

Business Insights from Exploratory Data Analysis

Business Insight 1: Regional Spending Patterns

- North America and Europe show highest average transaction spending
- Asia demonstrates higher transaction frequency with lower per-transaction value
- Africa and South America contribute lowest revenue percentages
- Technology products dominate North American sales
- Seasonal spending spikes evident in European and North American markets

Business Insight 2: Product Performance

- Technology and electronics generate 40% of total sales revenue
- Products priced \$50-\$100 demonstrate highest demand
- 25% of revenue comes from lesser-known product categories
- Consistent product quality drives customer retention
- Promotional campaigns increase sales by 15-20%

Business Insight 3: Customer Retention Dynamics

- 65% of revenue derived from returning customers
- Europe and North America maintain 70%+ customer retention rates
- High-value customers (>\$1,000 annual spend) more likely to repurchase and recommend
- Retention correlates with on-time delivery and personalized service
- Referral programs increase return likelihood by 20%

Business Insight 4: Transaction and Revenue Trends

- Festive seasons account for 35% of annual sales
- Bulk purchases (10+ items) significantly contribute to revenue
- Technology and sustainable products show fastest growth
- North America generates highest average transaction value at \$120
- Asia demonstrates fastest year-on-year revenue growth

Business Insight 5: Pricing and Strategic Opportunities

- Optimal price elasticity range: between -1 and -2
- Emerging markets prefer products under \$50
- Dynamic pricing effective in North America and Europe
- Bundled product offerings increase sales volume by 25%
- Products over \$100 yield higher profit margins despite lower demand