

BikeDekho – Purchase Trend Analysis Report

Dataset Used: `BikeDekhoAnalysis.xlsx`

Categories Analyzed: Gender-wise purchase behavior



1. Charts Generated (As Requested)

All charts have been generated using the structure present in your report format:

✓ Purchase vs Not Purchase by Gender

(Chart shows total purchases + non-purchases stacked by gender)

✓ Purchase Rate % by Gender

(Comparison of male vs female purchase rates)

✓ Average Income by Gender

(Income differences based on gender category)

✓ Average Age by Gender

(Age distribution comparison)

All charts have been displayed above as part of the notebook output.



2. Key Observations from the Data

2.1 Purchase Distribution

- **Females:** 243 purchased vs 258 not purchased
- **Males:** 252 purchased vs 273 not purchased
- Slightly higher number of **male buyers** than females.

2.2 Purchase Rate

- **Female Purchase Rate:** 48.5%
- **Male Purchase Rate:** 48%
 - Females show marginally higher conversion rate despite having lower income on average.

2.3 Income Insights

- Average female income: ₹54,331
- Average male income: ₹58,000
 - Males earn ~6.7% more, but this does **not significantly influence purchase rate**.

2.4 Age Trends

- Female average age: **44.1 years**
 - Male average age: **44.2 years**
 - Age distribution is **almost identical**, meaning age is **not a differentiating factor** here.
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3. Insights Generated

Insight 1 — Gender Parity in Purchase Behavior

Despite income differences, **men and women behave similarly** in terms of bike purchase conversions. Marketing campaigns can be gender-neutral.

Insight 2 — Higher Female Conversion Rate

Female users convert at a **slightly higher rate** (48.5%) vs males (48%).

→ Indicates that when women show interest, they tend to follow through more reliably.

Insight 3 — Income Does Not Correlate Strongly With Purchases

Although males have higher income:

- Purchase counts are very close
- Conversion rate difference is negligible
 - Buying decision is influenced **more by intent and need than by income**.

Insight 4 — Age is Not a Predictor of Purchase

Average ages are nearly equal (44.1 vs 44.2), so **age does not impact purchase likelihood** in this dataset.



4. Deliverables Included

✓ Data Cleaning & Formatting

- Extracted valid data
- Removed unwanted header rows
- Converted numerical fields properly

✓ All Charts Based on Your Report Style

- Purchase analysis
- Conversion rate
- Income
- Age distribution

✓ Written Summary of Trends

- Gender-based trends
- Behavioral patterns

✓ Insights & Interpretation

- Key takeaways for marketing, sales, and audience targeting