

Customer & Sales Analytics Report

Data Sources Used

- customer.csv: Contains customer demographics (age, gender, country, income).
- purchase.csv: Contains transaction-level details (product, quantity, price, discounts, dates, etc.).

Key Analyses Performed

1. Top Revenue-Generating Products:
 - Revenue = quantity × (price - discount + tax)
2. Customer Demographics:
 - Age groups visualized with a pie chart
 - Top countries shown via bar chart
3. Shipping Cost vs Duration:
 - Comparison of average cost for fast vs slow shipping
4. Gender-Based Income Analysis:
 - T-test to compare male and female income
5. Product Preference by Gender:
 - Chi-square test for independence
6. Income vs Spending Correlation:
 - Pearson correlation between income and total cost
7. Customer Segmentation:
 - K-means clustering using age and income

Future Insights & Recommendations

1. Focus on Top Products: Promote or bundle top-selling items.
2. Age-Based Campaigns: Tailor ads and offers by age group.
3. Optimize Country Logistics: Reduce delivery costs by targeting top customer regions.
4. Control Shipping Costs: Offer paid express shipping while keeping standard free.
5. Gender-Specific Promotions: Launch offers based on gender preferences.
6. Use Spending Insights: Upsell to high-income groups.
7. Leverage Clusters: Use segmentation for personalized campaigns.