# Excel Project: Bike Sales Analysis


In this project, I performed bike sales analysis, by evaluating the bike sales data to understand and determine the factors contributing to the purchase of bike.

I used Microsoft Excel to carry out this analysis, which involves data cleaning, creating of pivot tables and dashboard building.

The dataset was provided by Alex the Analyst and downloaded from Github. The dataset is about the bike sales of an unknown store and it contains 1026 rows and 13 columns. Its content includes data about the customer id, marital status, gender, income, children, education, occupation, homeowners, number of cars, commute, region, age, and purchased status.

| ID | Marital Statu | Gender | Income | Children | Education | Occupation | Home Owner | Cars | Commute Di | Region | Age | Purchased Bik |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12496 | M | F | $40,000.00 | 1 | Bachelors | Skilled Manu | Yes | 0 | 0-1 Miles | Europe | 42 | No |
| 24107 | M | M | $30,000.00 | 3 | Partial Colleg | Clerical | Yes | 1 | 0-1 Miles | Europe | 43 | No |
| 14177 | M | M | $80,000.00 | 5 | Partial Colleg | Professional | No | 2 | 2-5 Miles | Europe | 60 | No |
| 24381 | S | M | $70,000.00 | 0 | Bachelors | Professional | Yes | 1 | 5-10 Miles | Pacific | 41 | Yes |
| 25597 | S | M | $30,000.00 | 0 | Bachelors | Clerical | No | 0 | 0-1 Miles | Europe | 36 | Yes |
| 13507 | M | F | $10,000.00 | 2 | Partial Colleg | Manual | Yes | 0 | 1-2 Miles | Europe | 50 | No |
| 27974 | S | M | $160,000.00 | 2 | High School | Management | Yes | 4 | 0-1 Miles | Pacific | 33 | Yes |
| 19364 | M | M | $40,000.00 | 1 | Bachelors | Skilled Manu | Yes | 0 | 0-1 Miles | Europe | 43 | Yes |
| 22155 | M | M | $20,000.00 | 2 | Partial High S | Clerical | Yes | 2 | 5-10 Miles | Pacific | 58 | No |
| 19280 | M | M | $120,000.00 | 2 | Partial Colleg | Manual | Yes | 1 | 0-1 Miles | Europe | 40 | Yes |
| 22173 | M | F | $30,000.00 | 3 | High School | Skilled Manu | No | 2 | 1-2 Miles | Pacific | 54 | Yes |
| 12697 | S | F | $90,000.00 | 0 | Bachelors | Professional | No | 4 | 10+ Miles | Pacific | 36 | No |
| 11434 | M | M | $170,000.00 | 5 | Partial Colleg | Professional | Yes | 0 | 0-1 Miles | Europe | 55 | No |
| 25323 | M | M | $40,000.00 | 2 | Partial Colleg | Clerical | Yes | 1 | 1-2 Miles | Europe | 35 | Yes |
| 23542 | S | M | $60,000.00 | 1 | Partial Colleg | Skilled Manu | No | 1 | 0-1 Miles | Pacific | 45 | Yes |
| 20870 | S | F | $10,000.00 | 2 | High School | Manual | Yes | 1 | 0-1 Miles | Europe | 38 | Yes |
| 23316 | S | M | $30,000.00 | 3 | Partial Colleg | Clerical | No | 2 | 1-2 Miles | Pacific | 59 | Yes |
| 12610 | M | F | $30,000.00 | 1 | Bachelors | Clerical | Yes | 0 | 0-1 Miles | Europe | 47 | No |
| 27183 | S | M | $40,000.00 | 2 | Partial Colleg | Clerical | Yes | 1 | 1-2 Miles | Europe | 35 | Yes |
| 25940 | S | M | $20,000.00 | 2 | Partial High S | Clerical | Yes | 2 | 5-10 Miles | Pacific | 55 | Yes |
| 25598 | M | F | $40,000.00 | 0 | Graduate Deg | Clerical | Yes | 0 | 0-1 Miles | Europe | 36 | Yes |
| 21564 | S | F | $80,000.00 | 0 | Bachelors | Professional | Yes | 4 | 10+ Miles | Pacific | 35 | No |
| 19193 | S | M | $40,000.00 | 2 | Partial Colleg | Clerical | Yes | 0 | 1-2 Miles | Europe | 35 | Yes |

## For this project the steps I took includes:

## Data cleaning

I checked and removed 26 duplicates leaving 1000 unique values.

