

Exploratory Data Analysis (EDA) - Business Insights

Introduction: This report provides a summary of the findings from the exploratory data analysis (EDA) conducted on the eCommerce transactions dataset. The analysis focused on identifying key trends, patterns, and actionable insights to help optimise business performance.

Business Insights

1. Most Popular Products:

- The top 10 products contribute significantly to overall sales volume.
- **Recommendation:** Prioritize restocking these products and use promotional campaigns to sustain their high sales.

2. Revenue by Region:

- The top-performing region accounts for the majority of revenue, while other regions show lower performance.
- **Recommendation:** Investigate challenges in underperforming regions, such as logistical issues or lack of market penetration, to boost sales.

3. Monthly Sales Trends:

- Revenue shows noticeable spikes in specific months, indicating seasonal demand or successful marketing campaigns.
- **Recommendation:** Analyze these periods to replicate effective strategies and plan inventory accordingly.

4. Top Spending Customers:

- A small group of customers contributes a large share of revenue.
- **Recommendation:** Implement loyalty programs or offer personalized discounts to retain these valuable customers and increase their lifetime value.

5. Revenue by Product Category:

- Certain categories dominate overall revenue, while others lag.
- **Recommendation:** Focus on expanding high-performing categories and improving the appeal of underperforming ones through product diversification or targeted marketing.

Key Visualizations

(Include charts if needed in the actual PDF):

- **Bar Chart:** Top 10 most popular products.
- **Bar Chart:** Revenue distribution by region.
- **Line Chart:** Monthly revenue trends.
- **Bar Chart:** Top 10 spending customers.
- **Pie Chart:** Revenue by product category.

Conclusion

The analysis highlights opportunities to enhance revenue by focusing on popular products, improving regional performance, and capitalising on customer loyalty. These insights provide a data-driven approach to optimising business strategies.