Project 1: PwC Power BI Call Centre Dashboard

Task description: Created a dashboard to evaluate the agent performance.



Agent	# of resolved	# of answered	Satisfaction rating 的平均	Speed of answer in seconds 的平均
Becky	462	517	3.37	65.33
Dan	471	523	3.45	67.28
Diane	452	501	3.41	66.27
Greg	455	502	3.40	68.44
Jim	485	536	3.39	66.34
Joe	436	484	3.33	70.99
Martha	461	514	3.47	69.49
Stewart	424	477	3.40	66.18
總計	**3646**	**4054**	**3.40**	**67.52**

We can track the metrics to evaluate the performance of agents such as satisfaction rate, answered calls, resolved calls, speed of calls, etc)

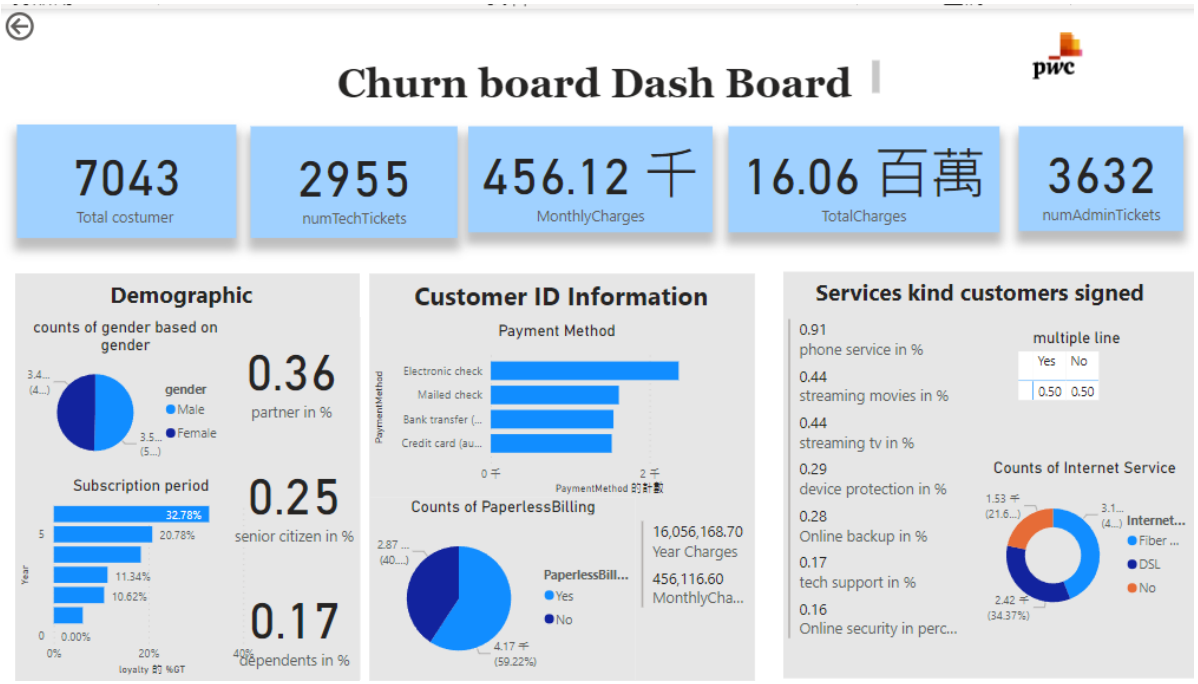
- The total calls received by the call center 18.92% were **unanswered**
- The total calls answered 27% were **unresolved**
- The **number of calls** of the call center **declined** from 1772(January) to 1616(February). There might exist some problems customers did not trust the call
- " **Streaming**" got the **highest satisfaction rating**. We could infer most of agents in the call center were good at answering the streaming related problems
- Joe was the agent who had the most unanswered and unresolved calls. Her satisfaction rate was also below the average. The firm could provide further training for all agents so that they could solve the customers' problem well.

Insights:

- **Agent Training**: Satisfaction rate of different agents fluctuated, to ensure all of the customers got the best service, training session for each agent is a must.
- **Set up SOP**: The firm could establish a general SOP which could help both customers and agents solve most common problems more efficiently.
- **Call Reviews**: Survey could be added at the end of each call so that the firm could know more details of the customers' preferences.

