ELITE BIKE STORE

SALES ANALYSIS REPORT

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INTRODUCTION

Project Objective and Dataset Overview

Project Objective

The key objective of the analysis is to create an interactive Power BI report for demographics, customer segmentation, and advanced analysis based on the provided Elite Bike Store dataset
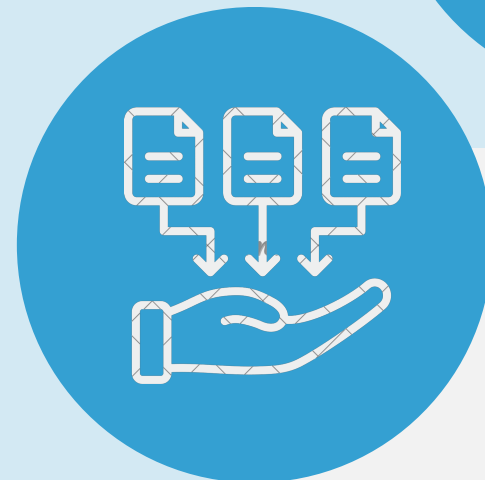
Data Overview

The dataset provided by Elite Bike Store contains the following fields:

- **Customer Attributes**: ID, Marital Status, Gender, Income, Number of Children, Education Level, Occupation, Home Ownership, Number of Cars, Commute Distance, Region, Age.
- **Sales Data**: Whether a customer purchased a bike (Yes/No).

DATA COLLECTION AND PREPARATION

Data Collection: The dataset was provided by Data Analytics Elite Global Community, which includes key attributes like customer demographics, customer commute distance and the sales attributes which shows if client purchased on not

Data cleaning: The data cleaning process includes Data validation and standardization, Column renaming, and Data formatting to maintain data consistency. Data cleaning process was carried out using PowerQuery In PowerBI

Data Modelling: Flat file schema was used in Power BI to improve analysis accuracy and optimized over all dashboard performances.
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DATA ANALYSIS AND VISUALIZATION

Descriptive Analysis: Used statistical measure to analyze the sales data across various customer demographics like (age, location, income, marital status etc.) in other to fully understand our customer base.

Predictive Modelling: Utilized Power BI's Key Influencer visual to analyze both numeric and categorical data that influences client to Purchase the bike and predict the customers segment that has higher likelihood of purchasing bike in the future

Visualization: Created interactive dashboards in Power BI to display key metrics, trends, and influencers.