Find and Replace: The Marital status

column has “M” and “s» which were

replaced with “Married” and “single”.

The Gender column has “M” and “F” and

was replaced with “Male” and “Female”, i added

a new column “Age Bracket =IF(L2>55, “Old”, IF(L2>=31,

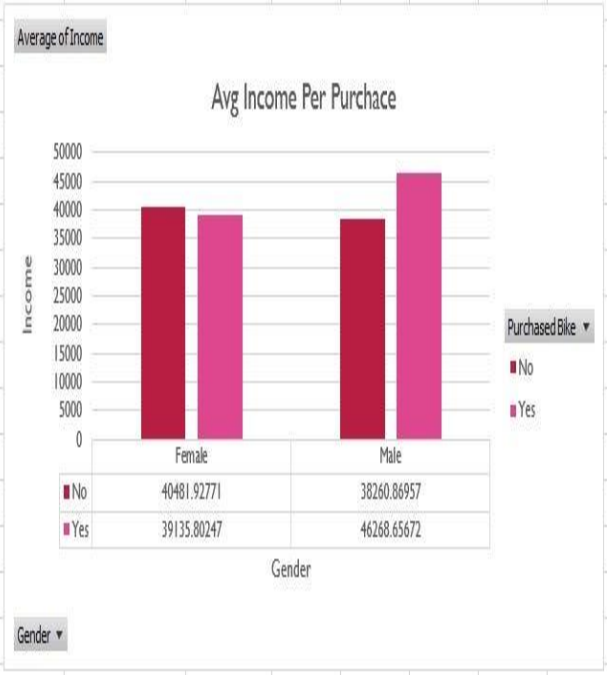
“Middle Age”, IF(L2< 31, “Youth”.»I made this changes for easier understanding of the visualization.

| ID | Married/Single Status | Gender | Income | Children | Education | Occupation | Home Owner |
|---|---|---|---|---|---|---|---|
| 12496 | Married | Female | $40,000.00 | | 1 Bachelors | Skilled Manual | Yes |
| 24107 | Married | Male | $30,000.00 | | 3 Partial College | Clerical | Yes |
| 14177 | Married | Male | $80,000.00 | | 5 Partial College | Professional | No |
| 24381 | Single | Male | $70,000.00 | | 0 Bachelors | Professional | Yes |
| 25597 | Single | Male | $30,000.00 | | 0 Bachelors | Clerical | No |
| 13507 | Married | Female | $10,000.00 | | 2 Partial College | Manual | Yes |
| 27974 | Single | Male | $160,000.00 | | 2 High School | Management | Yes |
| 19364 | Married | Male | $40,000.00 | | 1 Bachelors | Skilled Manual | Yes |
| 22155 | Married | Male | $20,000.00 | | 2 Partial High School | Clerical | Yes |
| 19280 | Married | Male | $120,000.00 | | 2 Partial College | Manual | Yes |
| 22173 | Married | Female | $30,000.00 | | 3 High School | Skilled Manual | No |
| 12697 | Single | Female | $90,000.00 | | 0 Bachelors | Professional | No |
| 11434 | Married | Male | $170,000.00 | | 5 Partial College | Professional | Yes |
| 25323 | Married | Male | $40,000.00 | | 2 Partial College | Clerical | Yes |
| 23542 | Single | Male | $60,000.00 | | 1 Partial College | Skilled Manual | No |
| 20870 | Single | Female | $10,000.00 | | 2 High School | Manual | Yes |
| 23316 | Single | Male | $30,000.00 | | 3 Partial College | Clerical | No |
| 12610 | Married | Female | $30,000.00 | | 1 Bachelors | Clerical | Yes |
| 27183 | Single | Male | $40,000.00 | | 2 Partial College | Clerical | Yes |
| 25940 | Single | Male | $20,000.00 | | 2 Partial High School | Clerical | Yes |
| 25598 | Married | Female | $40,000.00 | | 0 Graduate Degree | Clerical | Yes |
| 21564 | Single | Female | $80,000.00 | | 0 Bachelors | Professional | Yes |
| 19193 | Single | Male | $40,000.00 | | 2 Partial College | Clerical | Yes |

