

# Aggregating new customers and bringing value to the company

Sprocket Central Pty Ltd

Ingrid Cadu | Analytical Team | KPMG Virtual Internship  
April 2022

## Business Problem

Using the existing 3 datasets (Customer demographic, customer address and transactions) as a labeled dataset, please recommend which of these 1000 new customers should be targeted to drive the *most value for the organization*.

## Solution

Long Term:

**77**

**Loyalty**

Short Term:

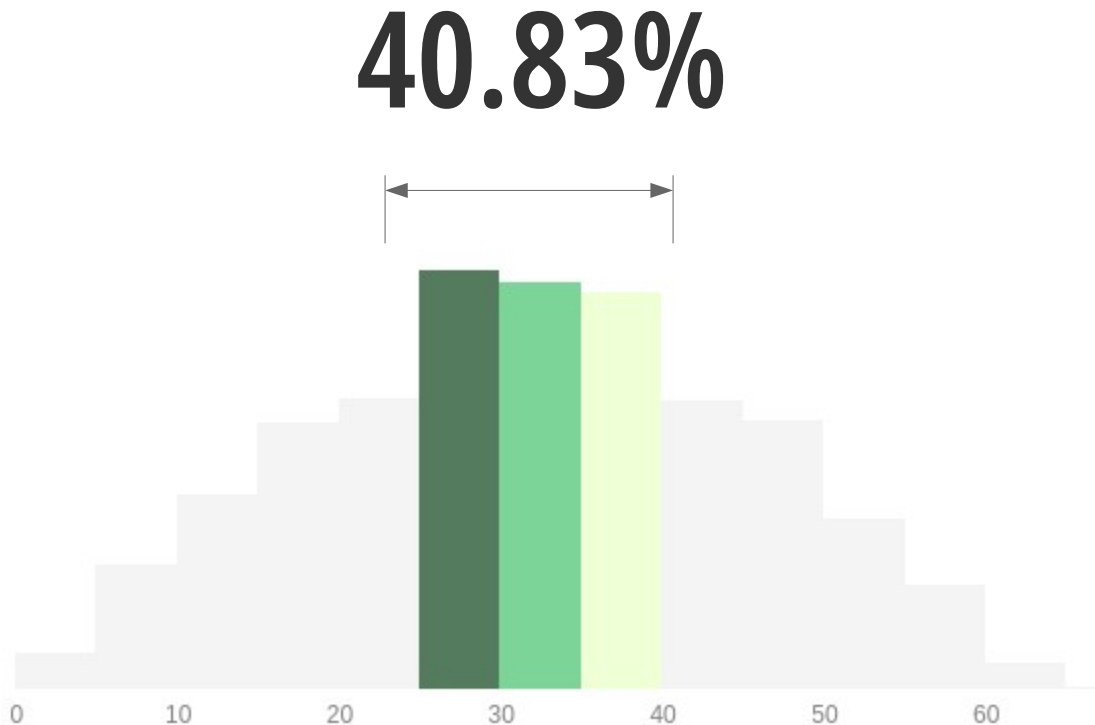
**257**

**Profitability**

(n = 715)