ANALYSIS FINDINGS

DATA VISUALIZATIONS AND KEY INSIGHTS

ELITE BIKE STORES

| Demographics |
| Key Insights |
| Key Influencers |
| Key Implementations |

Bike Purchase Rate
48%

Average of Income
$56,360

Total Customers
1000

481
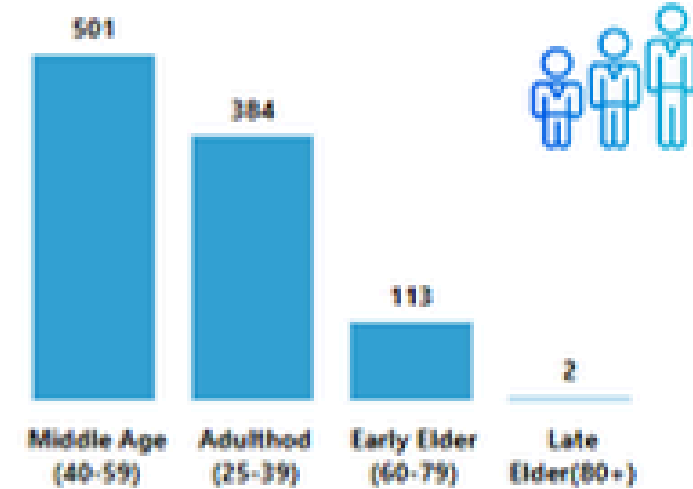Total Bikes Purchased

519
Total Bikes Not Purchased

- The total numbers of 15k contact was made during the campaign with an average call duration of 4.4 minutes, resulting in an 11.5% subscription rate.
- Out of 4,521 client that was contacted, 521 subscribed to the term deposit resulting to an 11.5% campaign success rate.
- The scattered plot showed weak positive correlation between average duration and subscription rate, implying that longer or shorter calls don't strongly correlate with the likelihood of subscription
- Successful past campaigns contributed 64% to the overall campaign success.
- The distribution of contact modes shows a near equal preference between telephone and cellular contacts while larger percentage of client that has personal loan ignored the campaign.
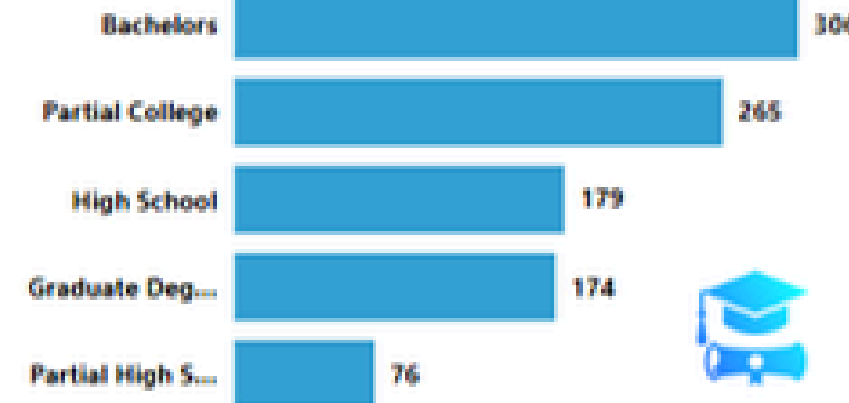
DEMOGRAPHICS ANALYSIS
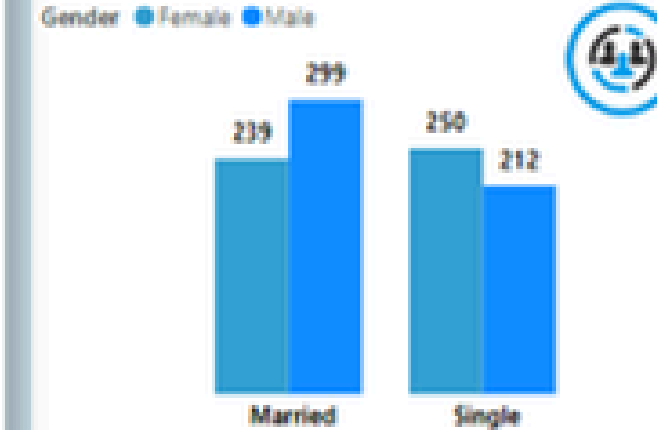
Gender

Female

Male

Marital Status

Married

Single

Total Customers by Age

- Middle Age (40-59): 501
- Adulthood (25-39): 384
- Early Elder (60-79): 113
- Late Elder(80+): 2

Total Customers by Education

- Bachelors: 306
- Partial College: 265
- High School: 179
- Graduate Deg...: 174
- Partial High S...: 76

Total Customers by Marital status and Gender

Gender ● Female ● Male

- Married: 239, 299
- Single: 250, 212

Total Customers by Income

- Lower Middle Class: 359
- Lower Class: 282
- Middle Class: 254
- Upper Middle Class: 63
- Upper Class: 42
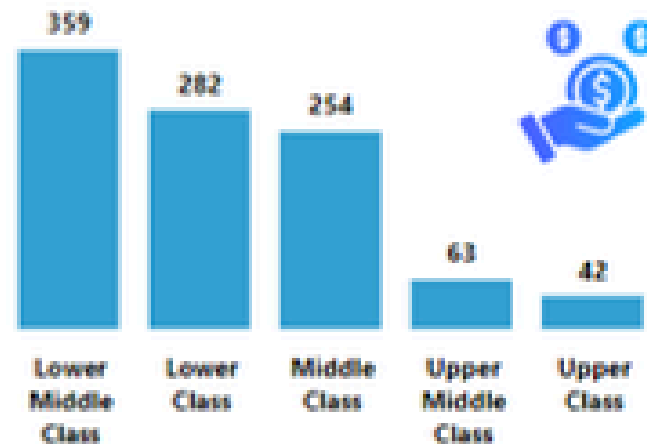
Total Customers by Occupation