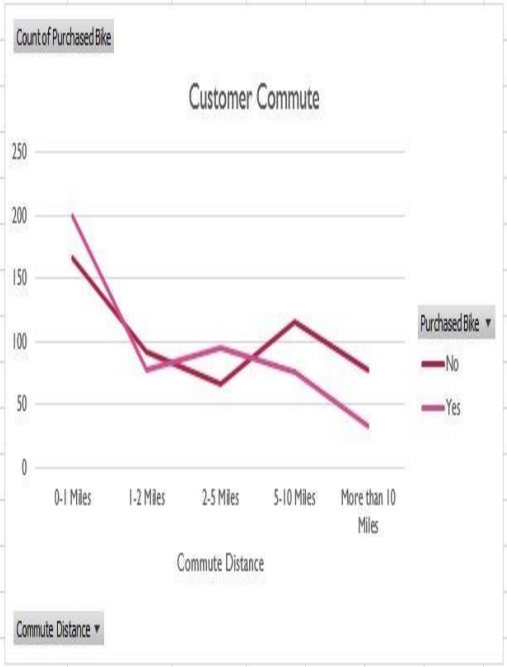
## 3. Pivot Table Creation

I created relevant pivot tables to help identify the analysis objectives.

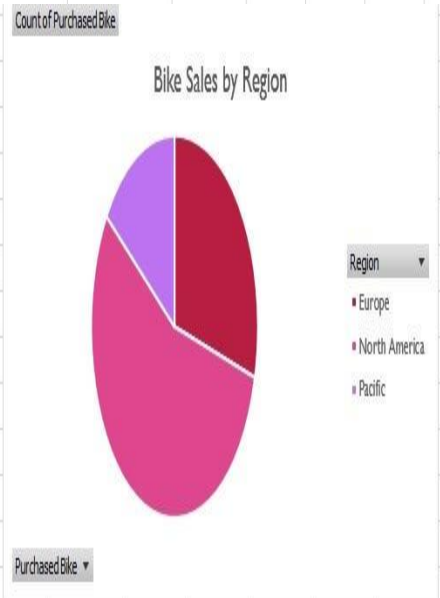
| Average of Income | Column Labels | | |
|---|---|---|---|
| Row Labels | No | Yes | Grand Total |
| Female | 40481.92771 | ### | 39817.07317 |
| Male | 38260.86957 | ### | 42205.88235 |
| **Grand Total** | **39473.68421** | **####** | **40900** |