## Young People means Loyalty

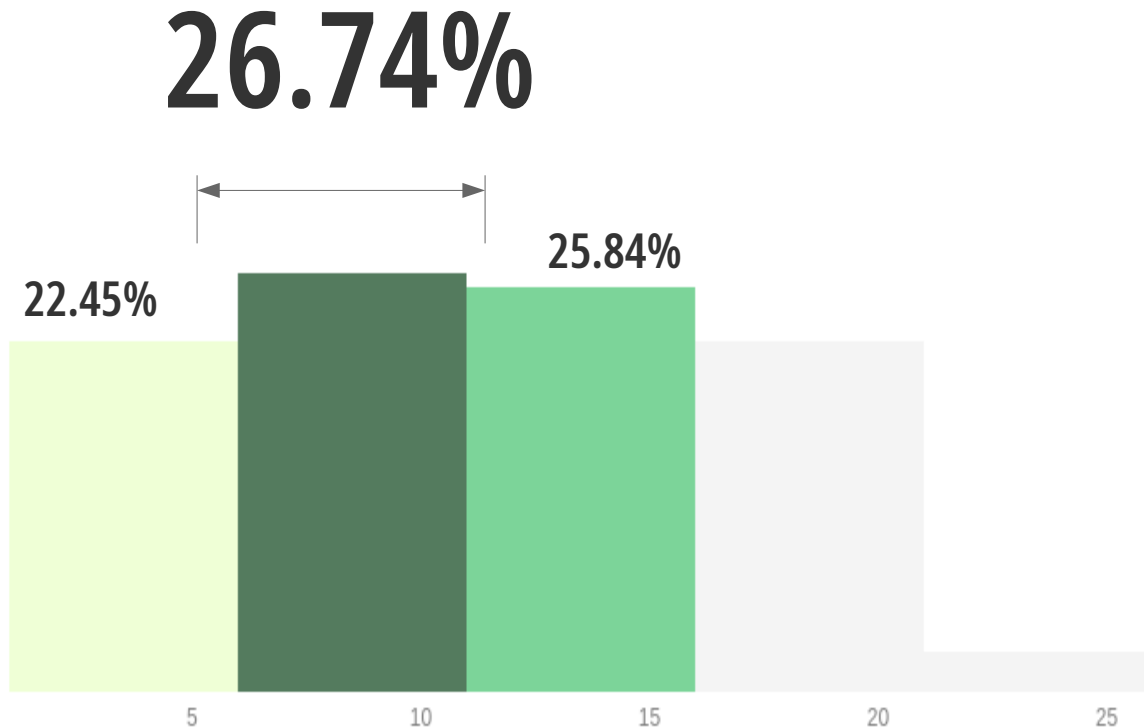
Customers who keep purchasing over 15 and 20 years made their first purchasing when they are between **25 and 40 years old**.



Source: (%), Proportion of Customer's Loyal Behavior by Age of Purchasing (n=8401)

## Young People means Loyalty

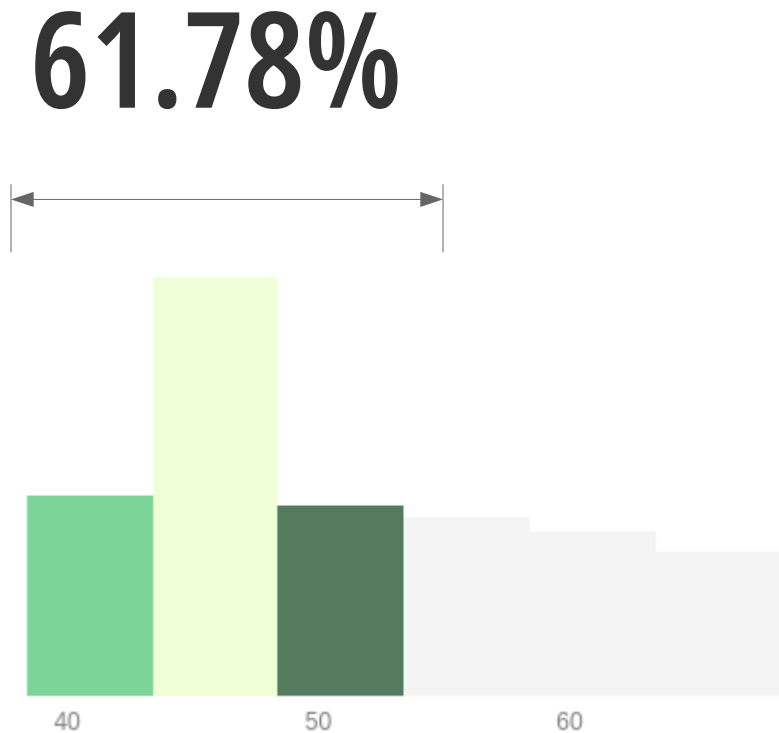
The tenure range is large and variable with a peak is on **6 and 10 years**.