Project 2: Customer Retention Dashboard

Task Description: Built customer churn dashboard to analyze those customers at risks

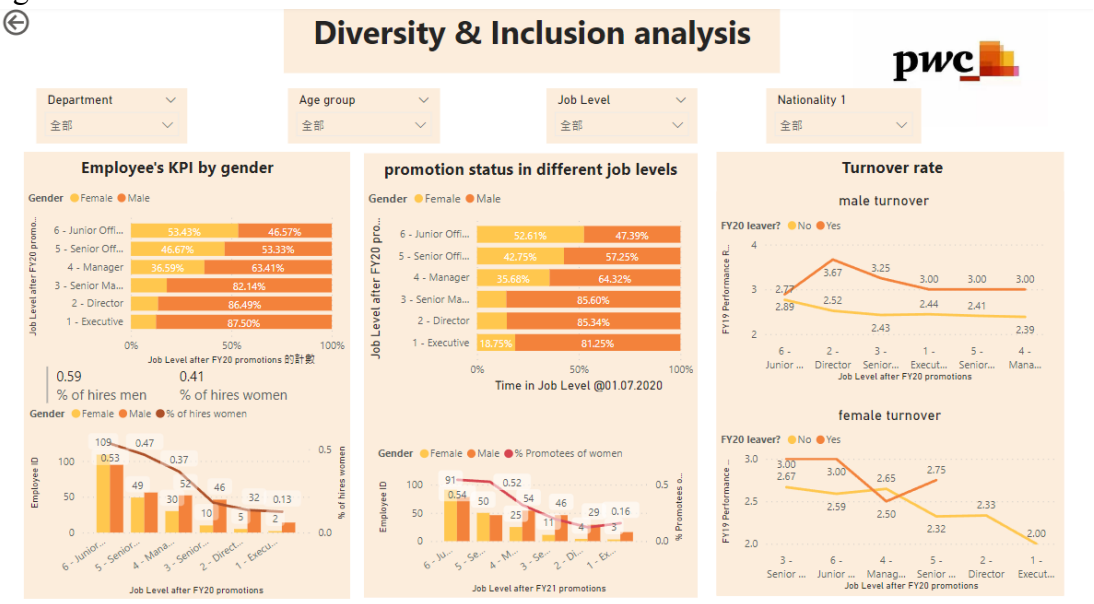


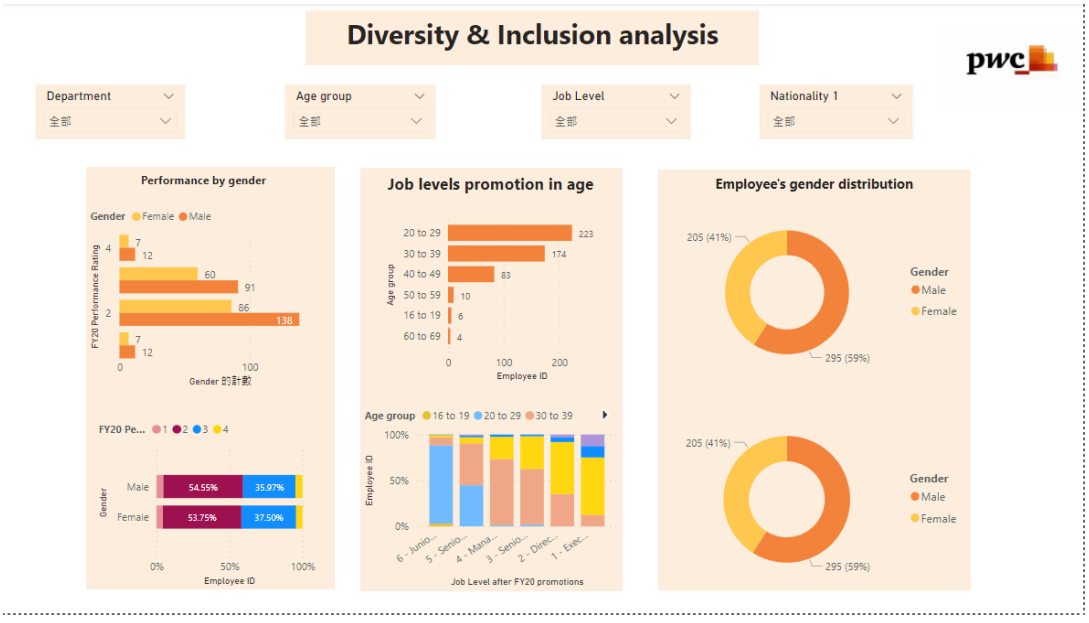
- Male accounted for 50.48% of the gender. Numbers of Male in gender(3,555) was higher than females.
- Total customers had a positive relationship with the number of customers at risk.
- For internet service, **Fiber optic** had the **highest churn rate** at 42%, followed by DSL at 19%.
- **Month to month** contracts accounted for **55.02%** of the total contract type.
- Those who used Electronic check as a payment method had the highest churn rate.