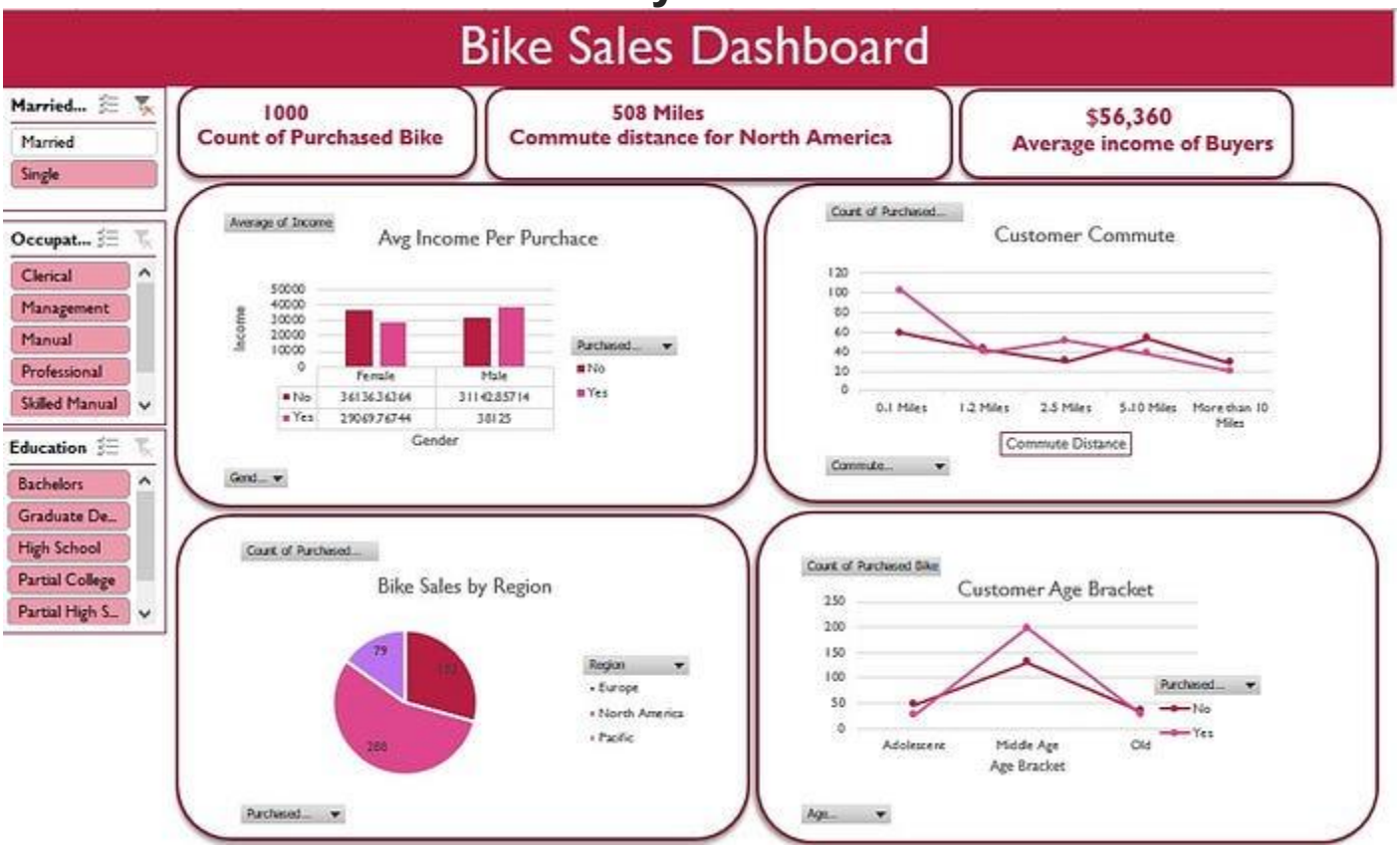
| Count of Purchased Bike | Column Labels | | |
|---|---|---|---|
| Row Labels | No | Yes | Grand Total |
| 0-1 Miles | 166 | 200 | 366 |
| 1-2 Miles | 92 | 77 | 169 |
| 2-5 Miles | 67 | 95 | 162 |
| 5-10 Miles | 116 | 76 | 192 |
| More than 10 Miles | 78 | 33 | 111 |
| **Grand Total** | **519** | **481** | **1000** |




| Count of Purchas C | | | |
|---|---|---|---|
| Row Labels | No | Yes | Grand Total |
| Europe | 152 | 148 | 300.00 |
| North America | 288 | 220 | 508.00 |
| Pacific | 79 | 113 | 192.00 |
| **Grand Total** | **519** | **481** | **1000** |




## 4. Data visualization and analysis.



## Insights from the visualization.

- North America accounted for the highest percentage of bike sales at 51%, followed by Europe with 30%, and the Pacific region with 19%.
- Customers with a bachelor's degree made the highest number of bike purchases likely due to their higher income levels.
- The middle-age group demonstrated a higher usage of bicycles compared to other age groups.

## Recommendations

From the insights gotten from the visualizations I will recommend :

- The company should target Northern American region as they tend to purchase more bikes by offering discounts.
- The company should focus on attracting customers who live beyond a 10-mile radius of the stores by offering promotions and discounts.
- The company should target males as the purchase more bikes than the females.
- The company should explore ways to attract Married customers with children by offering family-friendly promotions and discounts.

- The company should consider offering promotions and discounts on popular bike models, particularly among customers with lower income levels.
- The company should continue to analyze the sales data and adjust marketing strategies based on the insights from the dashboard.

## Conclusion

- The Bike Sales performance dashboard offers valuable information regarding bike sales performance, considering diverse customer demographics and parameters. Through thorough data analysis and implementation of the suggested measures, the company can enhance its bike sales and expand its customer reach.