BUSINESS INSIGHTS USING EDA

1. Customer Segmentation and Lifetime Value

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Total Sales Value: $689,995.56
Average Transaction Value: $690.00
Median Transaction Value: $588.88
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INSIGHT : The total sales value of $689,995.56, with an average transaction value of $690 and a median of $588.88, suggests an interesting **pattern in customer purchasing behavior**. While the **median indicates that most transactions are smaller**, the **higher average suggests that a few larger purchases are driving the overall sales up**.

ACTION : This difference implies that there are opportunities to **focus on upselling or targeting high-value customers to increase revenue**. At the same time, it's important to **continue nurturing smaller transactions**, as they make up the majority of purchases and are essential for maintaining consistent sales volume.

## 2. Product Performance and Popularity Trends
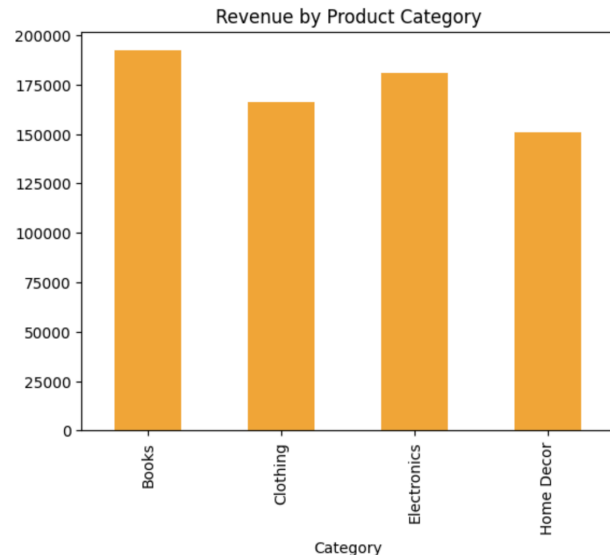
INSIGHT : The revenue distribution across product categories reveals that **Books** are the leading contributor, followed by **Electronics**, **Clothing**, and **Home Decor**.

ACTION : Business should focus more on **promoting Books** as they generate the highest revenue, while also **exploring opportunities to increase sales in Electronics** and **Clothing**, which are the next top performers. **Home Decor** might need attention to boost its sales performance, perhaps through **targeted marketing or offering promotions to increase**

customer interest. Balancing efforts across these categories can optimize revenue generation strategies.

3. Regional Customer and Revenue Distribution
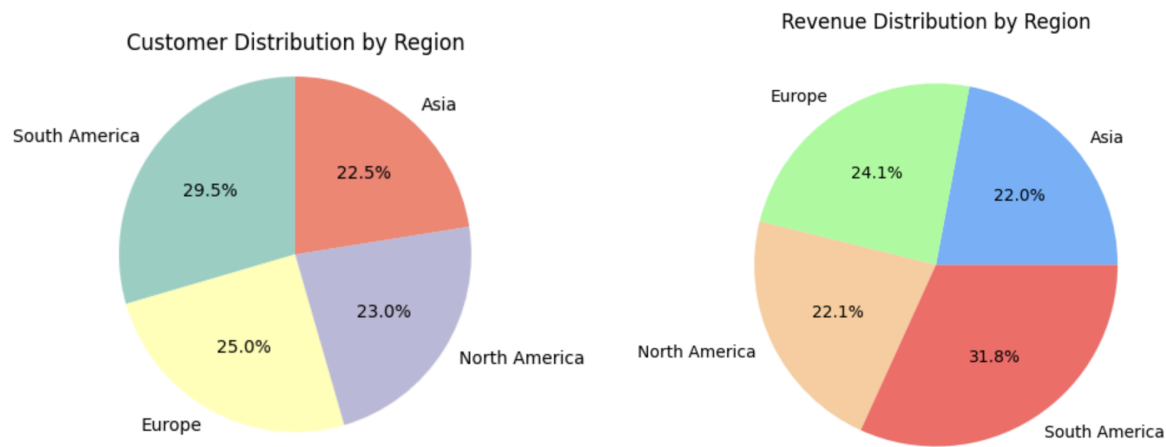
INSIGHT : The revenue data indicates that South America has the largest customer base (29.5%) and the highest revenue contribution (31.8%). North America, while accounting for 23% of the customer base, contributes slightly less revenue (22.1%). Europe and Asia show a relatively balanced **customer-to-revenue ratio**, with Europe having 25% of customers and 24.1% of revenue, and Asia having 22.5% of customers and 22% of revenue.