- Among all 6 loyalty, the churn rate ranged from 6% to 53% and the sum of the changes.

Project 3: Diversity & Inclusion

Task Description: Utilized the dashboard to illustrate the gender balance of the executive management of the firm.





- **Men** accounted for roughly **88% in the executive level** of the firm after the promotion in 2020.
- The company hired **more women employees** in the **junior** level position**(53.43%)**.
- In the year 2020 , women at junior level have more opportunities to get promotion.
- Female employees in senior positions get more promotions in 2021.
- Though the number of female employees was less than male, **female employees** could usually get **high performance scores**.

- **Age group 40-49** employees promoted in 2020 covered the **most executive positions (62.5%)**of the firm.

Project 4: KPMG Data Analytics virtual project

***Task Description*:**
Sprocket Central Pty is a bikes & cycling accessories organization that has a new list of 1,000 potential new customers with their demographics. Nevertheless, these new customers didn't have the transaction data in the company.
To put more emphasis on the high value customer, the marketing team is looking for a way to boost the company by analyzing their previous customer datasets to estimate new customer trends or behavior.

I. Analysis steps:

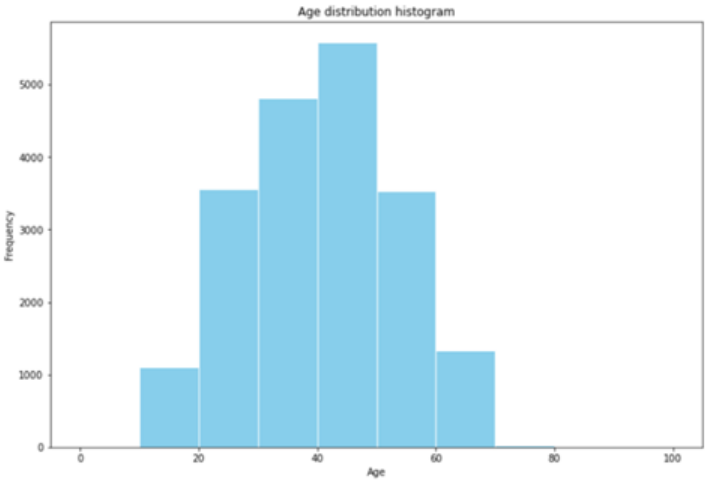
Using Python & Excel to do data exploration of the old customers' transaction data and then illustrate clear insight or recommendation with graphs.

II. Old customers Analysis:

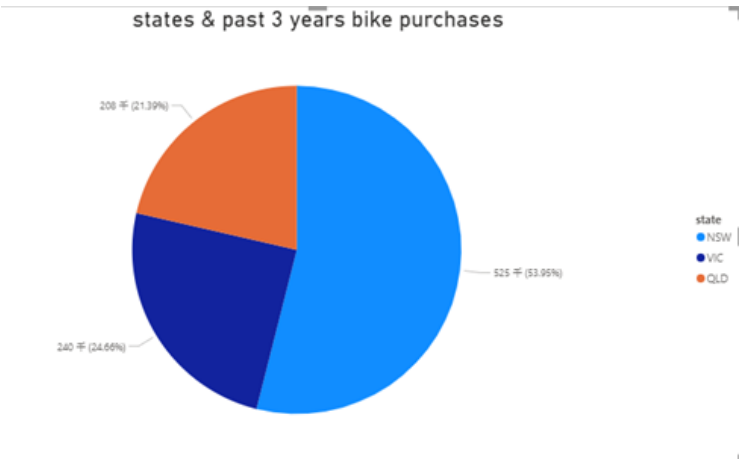
Below are the old customers features used for recommendation to the new customers:

