Bike Sales – Project Report

1) Executive Summary

This project analyses customer demographic and behavioural patterns influencing bike purchases.

The dashboard provides insight into:

- Income distribution by gender
- Purchase behaviour across age brackets
- Commute distance impact on buying decisions
- Demographic filters (Marital Status, Region, Education)

The objective is to help the sales and marketing teams identify high-conversion customer segments and optimize targeting strategies.

2) Business Problem

The company wants to understand:

- Which demographic groups are most likely to purchase bikes?
- Does income influence buying decisions?
- What commute distance correlates with higher purchase rates?
- How do region, marital status, and education affect sales?

Without data segmentation, marketing campaigns risk low conversion and inefficient spending.

3) Data Overview

Dataset includes:

- Gender
- Marital Status
- Region
- Education
- Income
- Age Bracket
- Commute Distance
- Purchased Bike (Yes/No)

Data Source: Excel-based transactional and customer dataset
Tool Used: Excel

4) Dashboard Analysis & Insights

🔹 **A. Average Income per Purchase**

Observation:

- Male customers have higher average income than female customers.
- Customers who purchased bikes show consistently higher income levels compared to non-purchasers.
- Male purchasers show the highest average income overall.

Business Insight:
Income positively correlates with bike purchase probability.

Strategic Action:
Target mid-to-high income customer groups for premium bike campaigns.

🔹 **B. Customer Age Brackets**

Observation:

- Middle-aged customers have the highest purchase count.
- Adolescents and older customers show significantly lower purchase activity.

Business Insight:
Middle-aged segment is the core buying audience.

Strategic Action:
Focus advertising on working professionals (30–50 age range).

🔹 **C. Commute Distance Analysis**

Observation:

- Customers commuting 0–1 mile show high purchase volume.
- Purchase declines significantly for >10 miles.
- 2–5-mile commuters also show strong purchase behaviour.

Business Insight:
Short-to-moderate commute distances increase bike adoption likelihood.

Strategic Action:
Promote bikes as short-distance commuting solutions.

- **D. Demographic Filters Impact**

Filters allow segmentation by:

- Marital Status
- Region (Europe, North America, Pacific)
- Education Level

Insights:

- Certain regions show stronger buying tendencies.
- Education level influences income, indirectly impacting purchase rate.
- Married customers may show more stable purchase behaviour.

5) Key KPIs Identified

- Purchase Rate by Segment
- Average Income of Buyers
- Purchase Count by Age Group
- Purchase Count by Commute Distance
- Region-wise Purchase Distribution

These KPIs help measure marketing efficiency and customer targeting precision.

6) Analytical Techniques Used

- Segmented aggregation (Yes vs No purchase)
- Income-based comparative analysis
- Behavioural clustering via commute distance
- Demographic slicing through dashboard filters

This demonstrates understanding of:

- Customer segmentation
- Descriptive analytics
- KPI-driven reporting
- Interactive filtering logic

7) Business Recommendations

1️⃣ Focus on Middle-Aged Professionals

Primary high-conversion segment.

2️⃣ Target Short-Distance Commuters

Position bikes as cost-effective commuting alternatives.

3️⃣ Premium Product Strategy

Since buyers have higher income levels, introduce premium-tier offerings.

4️⃣ Regional Campaign Optimization

Allocate marketing budgets based on region-wise performance.