🚲 Bike Sales Analysis Report

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Tool Used: Microsoft Excel

Project Type: Data Visualization & KPI Dashboard

Dataset: Simulated Bike Sales Dataset

1. Objective

This project aimed to analyze a dataset of over 1,000 bike customers to uncover patterns in buying behavior. The goal was to identify trends across income, gender, education, region, and other demographic variables and summarize key insights using an interactive dashboard.

2. Tools Used

Microsoft Excel

Pivot Tables

Pivot Charts

Slicers

3. 📊 Key Insights

🚀 *Gender Analysis:*

Males slightly outnumbered females among customers. However, average income among male customers was higher ($58,000 vs $54,331.34), which may have influenced slightly higher bike purchases among men.

👥 *Age Group:*

The most active buyers were in the 35–44 (Young Adults) and 45–54 (Older Adults) age brackets. Engagement declines significantly among seniors and elders.

🎓 *Education Level:*

Customers with Bachelor's degrees and Partial College education made up the largest portion of buyers, suggesting mid-level education correlates with higher product interest.

🚗 *Commute Distance:*

Customers commuting 10+ miles had the highest average income, while those with 0–1mile commutes had the lowest. This suggests a potential link between income level and mobility needs.

🌍 *Regional Breakdown:*

North America recorded the highest number of buyers and total income, followed by Europe and the Pacific region. This indicates stronger market potential in North America.

4. 📈 Key KPIs

Total Customers: **1,026**

Total Buyers: **495**

Total Income: **$57,670,000**

Average Income (Male): **$58,000**

Average Income (Female): **$54,331.34**

5. 📋 Dashboard Summary

The dashboard was created to be interactive and user-friendly. It includes:

Dynamic slicers for Age Group, Income, Education, Buyer Status, Commute Distance, Region, Marital Status, Occupation, and Gender

Gender-based metrics

Regional sales charts

Educational and occupational breakdown

Total income distribution

6. ⚠️ Limitations

Dataset is simulated and may not represent real-world conditions.

Microsoft Excel has limitations in automation, interactivity, and scalability compared to advanced BI tools like Power BI.

7. ✅ Conclusion

This project provided hands-on experience with Excel dashboard design, KPI development, and visual storytelling. The analysis uncovered valuable insights into customer demographics and purchasing behavior, forming a foundation for future work using SQL, Python, or Power BI.

8. 💡 Recommendations

1. Target Age Groups 35–54: These age brackets showed the highest engagement. Marketing should focus on their lifestyle preferences and purchasing motivations.

2. Appeal to Educated Mid-Level Professionals: The largest buying segment had Partial College and Bachelor's degrees. Campaigns should be designed to attract this demographic.

3. Capitalize on North American Market: With the highest income and number of buyers, North America presents the strongest opportunity for growth.

4. Create Inclusive Marketing by Gender: While men had slightly higher income and purchases, women also represent a substantial buyer base. Balanced messaging can maximize reach.

5. Explore Mobility-Based Offers: Longer commute distances were linked to higher income and purchase rates. Consider marketing bikes as efficient commuting alternatives for this group.

9. 📎 Project Links

GitHub Repository: https://github.com/Jumy-I/Bike-sales-analysis