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Business Insights

CUSTOMERS DATASET

Regional Distribution: Customers are distributed across multiple regions. The pie chart shows the percentage share for each region.

Asia – 22.5%

North America – 23.0%

Europe – 25%

South America – 29.5%

Monthly Signup Trends: There is noticeable variation in customer signups over months. Peaks in specific months corresponds to marketing campaigns or seasonal factors.

PRODUCTS DATASET

Category Distribution: Books: 26 products , Electronics: 26 products, Clothing: 25 products, Home Decor: 23 products

Average Price by Category: Books: \$292.21 (highest average price), Electronics: \$275.35
Clothing: \$263.72 , Home Decor: \$235.02 (lowest average price)

Price Distribution: Prices are spread across a wide range, with a concentration around \$150–\$400. (Prize Distribution Histogram plot)

Average Price by Category: Books have the highest average price (\$292), potentially indicating premium or specialized products. Home Decor has the lowest average price (\$235), suggesting affordability in this category.

Product Count by Category: All categories have a relatively even distribution of products, with slight variations. Books and Electronics have the most products, while Home Decor has the fewest.

TRANSACTIONS DATASET

Summary Statistics : The average price per product is \$272.55, with a minimum of \$16.08 and a maximum of \$497.76.

Monthly Trends: Transaction volume is higher from January to May, with a dip in June and a resurgence in July to September.(Transactions by Month Graph in EDA notebook)

Weekly Trends: Transactions are most frequent on Tuesday and Wednesday and least frequent on Friday and Saturday. (Transactions by Weekday in EDA notebook)

Relationship between Quantity and Total Value: (Scatter plot in EDA notebook) As quantity increases (from 1 to 4), the total value rises linearly. Higher-priced products (purple) drive higher transaction values, indicating premium products, while lower-priced items (blue) contribute less, likely targeting budget-conscious customers.