- Professional: 276
- Skilled Manual: 255
- Clerical: 177
- Management: 173
- Manual: 119
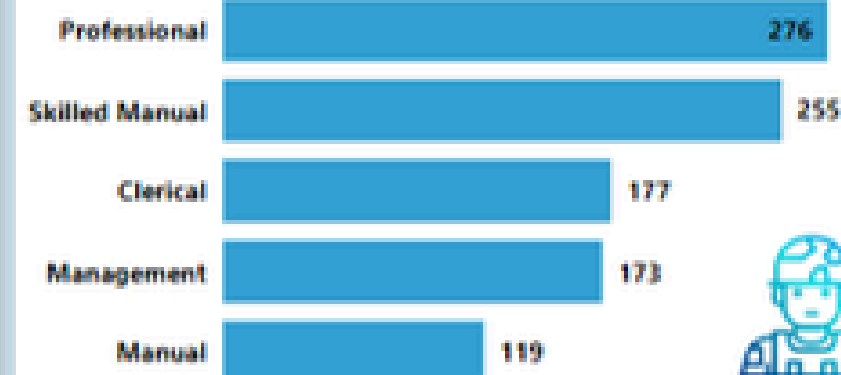
Total Customers by Region

- North America: 508
- Europe: 300
- Pacific: 192
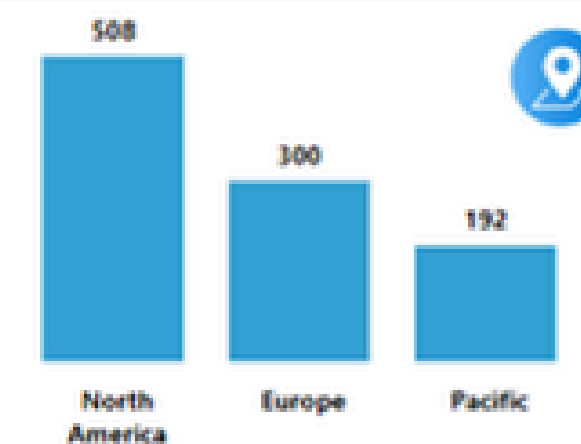
- The Analysis shows that out of our 1000 total customers,481 customers purchased bike while the remaining 519 did not make purchase which amounted to 48% purchase rate from our total clients

- Larger distribution of our total clients fall within the age range of (40 -59) followed by people within age ((20 -59). while people above age 80 were the least in our customer record.

- People of our clients were Professional working class followed closely by skilled Manual working class people

- People the clients are lower middles class earner

- People with bachelor educational degree top our customers list follow by people with partial college while people with partial high school degree were the least from the customer records

- We have more Male than female and more married than single

- Most of our client were North America based
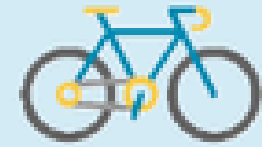
Correlation: 0.05
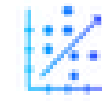
Total Bikes Purchased: 481
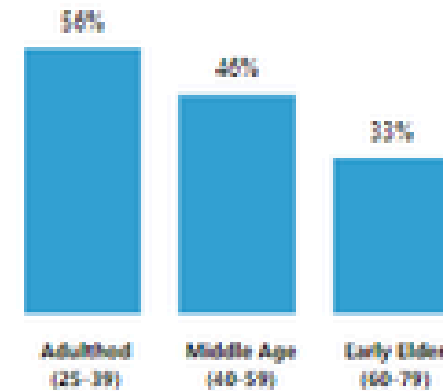
Bike Purchase Rate: 48%
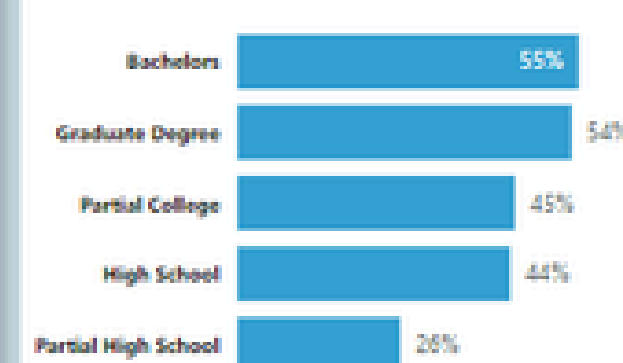
Average Income: $56,360