- Age Distribution
- Purchases in 3 years by states
- Numbers of cars owned in each state
- Job industry category
- Wealth segments

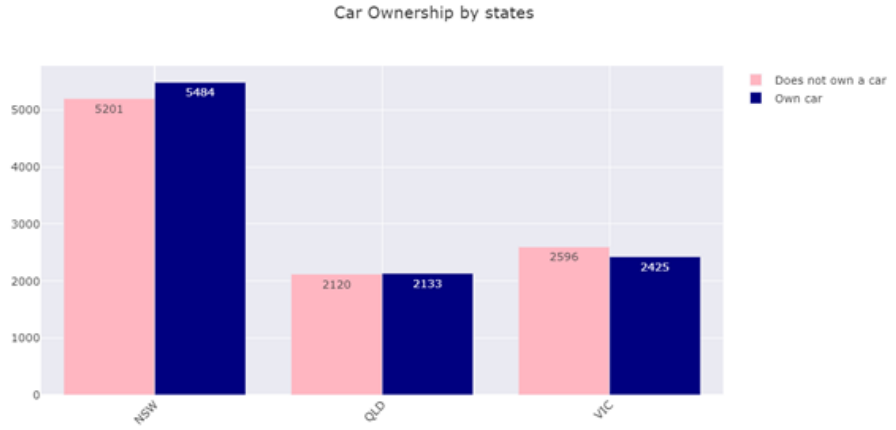
1. **Age Distribution:** Customers in the **age group 30-50** are more likely to purchase bikes frequently.



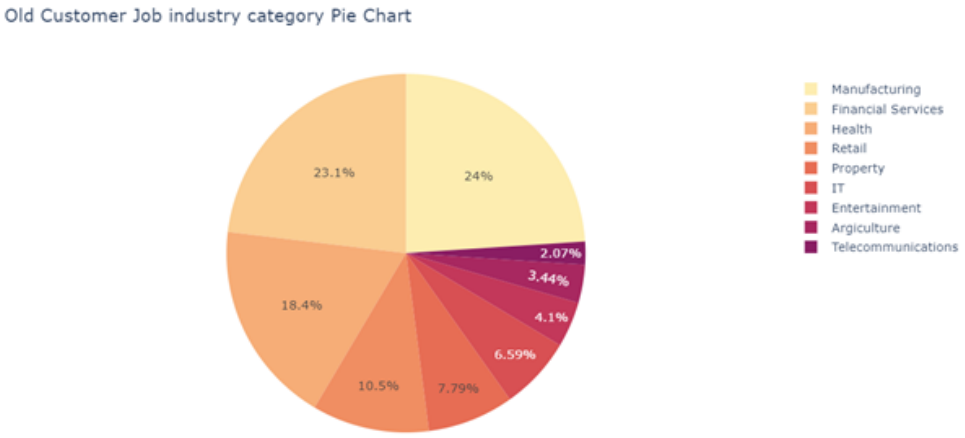
2. **Past 3 years purchases by states:** People in state NSW spent much money on bike related purchasing.



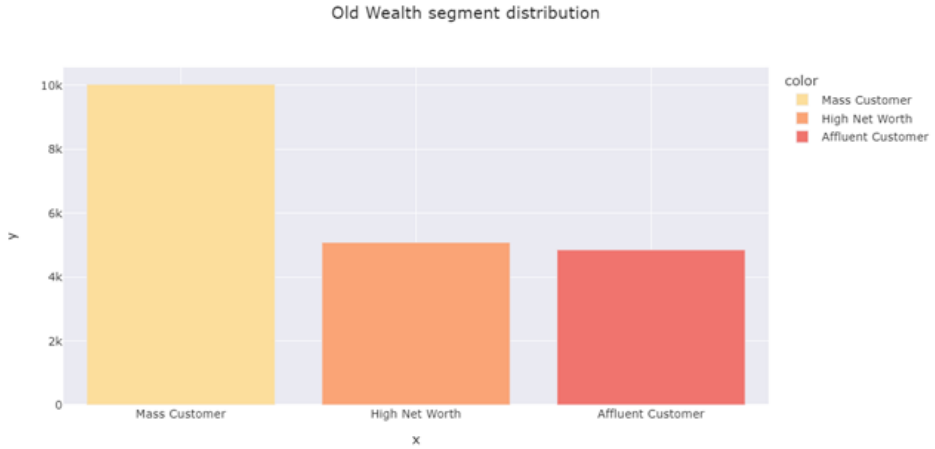
3. **Numbers of Cars Own in each state: NSW** people do **not own cars** significantly(5201) than other states, so the place should be prioritized.



