

Exploratory Data Analysis (EDA) Report

This document summarizes key findings derived from an in-depth exploratory data analysis (EDA) performed on a retail dataset. The analysis involved customer, product, and transaction data to identify patterns, customer behavior, and business trends. The ultimate goal is to derive actionable recommendations for improved performance.

Business Insights:

- Regional Distribution of Customers:

The data indicates an unequal distribution of customers across regions. Regions X and Y comprise the majority, accounting for 60% of the customer base. Expanding efforts in lesser-represented areas could unlock growth potential.

- Customer Spending Analysis:

Approximately 15% of customers fall under high or premium spending categories, contributing significantly to overall revenue. By targeting medium and low spenders with strategic promotions, revenue generation can be amplified.

- Performance of Product Categories:

The electronics category leads in sales, contributing more than half of the total revenue. On the other hand, categories Z and W show weaker performance, suggesting a need to re-evaluate pricing, marketing, or product strategies.

- Customer Retention:

Nearly a quarter of customers have been inactive for over 90 days, marking them as churned. Launching personalized offers or engagement campaigns can potentially reactivate these

Business Insights from EDA on Retail Data

customers.

- Trends in Sales Timing:

The analysis highlights peak sales hours between 6 PM and 8 PM, particularly on weekends. Seasonal trends also show increased sales during months A and B, enabling businesses to optimize campaigns and operations during these periods.

Conclusion:

The findings presented in this report offer actionable insights into customer preferences, product performance, and sales trends. These insights can help businesses improve customer retention, refine product strategies, and optimize operational efficiency for sustained growth.