Source: (%), Proportion of Customer's Loyal Behavior by Tenure vs. Purchasing Rate (n=8401)

## Old People means Profitability

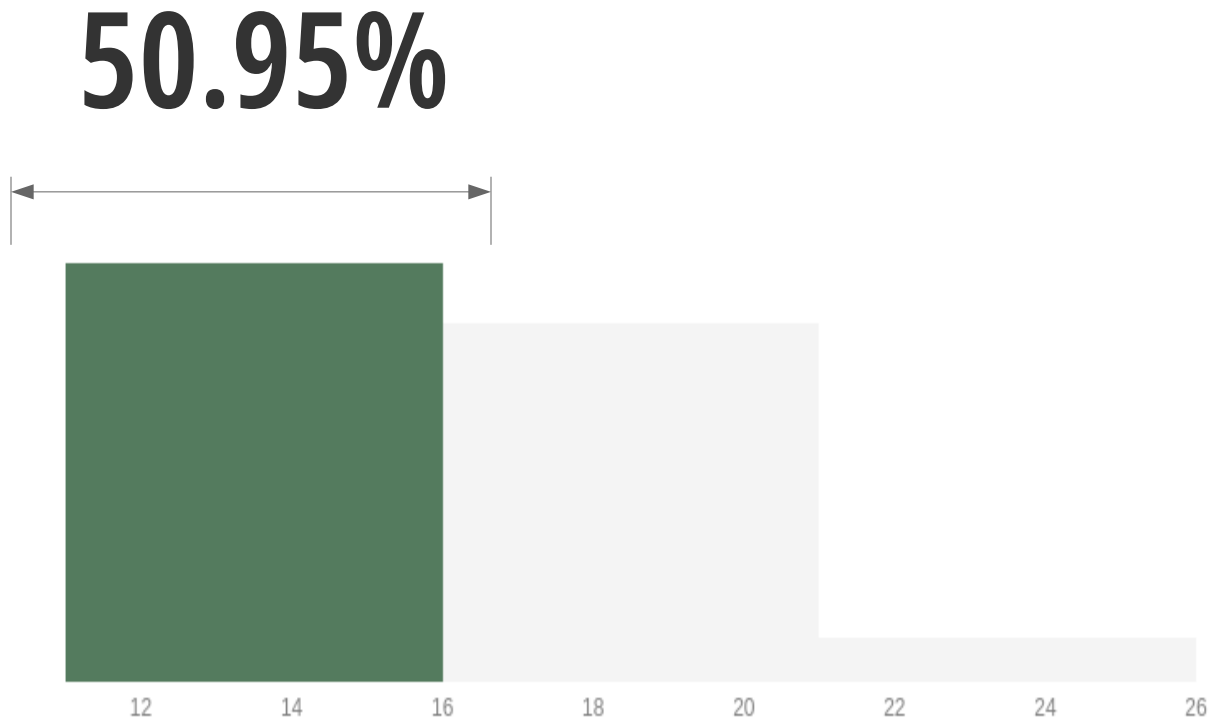
Customers whose made many purchasing over past three years were between **38 and 53 years old**.



Source: (%), Proportion of Customer's Purchasing Behavior using K-Means Algorithm (n=13349)

## Old People means Profitability

The tenure range is short and delimited, presenting a peak between **11 and 15 years**.



Source: (%), Proportion of Customer's Purchasing Behavior vs. Tenure Rate using K-Means Algorithm (n=9921)

# Similar Wealth Rate

Both customers classified as loyal and profitable presented the **same wealth segment pattern**.

