

## **Data Analysis Summary: Bike Purchases**

### **1. Project Overview:**

In this project, I examined a data sample of 1000 people to find out if number of cars owned, income, age, gender and commute distance determine whether or not a bike is purchased.

### **2. Methodology:**

Throughout my analytical exploration, I worked extensively in Excel to clean, analyse and visualize the data.

#### **2.1 Preprocessing:**

Preprocessing involved checking for duplicates as well as transforming data to make it more suitable for analysis and visualization in Excel.

#### **2.2 Exploration:**

All data exploration was conducted using Excel. The Excel workbook is included in the GitHub repository for this project

#### **2.3 Visualization:**

All visualizations were created in Excel.

#### **2.4 Data Transformation:**

##### **2.4.1 Derived Variables:**

Income and age were grouped into income and age brackets.

Income has been grouped into low ( $\leq \$30,000$ ), average ( $\$30,000 < \text{Income} < \$60,000$ ) and high earners ( $> \$60,000$ ).

Age has been grouped into adolescent ( $< 31$  years old), middle age ( $\geq 31$  years old) and old ( $> 51$  years old).

### **3. Key Findings:**

- People with fewer cars tend to purchase a bike. (Figure 1)
- People with higher incomes tend to purchase with a bike, specifically people in the average income bracket ( $\$30,000 < \text{Income} < \$60,000$ ). (Figure 2)
- Middle-aged people buy more bikes compared to any other age group. (Figure 3)
- Males purchase more bikes than females. (Figure 4)
- People who have a shorter commute distance are more likely to purchase a bike than someone who has a longer commute. (Figure 5)

## 4. Recommendations:

### 4.1 Product Development:

Products: Look at developing products that cater to different income brackets.

### 4.2 Marketing:

Male demographic: Create marketing campaigns that target this demographic to help boost retention within this gender and bring on new customers.

Target Audience: Focus marketing efforts on individuals with fewer cars, higher incomes, and shorter commute distances.

Middle-age demographic: Focus marketing efforts on people in this age group as they are more likely to purchase a bike.

Average Income Bracket: Understand the reasons why people who fall into the average income bracket purchase more bikes compared to high and low income earners.

## 5. Visualizations:

Figure 1

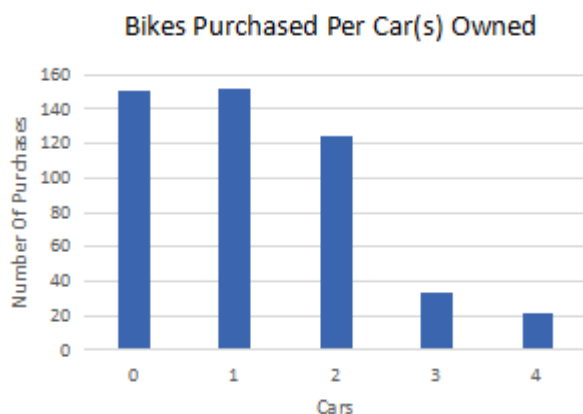


Figure 2

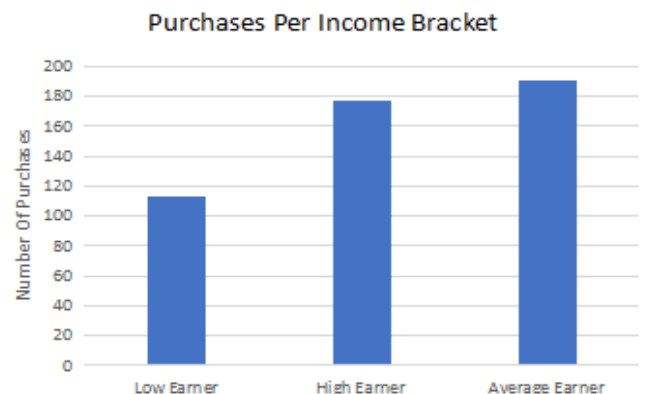


Figure 3

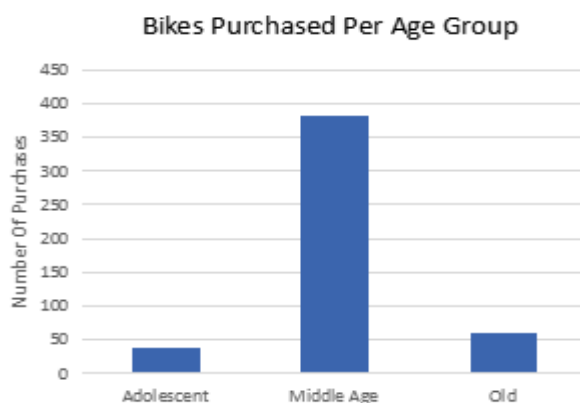
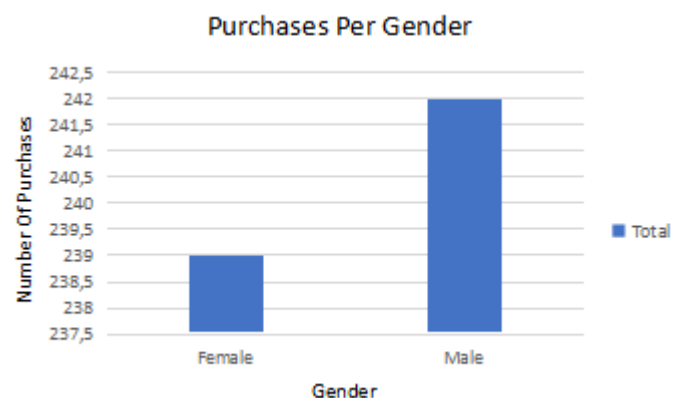


Figure 4



**Figure 5**



**6. Data:**

[https://github.com/AlexTheAnalyst/Excel-Tutorial/blob/main/Excel%20Project%20Data set.xlsx](https://github.com/AlexTheAnalyst/Excel-Tutorial/blob/main/Excel%20Project%20Data%20set.xlsx)