



Exploratory Data Analysis (EDA) and Business Insights

Introduction

This report presents insights derived from the analysis of an eCommerce dataset, which includes customer, product, and transaction Details. The goal of this analysis is to uncover trends and patterns to help the business optimize its strategies

Business Insights

1. Customer Distribution by region

The customer base is distributed across four major regions, demonstrating a balanced and diverse presence globally. South America leads with **59 customers**, followed by Europe (**50 customers**), North America (**46 customers**), and Asia (**45 customers**). This indicates that while South America has a slight edge, the company's reach is well-rounded. To further optimize customer acquisition, **targeted marketing strategies** could be employed in North America and Asia to increase engagement and drive sales in these regions.

2. Most popular product categories

The analysis of product categories highlights strong performance in **Books, Electronics, Clothing, and Home Decor**:

- **Books:** 26 products

- **Electronics:** 26 products
- **Clothing:** 25 products
- **Home Decor:** 23 products

These categories are consistently popular among customers. To capitalize on this trend, the company could explore **promotional campaigns**, such as bundled offers or discounts, to further boost sales in these categories. Additionally, examining underperforming categories could reveal opportunities to diversify the product portfolio and improve overall sales.

3. Total Sales by Region

Revenue data indicates that South America is the top-performing region with total sales of **\$219,352.56**, followed by Europe (**\$166,254.63**), North America (**\$152,313.40**), and Asia (**\$152,074.97**). South America's strong performance underscores its potential for continued growth. However, the relatively close figures for North America and Asia suggest opportunities to strengthen the company's presence in these regions through **localized campaigns** or strategic partnerships. Europe, as the second-highest revenue generator, could benefit from sustained efforts to maintain its performance.

4. Monthly Transaction Trend

A review of monthly sales trends reveals fluctuations, with **January 2024** marking the highest sales at **\$66,376.39** and **December 2023** recording the lowest at **\$3,769.52**. The upward trend observed from January 2024 suggests seasonal or strategic factors contributing to increased sales. To ensure consistent revenue, the company could implement **seasonal discounts** or **targeted promotions** during off-peak months to smoothen these fluctuations. Additionally, analyzing customer behavior during peak months could provide insights into replicating successful strategies year-round.

5. Top 10 Customers by Total Spending

The top 10 customers significantly contribute to revenue, led by:

- **C0141:** \$10,673.87
- **C0054:** \$8,040.39
- **C0065:** \$7,663.70

These high-value customers represent a critical segment for the business. To retain their loyalty and encourage increased spending, the company could introduce **personalized promotions**, **exclusive offers**, or a **tiered loyalty program**. Recognizing and rewarding



their contributions could foster long-term relationships and set a foundation for sustained growth.

Conclusion

The insights derived from the data underscore the importance of leveraging regional strengths, promoting top-performing product categories, and targeting opportunities for growth. With a focus on customer retention, localized strategies, and seasonal campaigns, the company is well-positioned to achieve sustainable revenue growth and enhance its market presence.