ACTION : The business should focus on retaining and nurturing customers in South America, where both customer base and revenue are strong. **North America and Europe** may require **tailored marketing strategies** to boost sales, while **Asia** should see **region-specific promotions** to drive growth. Additionally, **South America's dominance in revenue suggests prioritizing stock and support for this region**.

4. Seasonal and Temporal Trends
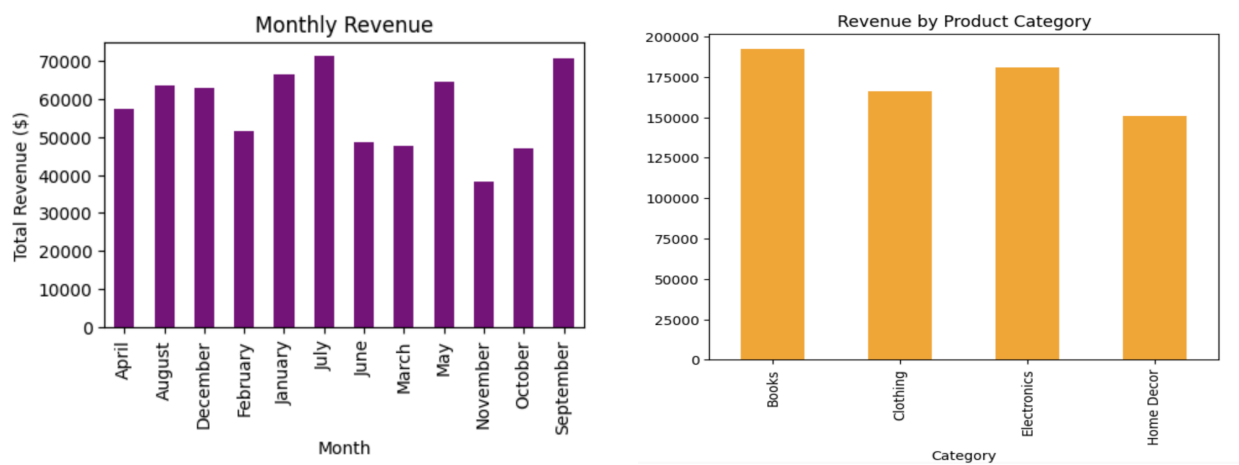
INSIGHT : The analysis of transaction timestamps reveals that revenue peaks in **September** and **July**, while **November**, **March**, and **June** show a dip in sales. Additionally, **Wednesdays** are the highest performing days, while **Saturdays** experience the lowest revenue.

ACTION : The business should prepare for higher demand during **September** and **July** by stocking inventory accordingly and launching targeted promotions. During the quieter months of **November**, **March**, and **June**, consider running special offers or discounts to drive sales. For **Wednesdays**, capitalize on the mid-week peak with time-limited offers, while adjusting weekend strategies to boost Saturday performance.

5. Pricing Optimization
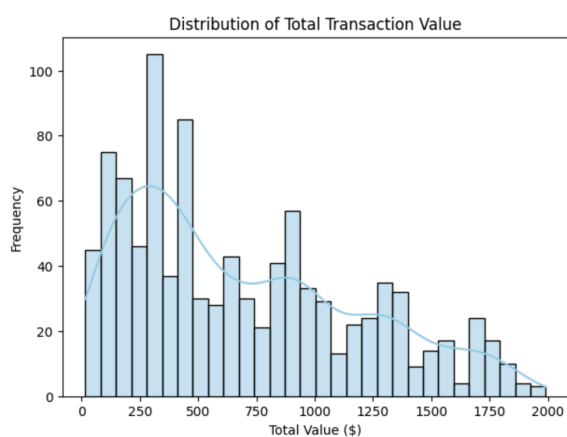
INSIGHT : The transaction value distribution reveals that most purchases fall within the **$200-$500 range**, with a **peak** around **$250-$300**. A long right tail extending to $2000 shows a few high-value transactions, indicating that the core business focus is on mid-range products or services. There is an opportunity to increase higher-value transactions, especially in the $500-$2000 range.

ACTION : **Standardize pricing** within strategic ranges to simplify customer decision-making and enhance perceived value. Implement **targeted promotions aimed at upselling customers to higher-value segments**. This approach could boost the number of high-value transactions while maintaining the volume of mid-range sales, contributing to overall revenue growth.