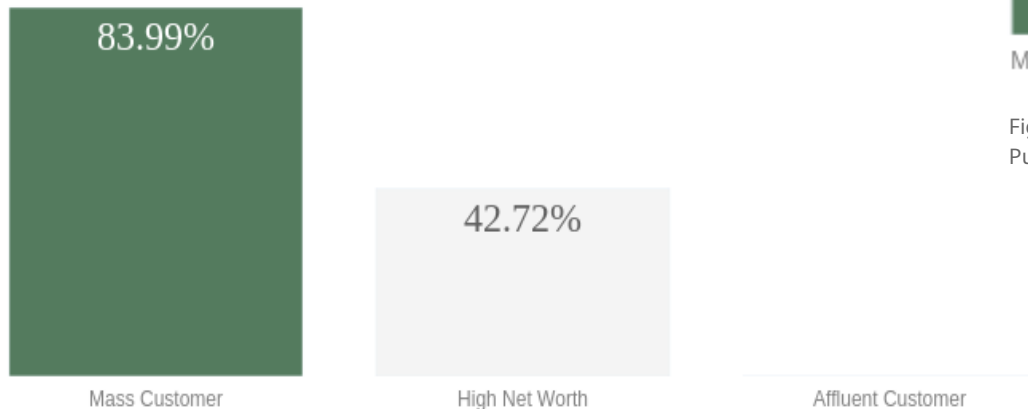


Figure 1 – Proportion of Customers Wealth Segmentation by Profitability using K-Means Model (n=9805)

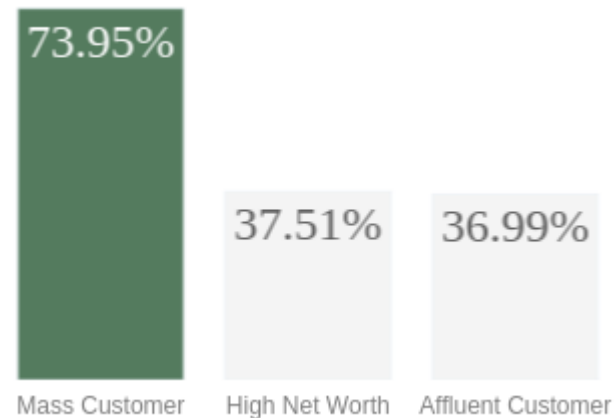


Figure 2 – Proportion of Customers Wealth Segmentation by Purchasing over past three years (n=8401)

## Model Development – Loyalty Trend

### Descriptive Statistical Analysis

- Mean
- Median
- Normal Distribution Visualization

### Variables

- Age, Tenure and Wealth Segmentation  
vs.
- Past Three Years Purchasing (Qtd.)

## Model Development – Purchasing Trend

### K-Means Algorithm

- Partition technical used to divide data into groups, or clusters that have the same pattern (similar in features)
- Largely used to discover hidden pattern

### Variables

- Age, Tenure and Wealth Segmentation  
vs.
- List of Price (\$) - Purchasing value)



## Interpretation – Loyalty Trend

Age

**20%**

25 and 40 years old

**N = 715 Customer**

Data set is not relatively  
of young people

Tenure

**69%**

6 and 20 years old

**N = 191 Customer**

Data set has peak on  
low tenure rate (~30%)