Gender: Female, Male

Marital Status: Married, Single

Purchase Rate by Occupation
- Professional: 54%
- Clerical: 50%
- Manual: 46%
- Skilled Manual: 45%
- Management: 42%

Purchase Rate by Age
- Adulthood (25-39): 56%
- Middle Age (40-59): 46%
- Early Elder (60-79): 33%

Purchase Rate by Education
- Bachelors: 55%
- Graduate Degree: 54%
- Partial College: 45%
- High School: 44%
- Partial High School: 26%

Purchase Rate by Region
- Pacific: 59%
- Europe: 49%
- North America: 43%

Purchase Rate by Income
- Lower Middle ...: 53%
- Upper Class: 52%
- Middle Class: 50%
- Upper Middle ...: 48%
- Lower Class: 40%
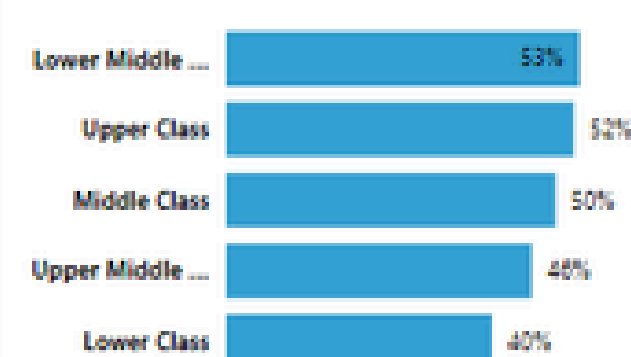
Purchase Rate by Commute Distance
- 2-5 Miles: 59%
- 0-1 Miles: 55%
- 1-2 Miles: 46%
- 5-10: 40%
- 10+: 30%
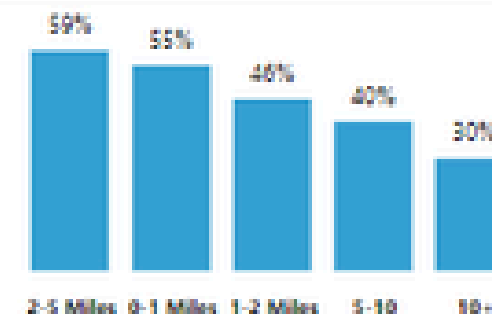
Purchase Rate by Cars
- 0: 61%
- 1: 57%
- 2: 38%
- 3: 39%
- 4: 36%
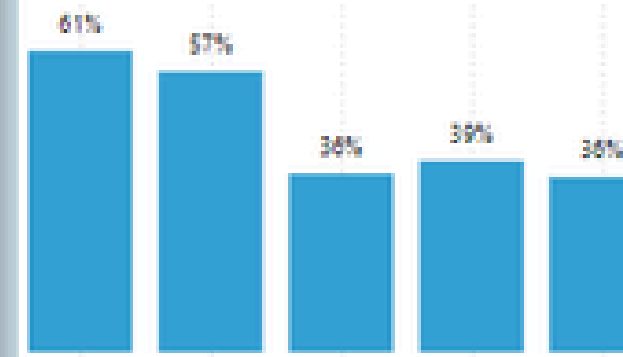
Income Vs Rate
$0M — $10M
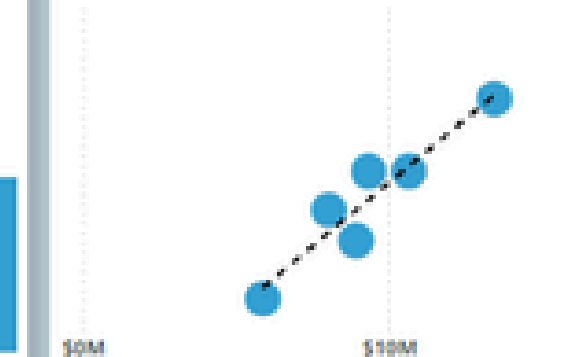
- The data reveals a weak correlation (0.05) between income and bike purchases, indicating income has minimal impact on purchase decisions.
- **Customer Income:** Average income is $56,360.
- **Purchase Rate**: 48% (481 bikes purchased).
- **Age Groups:** Adulthood (25-39) leads with a 56% purchase rate, followed by Middle Age (40-59) at 46%, and Early Elders (60-79) at 33%.
- **Occupation:** Professionals have the highest rate at 54%, followed by clerical workers at 50%.
- **Region**: Pacific region leads at 59%, Europe at 49%, and North America at 43%.
- **Commute Distance:** Highest purchase rate (59%) among those commuting 2-5 miles, decreasing to 30% for 10+ miles.
- **Cars Owned:** 61% purchase rate among those with 0 cars, decreasing as car ownership rises, down to 36% for those with 4 cars.