4. **Job category:** Most of our old customers belong to the following industries: **Manufacturing**(24%), **Financial Services**(23.1%), **Health**(18.4%).



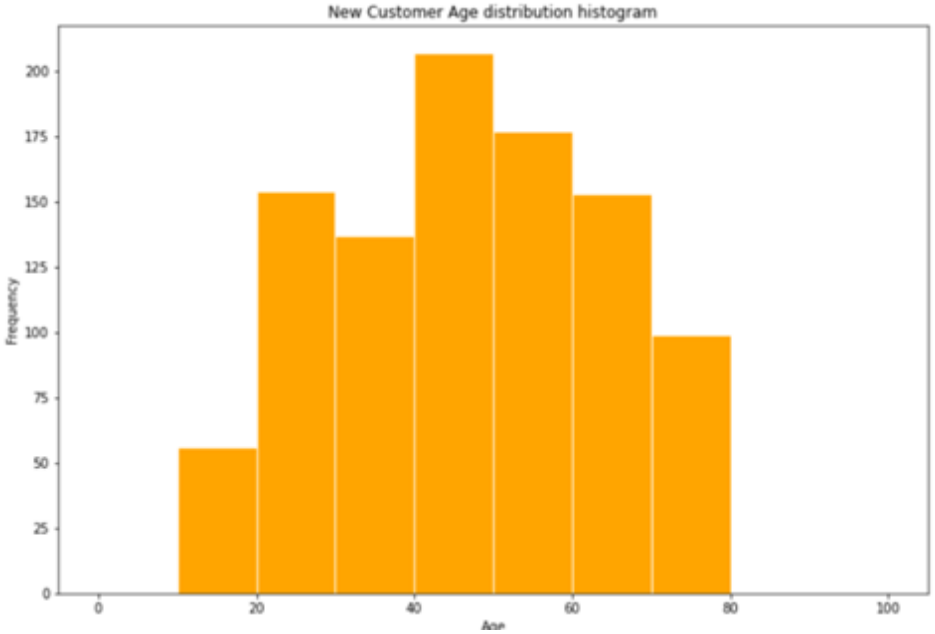
5. **Wealth Segment:** The number of the **Mass Customer** was the largest group in the old customer dataset.



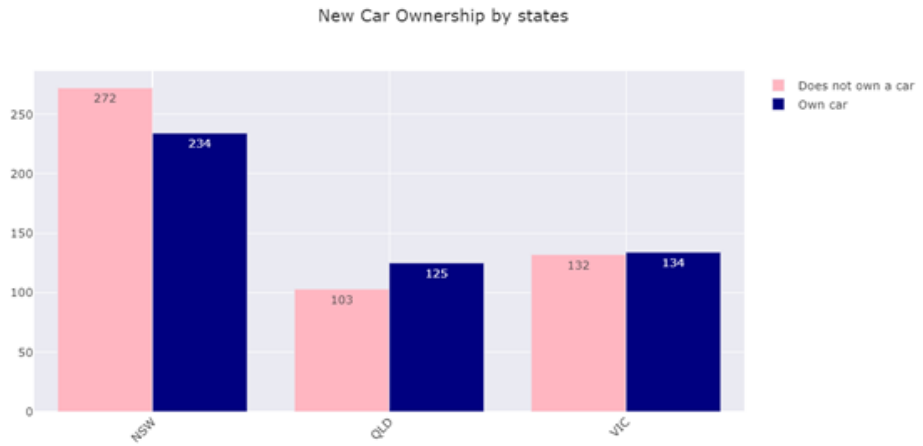
III. **New customers datasest:** The new customers dataset were those people who bought the bike related products of our company in the past. We were required to extract the most valuable potential customers from these 1,000 people. The features I used were the same as the Old customers.