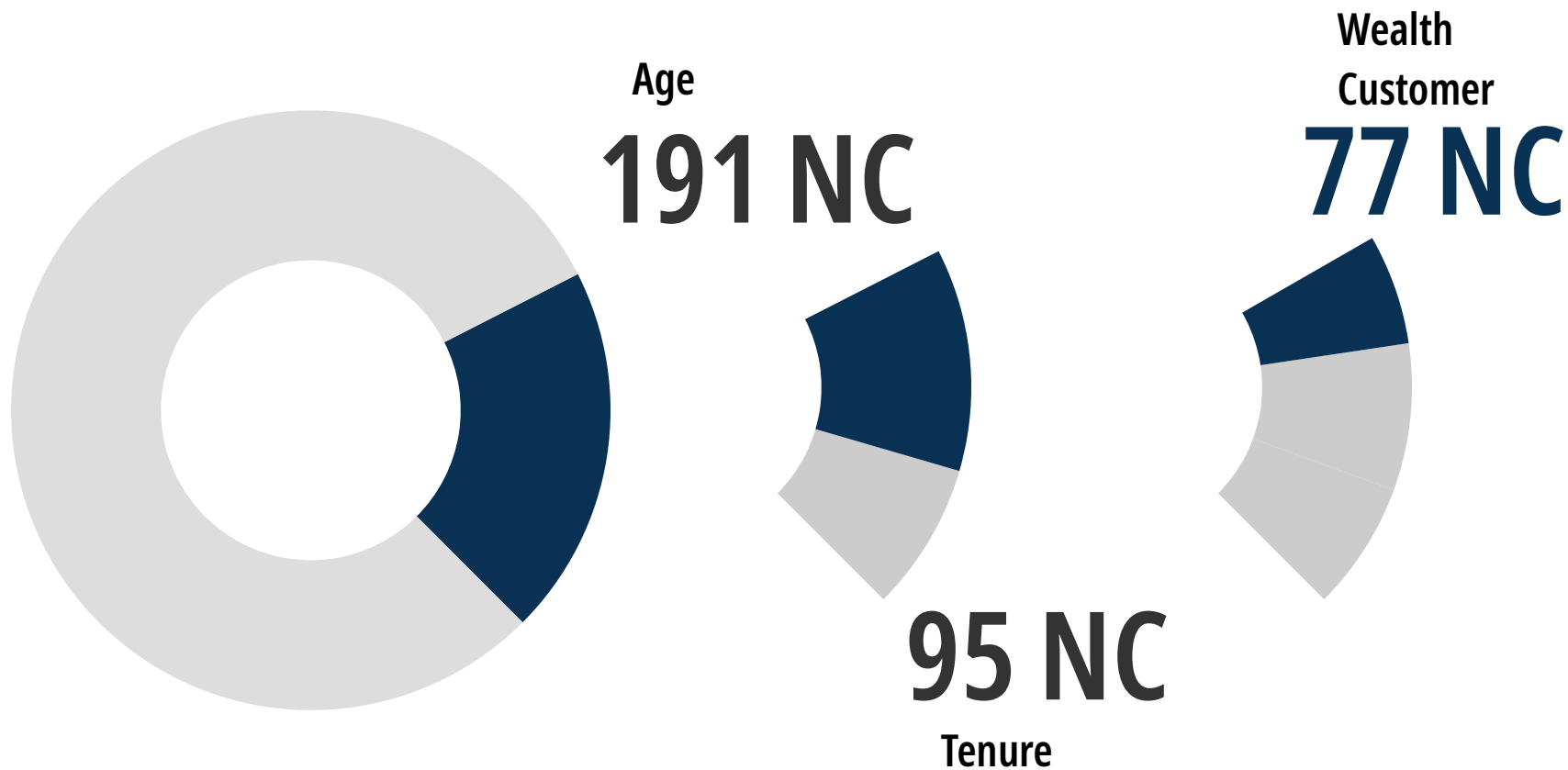
Wealth Segment

**81%**

Mass & High Net

**N = 95 Customer**

Data set has peak on  
Mass Customer (~47%)



Source: (%), Proportion of New Customer applied the Loyalty Filter Trend (n=715)

## Interpretation – Profitability Trend

**Wealth Segment**

**75.80%**

Mass and High Net

**N = 715 Customer**

Data set has peak on  
Mass Customer (~67%)

**Age**

**74.72%**

> 38 years old

**N = 542 Customer**

Data set has a peak on  
45 and 50 years old  
(~13.8%)

