

Bike Sales Analysis Report

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Project Objective: To identify key demographics and environmental factors that influence a customer's decision to purchase a bike.

1. Executive Summary

This analysis explores the relationship between customer demographics (Age, Income, Gender) and lifestyle factors (Commute Distance) in relation to bike purchasing behaviour. The goal is to provide actionable insights for targeted marketing campaigns.

2. Data Cleaning Process

Before analysis, the following data cleaning steps were performed to ensure accuracy:

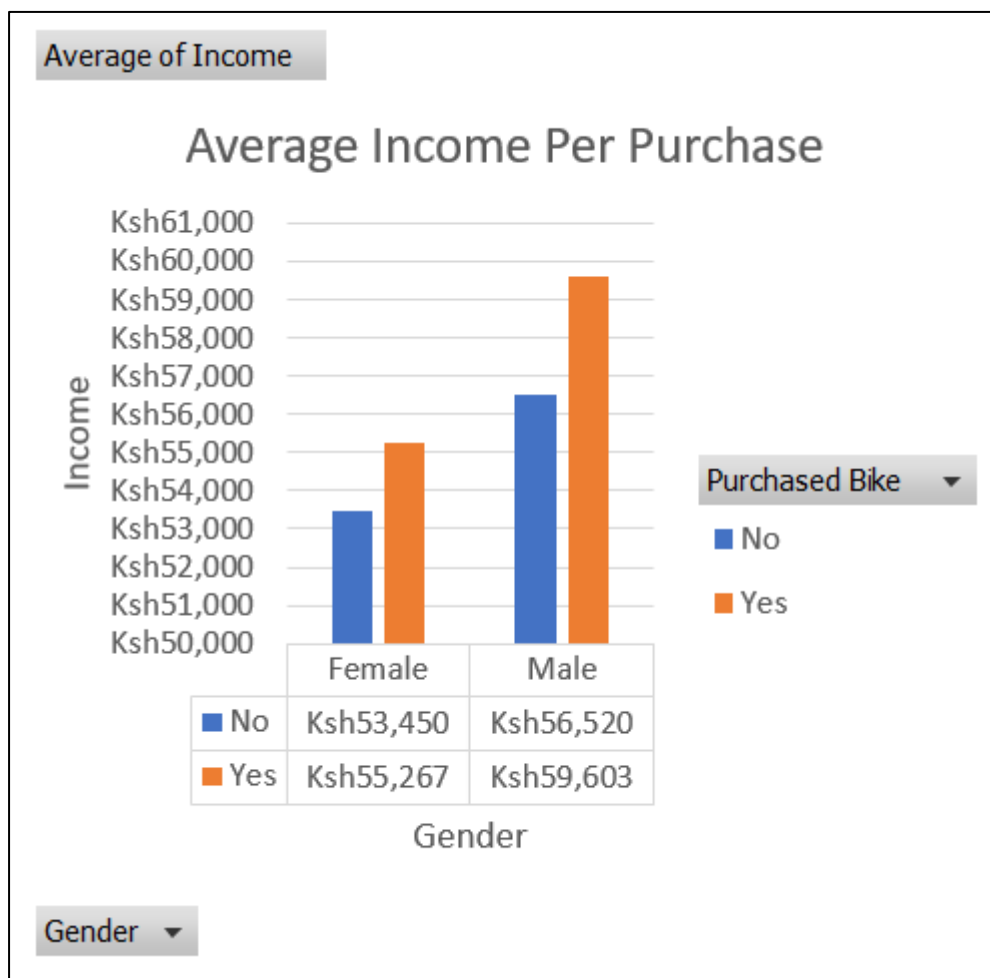
- **Duplicate Removal:** Identified and removed 26 duplicate records to prevent skewed results.
- **Field Standardization:**
 - Marital Status: Changed "M/S" to "Married/Single".
 - Gender: Changed "M/F" to "Male/Female".
 - Commute Distance: Updated "10+ Miles" to "More than 10 Miles".
- **Data Transformation:** Created an **Age Bracket** column to group customers into "Adolescent" (25-30), "Middle Age" (31-54), and "Old" (55+).

