

# Bike Dekho – Bike Sales Analysis Excel Project

## Project Overview:

The **Bike Dekho – Bike Sales Analysis** is a hands-on data analysis project that explores sales trends in the biking industry using Microsoft Excel. This project demonstrates how Excel can be effectively utilized for **data cleaning, transformation, analysis, and visualization** to drive meaningful business insights.

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## Project Objectives:

- To clean and organize raw bike sales data for better usability.
  - To perform exploratory data analysis (EDA) using Excel formulas and PivotTables.
  - To uncover key patterns in customer demographics, bike preferences, and sales performance.
  - To create an interactive and insightful **dashboard** for decision-makers.
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## Key Tasks Performed:

### 1. Data Cleaning & Preprocessing:

- Removed duplicates, handled missing values  
In the raw file there was no duplicates and no missing value.
- Standardized column formats (dates, currency, text)  
In the raw file there is no dates data but there is currency data of dollar which is already in the perfect format.
- Created calculated columns for metrics like Age, Profit Margin, etc.  
Here I added age bracket column where age is converted to the categorical value which is Old, middle age and Adolescent, Invalid. In the raw file there is no sales data so we can't calculate here any profit margin.

## 2. Exploratory Data Analysis:

- Used **PivotTables** to analyze:

- Sales by gender, region, and product category

|    |                         |               |               |         |             |
|----|-------------------------|---------------|---------------|---------|-------------|
| 25 | Count of Purchased Bike | Column Labels |               |         |             |
| 26 | Row Labels              | Europe        | North America | Pacific | Grand Total |
| 27 | Female                  | 172           | 239           | 90      | 501         |
| 28 | Male                    | 144           | 269           | 112     | 525         |
| 29 | Grand Total             | 316           | 508           | 202     | 1026        |
| 30 |                         |               |               |         |             |
| 31 |                         |               |               |         |             |
| 32 |                         |               |               |         |             |

- Preferred bike models by customer demographics

|    |                         |               |     |             |
|----|-------------------------|---------------|-----|-------------|
| 8  |                         |               |     |             |
| 9  | Count of Purchased Bike | Column Labels |     |             |
| 10 | Row Labels              | No            | Yes | Grand Total |
| 11 | Adolescent              | 71            | 41  | 112         |
| 12 | Middle Age              | 326           | 393 | 719         |
| 13 | Old                     | 134           | 61  | 195         |
| 14 | Grand Total             | 531           | 495 | 1026        |
| 15 |                         |               |     |             |

- Impact of income and occupation on bike purchasing behavior

|   |                   |               |             |             |
|---|-------------------|---------------|-------------|-------------|
| 3 | Average of Income | Column Labels |             |             |
| 4 | Row Labels        | No            | Yes         | Grand Total |
| 5 | Female            | 53449.6124    | 55267.48971 | 54331       |
| 6 | Male              | 56520.14652   | 59603.1746  | 58000       |
| 7 | Grand Total       | 55028.24859   | 57474.74747 | 56209       |
| 8 |                   |               |             |             |

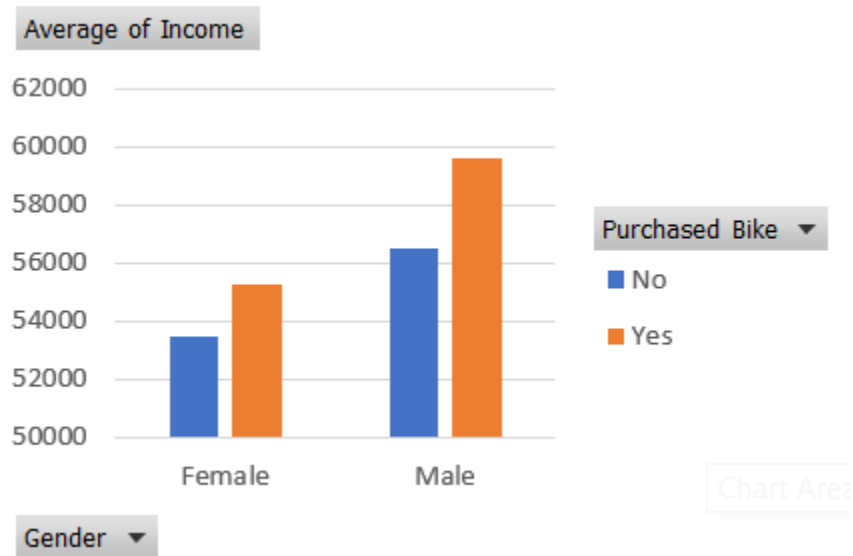
- Applied **COUNTIFS**, **SUMIFS**, **VLOOKUP**, **IF**, and **DATE** functions for derived insights.

