

Bike Dekho Project: Extended Analysis & Insights Document

1. Introduction

The Bike Dekho Project is a data-centric initiative aimed at identifying key customer trends and behavioral patterns in the context of bike purchases. Through a detailed workflow that includes data cleaning, pivot table analysis, and dashboard visualization, this project delivers insights for informed business decision-making.

2. Data Preparation: Working Sheet Analysis

The foundation of any analytical project is clean, organized data. In the Bike Dekho Project, the following data preparation steps were executed:

- **Removed Duplicates and Blanks:** Ensured accurate analysis by removing redundant or empty entries.
- **Standardization of Data:** Cleaned categorical fields like Gender, Education, and Region to ensure uniformity.
- **Numerical Formatting:** Converted Age, Income, and Car Ownership to numeric formats to allow analysis.
- **Calculated Fields:**
 - **Age Grouping:** Age ranges for better demographic segmentation.
 - **Income Banding:** Categorization into low, mid, and high-income groups.

Final Data Fields Included: - Gender - Marital Status - Age - Education - Income - Region - Commute Distance - Cars Owned - Home Ownership - Purchase Decision

3. Pivot Table Analysis

Pivot tables helped in extracting core insights from the structured data. Highlights include:

- **Purchase Behavior by Gender:** Similar trends observed across male and female segments.
 - **Marital Status Influence:** Slight increase in bike purchases among married individuals.
 - **Income Analysis:** Buyers had noticeably higher average income levels than non-buyers.
 - **Commute Distance Trends:**
 - **0-1 miles:** Most likely to purchase
 - **2-5 miles:** Strong buyer segment
 - **5-10 miles:** Moderate likelihood
 - **10+ miles:** Lowest buyer interest
 - **Age Distribution:** Buyers predominantly fall within the 35-50 age bracket.
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4. Dashboard Visualization

Visual dashboards brought the pivot table findings to life with interactive, stakeholder-friendly elements:

- **KPI Cards:** Showcased key figures like total customers, buyers, and non-buyers.
 - **Pie Chart:** Clear visual breakdown of purchase status.
 - **Commute Distance vs. Purchase (Bar Chart):** Identified ideal distance ranges for targeting.
 - **Gender & Marital Status (Stacked Bar Charts):** Helped validate minimal impact of these factors.
 - **Age Group Insights (Line Chart):** Highlighted the peak buyer age range.
 - **Income Comparison:** Showed buyer concentration in mid-to-high income categories.
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5. Overall Insights

- **Income** and **commute distance** are strong predictors of purchase behavior.
 - **Gender** and **marital status** have minimal impact.
 - **Homeowners** and those with fewer cars are more inclined to purchase bikes.
 - **Customers aged 35–50** form the key buyer group.
 - Short commute distances (under 5 miles) yield higher purchase conversion rates.
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6. Strategic Recommendations

Based on analytical insights, the following recommendations are proposed:

- **Target Audience:** Mid-income, urban homeowners aged 35–50.
 - **Product Development:** Design bikes suitable for daily short-distance commutes.
 - **Marketing Strategy:**
 - Promote cost-effectiveness and health benefits.
 - Emphasize environmental advantages.
 - **Regional Focus:** Concentrate efforts in urban and suburban areas.
 - **Promotional Offers:** Bundle packages for commuters and small households.
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7. Sheet Connectivity

- **Working Sheet:** Cleaned raw data.
- **Pivot Table:** Revealed relationships and patterns.
- **Dashboard:** Enabled interactive, visual storytelling.

Each layer complements the others, forming a cohesive analytical pipeline from data to decision.

8. Conclusion

The Bike Dekho Project demonstrates how Excel-based tools can uncover meaningful business insights. Through organized data, pivot-driven analysis, and interactive dashboards, we've pinpointed what drives

bike purchases and how businesses can respond effectively. These insights provide a data-backed roadmap for marketing, product development, and customer segmentation strategies.

This project is a blueprint for future analytical initiatives aimed at converting data into strategic value.