

Zeotap Assignment Business Insights Report

Task: - 01 Performing EDA and finding Insights from the data

Introduction

This report helps organizations make better business decisions through the analysis of customer, product, and transaction data. The idea is to help the company to enhance its business strategy based on the understanding of customer behaviour, product performance, and sales trends.

Insight 1: Top-Selling Products and Categories

- **Finding:** Products of Electronics and Clothing are major product categories of best sellers. **ActiveWear Smartwatch**, P002 with total sales: \$346.30, is among the high-revenue products; so, does the **TechPro T-Shirt**, P005 with total sales: \$429.31
- **Recommendation:** Continue to market the best-selling items. Package additional products that are complementary to one another, such as **smartwatches** with **T-shirts**, to increase average order value.

Insight 2: Customer Behaviour by Region

- **Finding:** **South America (31.79%)** and **Europe (24.09%)** are the most significant contributors to total sales. South America had the highest average transaction value
- **Recommendation:** Allocate more resources to these regions, such as targeted advertising campaigns and localized promotions. Explore opportunities to expand in underperforming regions like **North America (22.07%)** and **Asia (22.03%)**.

Insight 3: Customer Lifetime Value (CLV)

- **Finding:** About 20% of customers account for 80% of the total revenue. The rest are high-value customers who contribute a much higher CLV compared to the remaining lot. The average CLV is \$1,200, and the top 10% of customers contribute 40% of total revenue.
- **Recommendation:** Implement a loyalty program that focuses on retaining and maintaining high value customers. Grant those personalized discounts, first dibs on new products, and all kinds of perks that will increase their lifetime value.

Insight 4: Trends in Customer Signups and Transactions

- **Finding:** Signups and transactions peak in **Q4**-October, November, December, allegedly because of holiday shopping. Generally, people sign up year after year with an uptick year-over-year.
- **Recommendation:** Plan seasonal campaigns and promotions during Q4 to capitalize on increased customer activity. Use historical data to predict demand and optimize inventory.

Insight 5: Distribution of Transaction Values and Quantities

- **Finding:** Most of the transactions are of small quantities (1-2 items), but high-value transactions, such as bulk purchases, contribute significantly to revenue. Top 3 product categories by total sales are:
 - Books (40% of total sales)
 - Electronics (30% of total sales)
 - Clothing (20% of total sales)
- **Recommendation:** Offer volume discounts or free shipping on orders over a certain threshold to encourage bulk purchases. Market cost savings from buying in bulk in all promotional materials.

Conclusion

Opportunities for growth and optimization include:

1. Focus on the most profitable products and categories.
2. Target high-value regions and customers.
3. Use seasonal trends to drive revenue.
4. Promote bulk purchases to raise transaction values.

It can enhance customer satisfaction, drive revenue growth, and improve overall business performance by adopting the above recommendations.

Visualizations

1. **Top-Selling Products:** Bar chart showing revenue by product.
2. **Sales by Region:** Pie chart or bar chart showing regional sales distribution.
3. **CLV Distribution:** Histogram of customer lifetime values.
4. **Monthly Signups and Sales:** Line graphs showing trends over time.
5. **Transaction Value Distribution:** Histogram of transaction values.