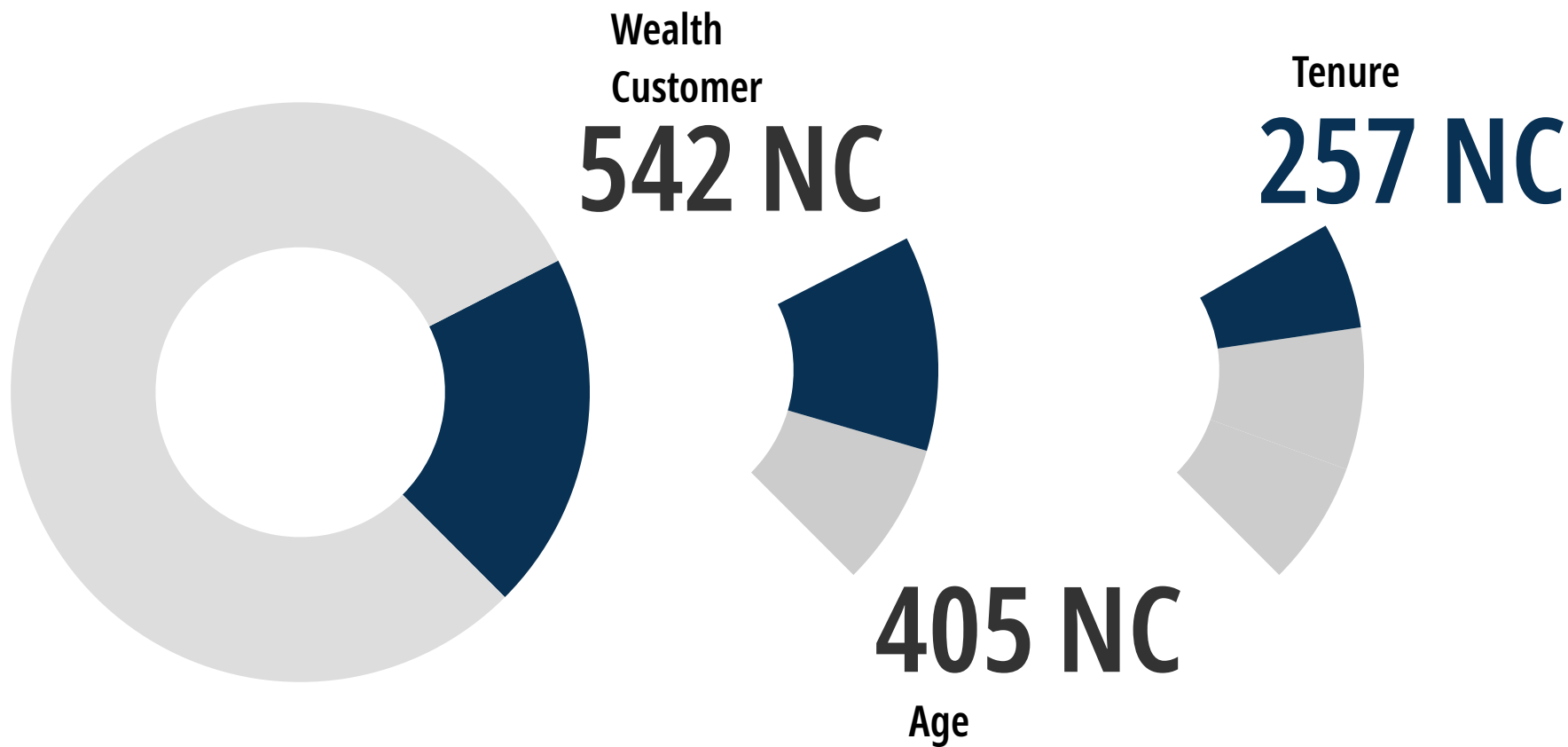
**Tenure**

**63.45%**

>= 10 years old

**N = 405 Customer**

Data set has peak on 6  
and 10 years (~45%)



Source: (%), Proportion of New Customer applied the Profitability Filter Trend (n=715)

# Thanks.

**Sprocket Central Pty Ltd**

Ingrid Cadu | Analytical Team | KPMG Virtual Internship  
April 2022