In the AGE section we use IF for find Age bucket, which is

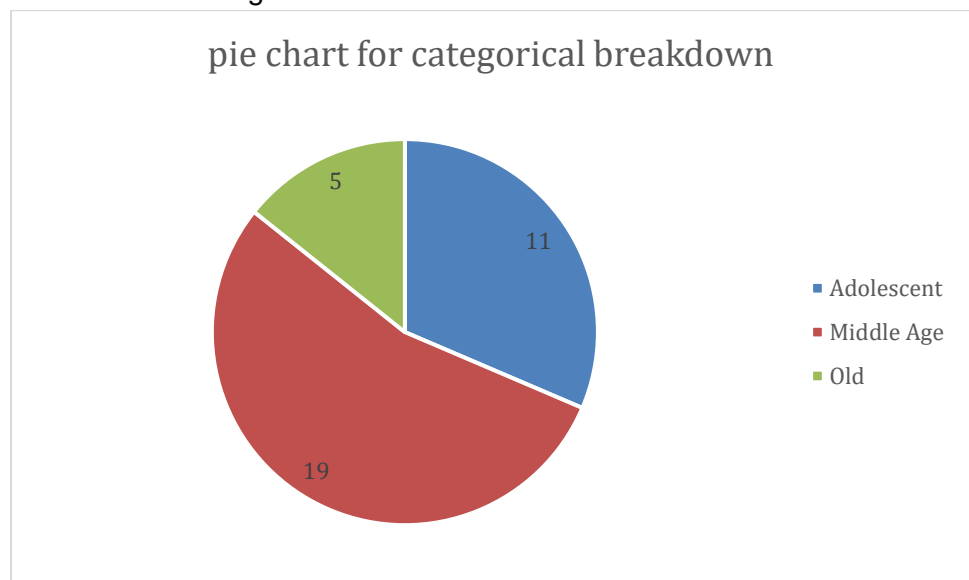
=IF(L2>54,"Old",IF(L2>=31,"Middle Age",IF(L2<31, "Adolescent","Invalid")))

### 3. Data Visualization:

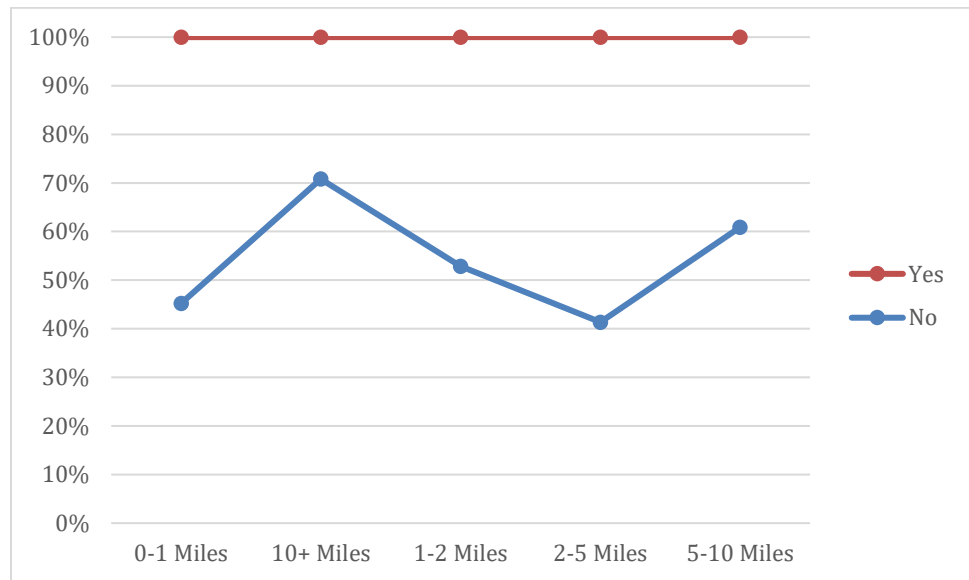
- Created dynamic charts including:
  - Bar and column charts for sales comparisons



