

# Report: Business Insights from eCommerce Transactions Dataset

## Insight 1: Distribution of Customers Across Regions

- South America dominates customer distribution with the highest number of customers among the four regions, indicating a strong customer base and potential for targeted marketing.
- Europe, North America, and Asia exhibit similar customer counts, suggesting a more uniform distribution in these regions compared to South America.
- The analysis highlights the need for region-specific strategies, especially to leverage South America's large customer base and possibly increase engagement in other regions.
- The uniformity in other regions also opens opportunities for balanced investments to drive regional growth.

## Insight 2: Most Frequently Purchased Product Categories

- The "Books" category is the most frequently purchased, indicating high consumer interest and a strong market segment to target.
- Electronics and Home Decor follow closely, reflecting significant customer demand for practical and lifestyle-related products.
- Clothing occupies a slightly lower purchase count, suggesting opportunities for enhanced promotions or product variety in this category.
- These insights can guide inventory planning and marketing campaigns, with a focus on expanding the most demanded categories while boosting visibility for underperforming segments like Clothing.

## Insight 3: Revenue Contribution by Product Category

- The "Books" category is the largest revenue generator, highlighting its strong contribution to total sales.
- Electronics and Clothing closely follow, showcasing their substantial revenue potential and importance to the overall business.
- Home Decor has the lowest revenue among the categories, indicating a potential area for growth or re-evaluation of strategies.
- Focusing on expanding the Books and Electronics inventory while improving marketing for Home Decor could optimize revenue streams.

## Insight 4: Top Customers Generate Disproportionate Revenue

- A small number of customers generate a significant portion of the revenue.
- The top 60 customers contribute 50% of the total revenue.
- Key customers like C0056, C0191, C0124, and C0064 account for high revenue values.
- Cumulative revenue shows that the first few customers contribute a large percentage of total sales.
- This highlights a Pareto effect where a few customers are key revenue drivers.

- Identifying and focusing on these top customers can optimize business growth and retention strategies.

#### **Insight 5: Seasonal Trends in Transactions**

- Transaction volume peaks in January, possibly due to New Year promotions or post-holiday shopping.
- From March to September, transaction volumes remain steady, indicating consistent demand during these months.
- A noticeable dip occurs in June, likely corresponding to summer vacation periods.
- Transaction volumes decline from October to December, potentially due to a post-festival lull.
- Businesses can capitalize on high-traffic months with targeted marketing and introduce promotions to stimulate sales during slower months.

#### **Insight 6: Relationship Between Price and Purchase Volume**

- Products priced in the \$200-\$500 range dominate sales, with the highest total quantity sold.
- Moderate sales are observed in the \$100-\$200 range, indicating a preference for mid-priced products.
- Sales in the <\$50 and \$50-\$100 ranges are relatively low, suggesting limited demand for lower-priced items.
- Products priced above \$500 see negligible sales, possibly due to affordability concerns or low demand for premium items.
- Businesses should focus on the \$200-\$500 range while exploring ways to promote high-priced products to specific customer segments.

#### **Insight 7: Signup Trends Over Time**

- The number of signups showed a decline in 2023, dropping from 64 in 2022 to 57 in 2023.
- There was a sharp increase in 2024, with signups climbing to 79, the highest in the observed period.
- This trend may indicate improved customer acquisition strategies in 2024 or a growing interest in the services/products offered.
- The dip in 2023 suggests a need to review marketing efforts or customer outreach strategies during that period.
- Overall, the upward trend in 2024 is promising for sustained growth.