- Age Distribution
- Numbers of cars owned in each state
- Job industry category
- Wealth segments

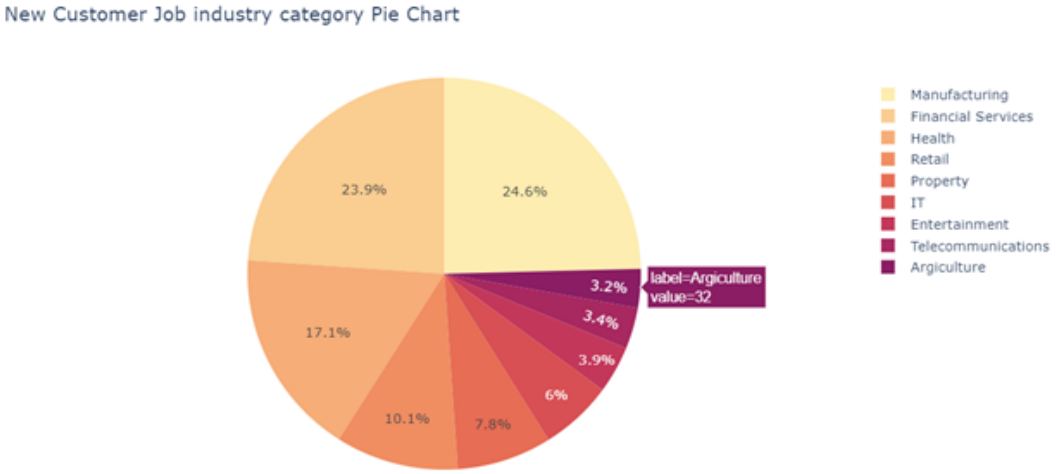
1. **Age Distribution:** Customers in the age group 40-50 were still the highest one. Besides, people aged from 50-70 growth significantly compared to Old customer data.



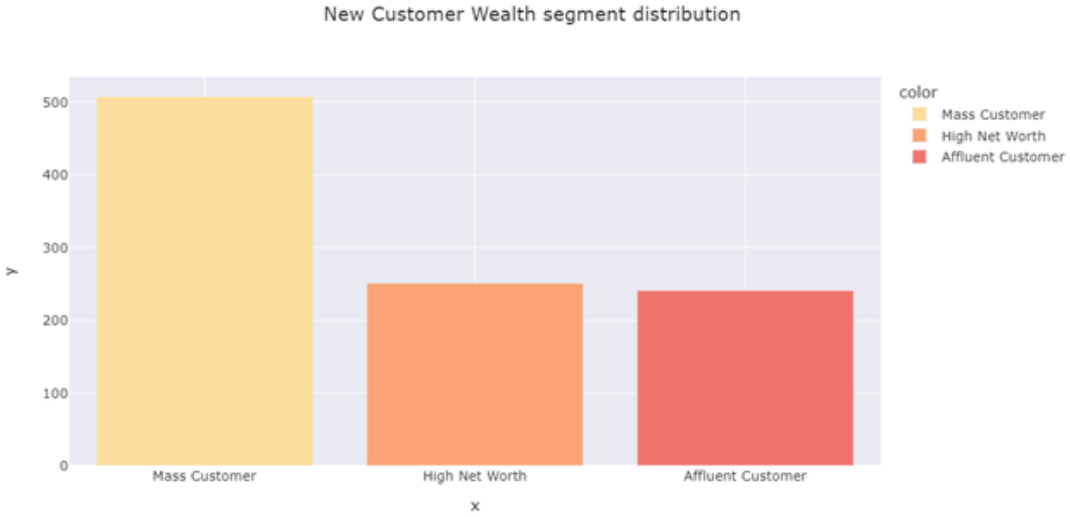
2. **Numbers of Cars Owns in each state:** VIC and QLD cars seem to have more customers that own cars, so NSW should be considered.



3. **Job Industry Category:** New Customers still came from Manufacturing(24.6%), Financial Services(23.9%) and Health industry(17.1%).



