

Bike Sales Dashboard Analysis

Understanding Customer Preferences and Purchase Patterns

Prepared by: Mohamed Dahi

Date: 12/05/2024

Table of Contents

1. Introduction
2. Methodology
3. Insights and Results
4. Recommendations
5. Limitations
6. Appendix

1. Introduction

This document summarizes the analysis conducted on a dataset of bike buyers to extract meaningful insights into customer preferences, purchase behaviour, and factors influencing decisions. The goal is to inform marketing strategies and future product offerings.

2. Methodology

- Tools Used:
 - Excel: Data cleaning, aggregation, and visualization.
 - Data Cleaning: Checked for missing values and outliers. Cleaned columns for consistency (e.g., converting categorical data to uniform labels).
 - Segmentation: Created different customer segments by age, marital status, education, and region.
- Data Aggregation:
 - Calculated the average income of customers who purchased bikes vs. those who didn't.
 - Segmented data by age, commute distance, and region.
- Data Visualization:
 - Created dynamic visualizations for insights into purchase trends.

- Used bar charts, pie charts, and stacked charts to break down the data.

3. Results

- Average Income & Purchase Trends:
 - Customers with higher incomes are significantly more likely to purchase bikes.
 - Visualization: A bar chart showing average income for buyers vs. non-buyers.
- Age Bracket Analysis:
 - The 25-40 age group is the most frequent buyer.
 - Visualization: A bar chart displaying the percentage of buyers within each age group.
- Commute Distance:
 - Shorter commutes (0-1 miles) correlate with a higher purchase rate.
 - Visualization: A pie chart or stacked bar chart showing the correlation between commute distance and purchases.
- Segmentation by Marital Status, Education, and Region:
 - Married customers and those with a bachelor's degree are more likely to purchase bikes.

- Visualization: Segmenting purchases based on marital status, education level, and region.

4. Limitations

- The analysis is limited to a single dataset of 1,026 customers.
- The analysis focuses on historical data; future trends or external factors (e.g., economy, seasonality) were not considered.

5. Recommendations

- Target marketing campaigns towards young professionals (aged 25-40) and high-income households.
- Promote bikes as a convenient and eco-friendly option for short-distance commuters.
- Tailor regional marketing strategies to areas with lower sales figures.

6. Appendix

- Raw Data: Overview of key data columns and their descriptions.
- Step-by-Step Guide: Instructions on how to recreate the dashboard and data visualizations.
- Advanced Techniques: Considerations for future modelling (e.g., predictive analytics, machine learning).