Old	56
Middle Age	34
Old	63
Adolescent	29
Middle Age	40
Middle Age	44

3. Key Insights

A. Income and Gender Influence

- **Findings:** On average, customers who purchased a bike have a higher income (Ksh57,475) than those who did not (Ksh55,028).
- **Gender Breakdown:** Male customers who purchased bikes have the highest average income at approximately Ksh59,603.



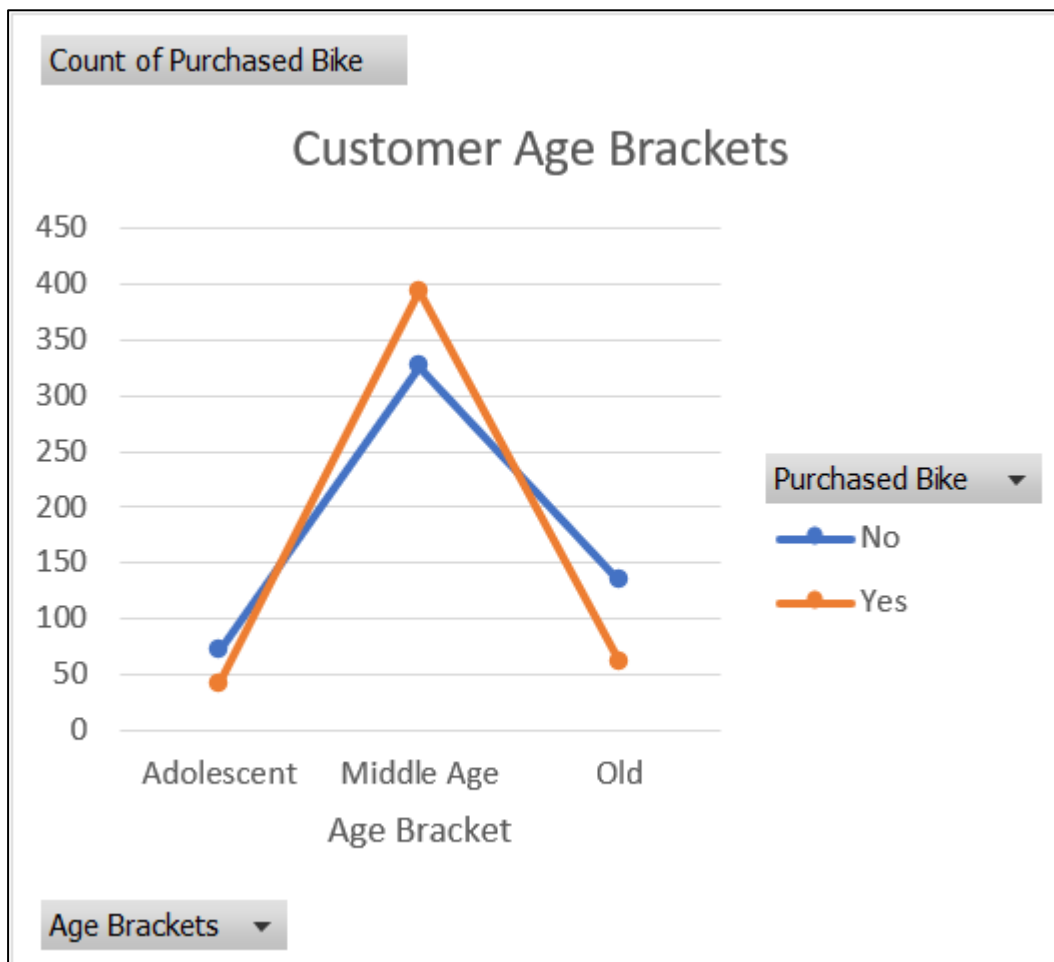
B. Impact of Commute Distance

- **Findings:** There is a clear trend showing that shorter commutes lead to higher bike sales.
- **Specifics:** Customers commuting between **0-1 miles** are the largest buyers (207 purchases). Sales drop significantly for those commuting more than 10 miles (only 33 purchases).



