

Business Insights Report

Overview

This report summarizes key insights derived from the exploratory data analysis (EDA) of the eCommerce transactions dataset. It includes customer behavior trends, product performance, and regional revenue insights. The analysis provides actionable recommendations for improving business strategy and customer targeting.

Key Business Insights

1. **Customer Signup Trends**

- Customer signups have shown steady growth over the past few years, with a noticeable spike in the year 2022.
- This indicates successful marketing campaigns or promotional events during that period.
- **Recommendation:** Focus on replicating the strategies used in 2022 to maintain growth momentum.

2. **Top-Selling Products**

- The top 10 best-selling products contribute significantly to the overall revenue.
- These products are predominantly from the electronics and household categories.
- **Recommendation:** Increase inventory for these products and use them in promotional bundles to drive further sales.

3. **Regional Revenue Contribution**

- The North America region accounts for the highest revenue, followed by Europe and Asia.

- Emerging markets in Asia are showing consistent growth in transaction value.

- *Recommendation:* Invest in localized marketing campaigns in Asia to capitalize on its growth potential.

4. **Product Category Performance**

- Electronics lead in revenue generation, followed by fashion and household categories.

- However, the fashion category shows higher growth potential due to increasing demand.

- *Recommendation:* Introduce seasonal fashion promotions and collaborate with influencers to boost category visibility.

5. **Monthly Transaction Trends**

- Revenue peaks during November and December, aligning with holiday shopping seasons.

- A decline in revenue is observed during the months of February and March.

- *Recommendation:* Introduce mid-year sales or special promotions to mitigate revenue dips during slow months.

Lookalike Model Insights

- The lookalike model identifies similar customers based on purchase behavior and transaction history.

- For the first 20 customers, the model recommends top 3 similar customers with similarity scores.

- *Recommendation:* Use this model for targeted marketing campaigns to increase customer engagement and retention.

Customer Segmentation Insights

- Using clustering techniques, customers are segmented into four distinct groups based on their

transaction value, quantity purchased, and average price of products bought.

- Cluster analysis reveals:

- **Cluster 1:** High-value customers with frequent purchases.
 - **Cluster 2:** Moderate-value customers focused on specific product categories.
 - **Cluster 3:** Budget-conscious customers with low transaction values.
 - **Cluster 4:** New or infrequent customers.
- **Recommendation:** Develop personalized strategies for each segment, such as loyalty programs for Cluster 1 and introductory discounts for Cluster 4.

Conclusion

The insights derived from this analysis highlight key areas for strategic focus, including enhancing product offerings, targeting high-growth regions, and leveraging customer segmentation for personalized marketing. These actionable recommendations aim to optimize revenue growth and improve customer satisfaction.