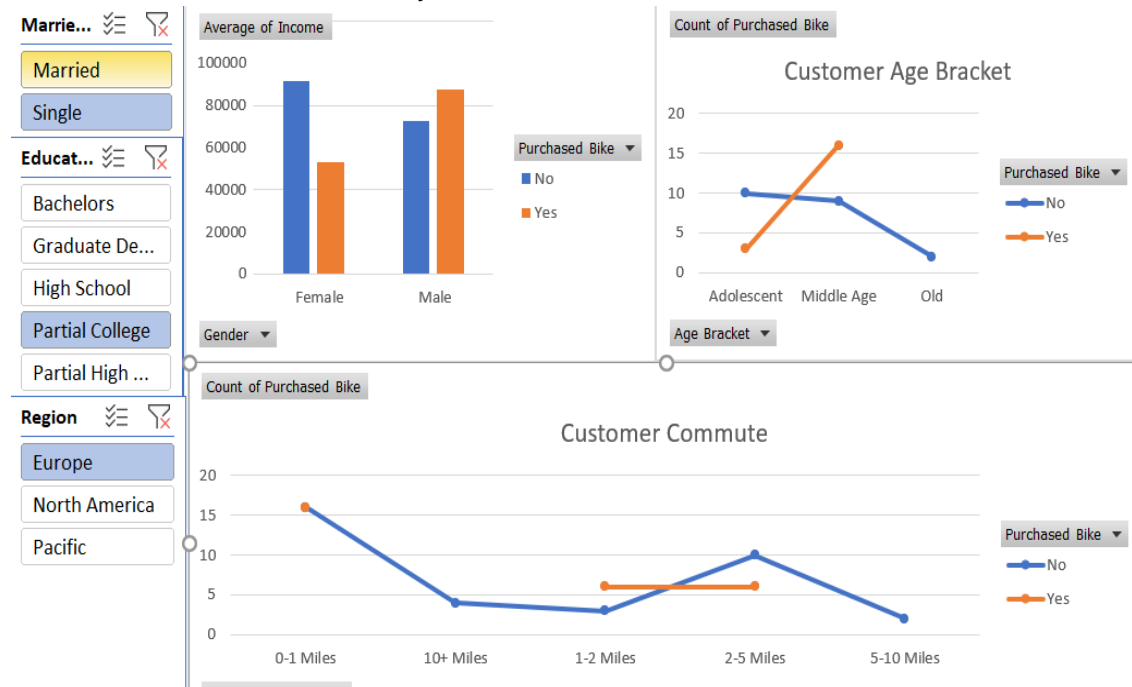
- Pie charts for categorical breakdowns



## ■ Line charts for time-based trends



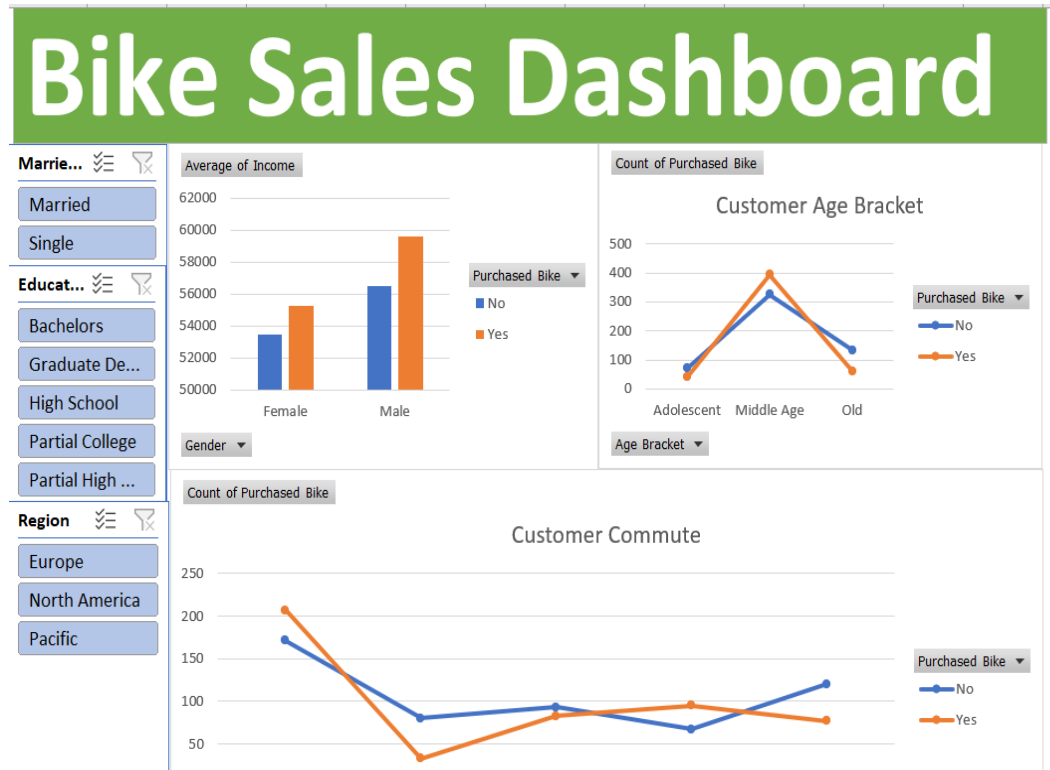
## ■ Slicers and filters for interactivity



Here we can see who are single education are partial college and lived in region their male is huge amount purchased are seen.

#### 4. Dashboard Creation:

- Built an executive-style Excel dashboard with:
  - KPIs: Total Sales, Units Sold, Avg. Income, Customer Count
  - Segmentation by region, gender, marital status, and product line
  - Clean layout and color-coded visuals for quick decision-making



#### 📌 Tools & Features Used:

- Microsoft Excel (Formulas, PivotTables, PivotCharts)
- Conditional Formatting
- Slicers and Timelines
- Named Ranges and Data Validation
- Interactive Dashboard Design



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### **Business Insights Generated:**

- Married males aged 30–45 with higher income are the most frequent bike buyers.
- Mountain bikes are the most preferred product line.
- Western regions recorded the highest sales volume.
- Customer income and occupation significantly influence purchasing behavior.

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### **Deliverables:**

- Cleaned and structured Excel data file
- EDA worksheet with PivotTables and formula-based insights
- Interactive Sales Dashboard

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### **Skills Demonstrated:**

- Data Cleaning & Preparation
- Data Analysis & Interpretation
- Business Intelligence Reporting
- Dashboard Design in Excel