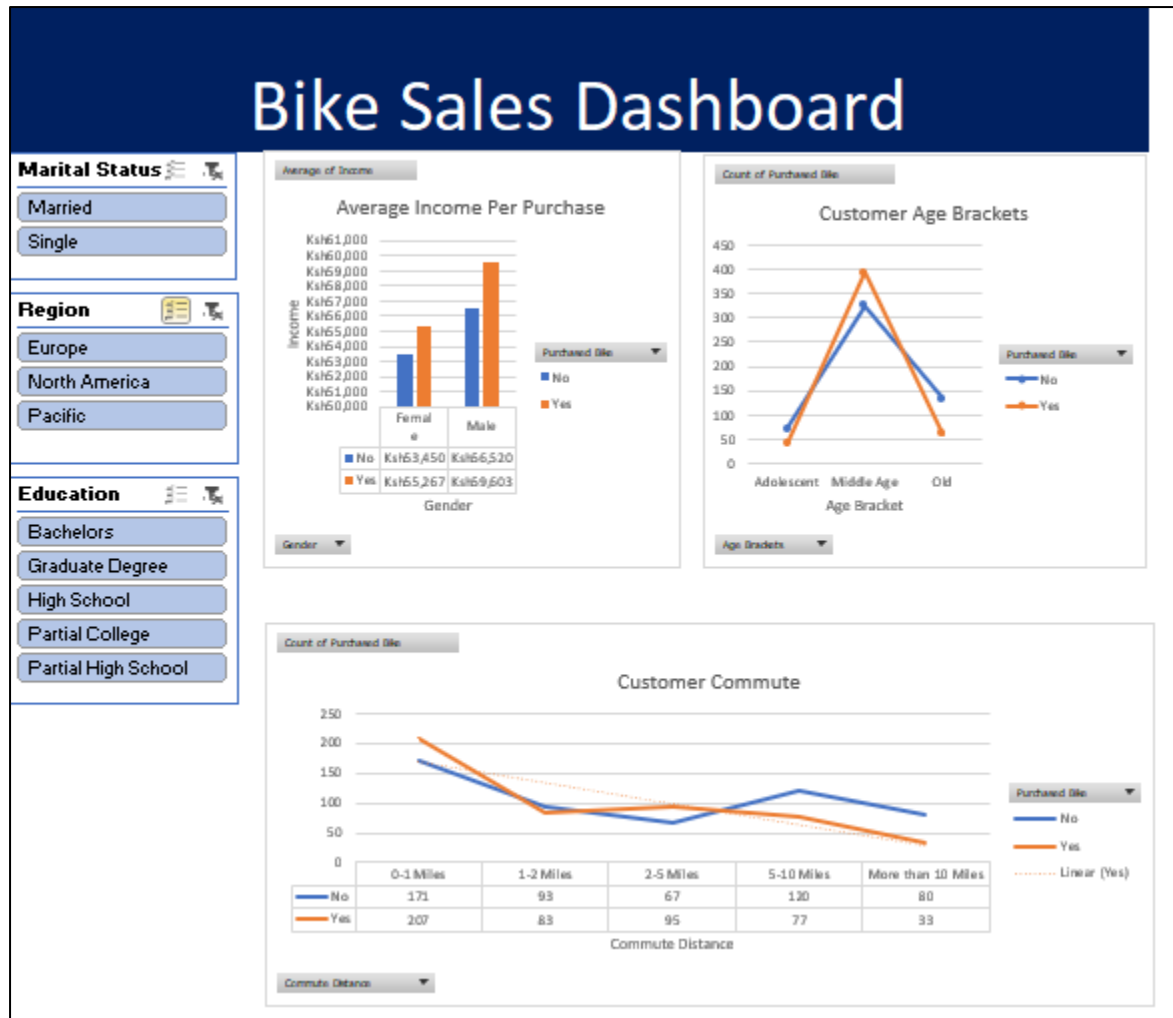
C. Age Demographic Analysis

- **Findings:** The "Middle Age" bracket (31-54) is the primary market, accounting for nearly **80% of all bike purchases** in this dataset.
- **Adolescents vs. Seniors:** The "Old" category (55+) has the lowest conversion rate.



4. Final Dashboard

This dashboard is interactive and allows users to filter by Marital Status, Region or Education using Slicers.



5. Recommendations

- Targeted Marketing:** Focus advertising spend on the "Middle Age" professional demographic with an income range of Ksh55k–Ksh65k.
- Commuter Campaign:** Launch a "Short-Commute" campaign specifically targeting customers who live within 2 miles of their workplace.
- Product Selection:** Since lower-income brackets and long-distance commuters are less likely to buy, consider introducing entry-level pricing or e-bikes to bridge the gap for long-distance travel.