

Business Insights Report: EDA of eCommerce Dataset

1. Customers Dataset Insights

1. Regional Distribution:

- **South America** leads with the highest customer base, followed by **Europe**, **North America**, and **Asia**.
- Business Focus: Prioritize marketing efforts in South America to maintain growth while exploring opportunities in underrepresented regions like Asia.

2. Signup Trends:

- A steady rise in signups, peaking in **2024**, reflects strong customer interest and effective business strategies.
- Recommendation: Leverage this trend with increased investment in customer acquisition campaigns.

3. Data Completeness:

- No missing values ensure accurate and reliable analysis.

4. Unique Identifiers:

- All customers have unique IDs and names, validating data integrity.
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2. Products Dataset Insights

1. Category Distribution:

- Products are concentrated in **Books** and **Electronics**, suggesting these as top-performing categories.
- Recommendation: Introduce new products and enhance offerings in these categories for sustained growth.

2. Price Insights:

- Product prices range from **\$16.08** to **\$497.76**, with an average of **\$267.55**, indicating a wide product range catering to diverse budgets.
- Business Implication: Highlight premium products for higher revenue and budget-friendly options for broader customer appeal.

3. Data Completeness and Integrity:

- No missing data and unique product identifiers ensure quality analysis.
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3. Transactions Dataset Insights

1. Transaction Patterns:

- Most purchases involve **1 to 4 items**, showing customer preferences for smaller, frequent purchases.
- Recommendation: Use product bundling or personalized recommendations to increase transaction size.

2. Revenue Distribution:

- A diverse range of transaction values and product prices reflects offerings catering to different customer needs.

3. Consistency Over Time:

- Monthly transaction volumes remain stable, showing steady demand.
- Business Opportunity: Maintain consistent promotional efforts to sustain engagement.

4. Revenue by Product Category

1. Revenue Leaders:

- Categories generating the highest revenue should be prioritized for inventory management and marketing.
- Lower-revenue categories can benefit from targeted promotions to boost sales.

2. Color-Coded Visual Insights:

- Distinct colors in the visualization simplify identifying top-performing categories.
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5. Number of Transactions by Product Category

1. Volume Trends:

- Categories with high transaction volumes but lower revenue suggest opportunities for upselling or cross-selling strategies.
 - Strong performers with high transactions and revenue should be consistently supported.
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Key Business Recommendations

1. **Focus on South America:** Enhance region-specific campaigns.
2. **Leverage Price Range:** Promote budget-friendly and premium products to cater to all segments.
3. **Upselling Strategies:** Bundle frequently purchased items to boost transaction size.
4. **Product Expansion:** Introduce new products in **Home Decor** and **Clothing** categories.
5. **Revenue Optimization:** Strengthen inventory and marketing for top revenue-generating categories.