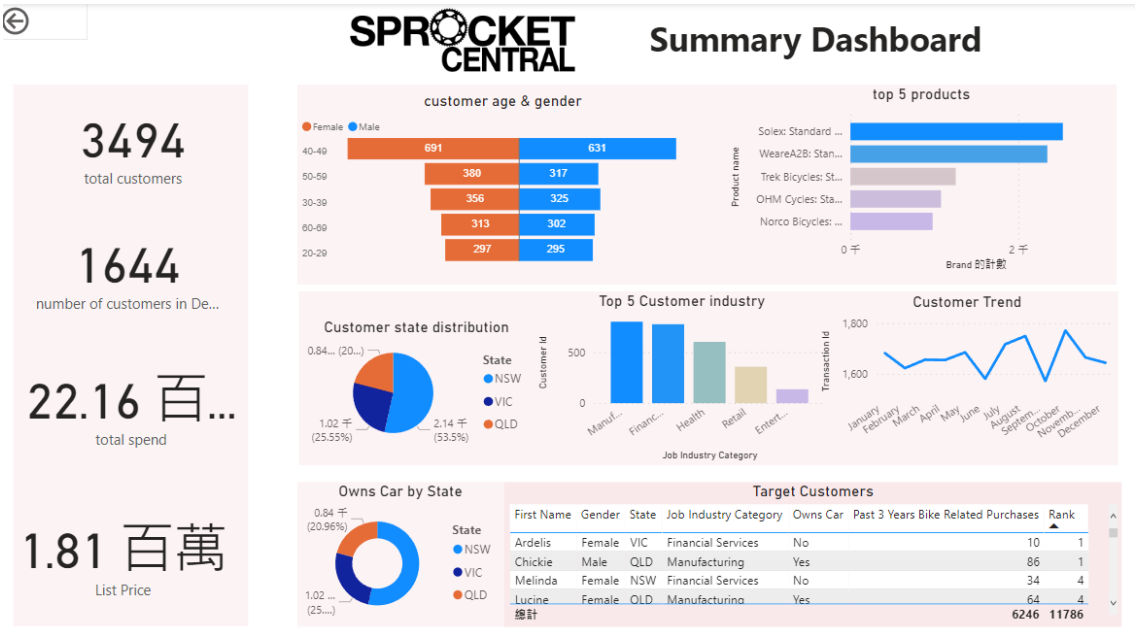
4. **Wealth Segment:** Most new customers were the mass customers.



IV. **Interpretation & Recommendation:** According to the uncovered trends and facts, the following strategy is recommended for the growth of the company.

- Mass customers **aged 21-30 & 41-70** should be **targeted**
- Brands of product "**Solex**", "**WeareA2B**" and "**Trek Bicycle**" in **medium level** should be promoted more
- Customers living in **NSW** states should be first **priority** since there is still a great amount of people who don't own cars
- Most people belong "**Mass Customer**", they tend to spend much money on the **medium level products**

To make the company's marketing department easily understand the analytical results, I set up a Power BI Dashboard to illustrate the demographic of our customers.



As the findings I analyzed from both old & new customers data, I could extract the most valuable potential customers as below.

First Name	Gender	State	Job Industry Category	Owns Car	Past 3 Years Bike Related Purchases	Rank
Ardelis	Female	VIC	Financial Services	No	10	1
Chickie	Male	QLD	Manufacturing	Yes	86	1
Melinda	Female	NSW	Financial Services	No	34	4
Lucine	Female	QLD	Manufacturing	Yes	64	4
Rutledge	Male	NSW	Financial Services	No	23	6
Duff	Male	NSW	Manufacturing	Yes	50	8
Nancie	Female	QLD	Retail	Yes	74	8
Rockwell	Male	QLD	Retail	No	94	10
Wheeler	Male	VIC	Manufacturing	No	48	12
Mandie	Female	QLD	Health	No	32	14
Melba	Female	NSW	Health	No	38	14
Dukie	Male	NSW	Manufacturing	Yes	88	16
Winnifred	Female	VIC	Financial Services	No	83	17
Marcelia	Female	QLD	Manufacturing	Yes	61	17
Karly	Female	NSW	Manufacturing	No	2	19
Odilia	Female	NSW	Manufacturing	Yes	65	19
Gaston	Male	NSW	Financial Services	Yes	44	21