The scatter plot indicates a slight positive trend between income and bike purchases, though the impact remains negligible.

Key influencers   Top segments

What influences Purchased Bike to be No ?

When...   ...the likelihood of
                         Purchased Bike being No
                         increases by

Education is Partial High   1.47x
School

Commute Distance is 10+   1.42x
Miles

Income Category is Lower   1.23x
Class

Commute Distance is 5-10   1.21x
Miles

← Purchased Bike is more likely to be No when
  Education is Partial High School than otherwise (on
  average).

80%

60%   Average (excluding selected): 50.11%

40%

20%

0%
   Partial High School High School Partial College Graduate Degree Bachelors

Education

☐ Only show values that are influencers

%Purchased Bike is No

Key influencers   Top segments

What influences Purchased Bike to be No ?

When...   ...the likelihood of
                         Purchased Bike being No
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Miles

← Purchased Bike is more likely to be No when
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  (on average).

80%

60%

40%

20%

0%
   Partial High School High School Partial College Graduate Degree Bachelors

Education

☐ Only show values that are influencers

%Purchased Bike is No

- When the customer's income category is Lower Class, the likelihood of not purchasing a bike increases by 1.23x.

- Lower-income individuals are less likely to purchase bikes,.

- The likelihood of not purchasing a bike increases by 1.47x when a customer's education level is Partial High School.

- This group has the highest percentage of people who did not purchase a bike, as shown by the bar chart, where approximately 80% of customers with Partial High School education did not buy a bike.

- The likelihood of not purchasing a bike increases by 1.42x when the commute distance is 10+ miles.

- The likelihood of not purchasing a bike increases by 1.21x when the commute distance is between 5-10 miles. This also suggests that as commute distances increase, the practicality of biking decreases, discouraging purchases.

ANALYSIS FINDINGS

1. The Analysis Reveal that out of 1000 total clients , 481 customers purchased the bike while 519 did not purchase which amounted to 48% purchased rate from our total clients

2. Even though Most our client were from North America, but the analysis shows that larger percentages of client that bought bike came from pacific region

3. Despites the fact that larger percentage of our clients fall within the range of age (40 -59), the analysis reveals that people within the age (25 -39) purchased the most.

4. Clients with bachelor educational degree purchased the most with 55% followed closely by peoples with graduate degree with 54% of their total population while customers with high school education purchased the least with 26% of their total population

5. 54% our total clients with professional occupation purchased more followed closely by clients with clerical occupation while people with management occupation purchased the least with about 42% of their total population

6. People with 0 and 1 cars has the largest purchase rate with 61% and 57% respectively while people that commutes within (2-5 miles) distance has the lowest purchase rate . In addition people that commutes long distances (10 miles+) purchased the least with about 30% of their total population

7. There is positive correlation between income and Purchase Rate even though the correlation does not signify that higher incomes cause increase in Purchase.

RECOMMENDATION

1. Increase marketing and sales initiatives in the Pacific region by targeting existing clients and expanding outreach.
2. Develop customized marketing for these occupations, academia or professional jobs, and bachelor's and graduate degree holders. Offering well-educated customers tailored financial plans or long-term benefits could improve conversion rates.
3. Introduce special promotions like electric bikes for long-distance commuters and emphasize the convenience of biking for short-distance (2-5 miles) commuters. Consider partnering with urban planning initiatives or campaigns promoting eco-friendly commuting alternatives.
4. Create targeted promotions, loyalty programs, or discounts for clients in the 25-39 age group. Consider engaging with this audience through social media, influencers, or lifestyle branding that resonates with their values (e.g., sustainability, fitness).