# EDA INSIGHTS:

## 1. Customer Segmentation Value Stratification

With 77 out of 200 customers, the majority are promising (mid-value) clients. They also bring in the most money, accounting for 41.2% of overall revenue. Although Champion (high-level) clients only account for 22% of all customers, they have the second-highest revenue share of 35.9%. Promising and Champion clients together contribute to about 77% of total sales. Retention of these top-tier customers should be critical strategic priority.
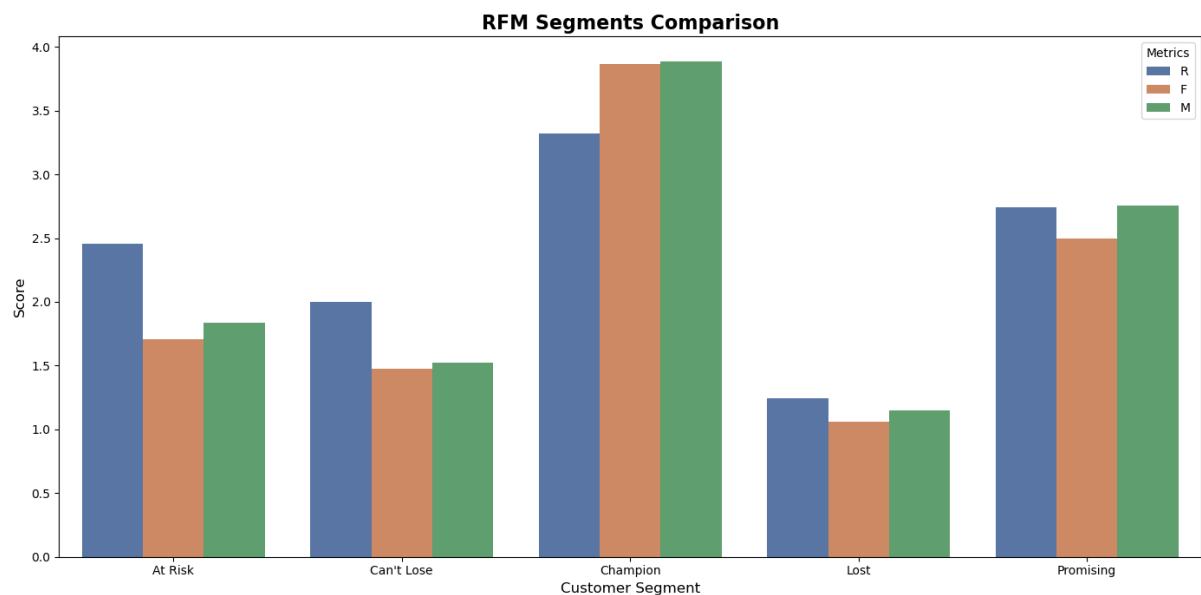
RFM Customer Segments by value
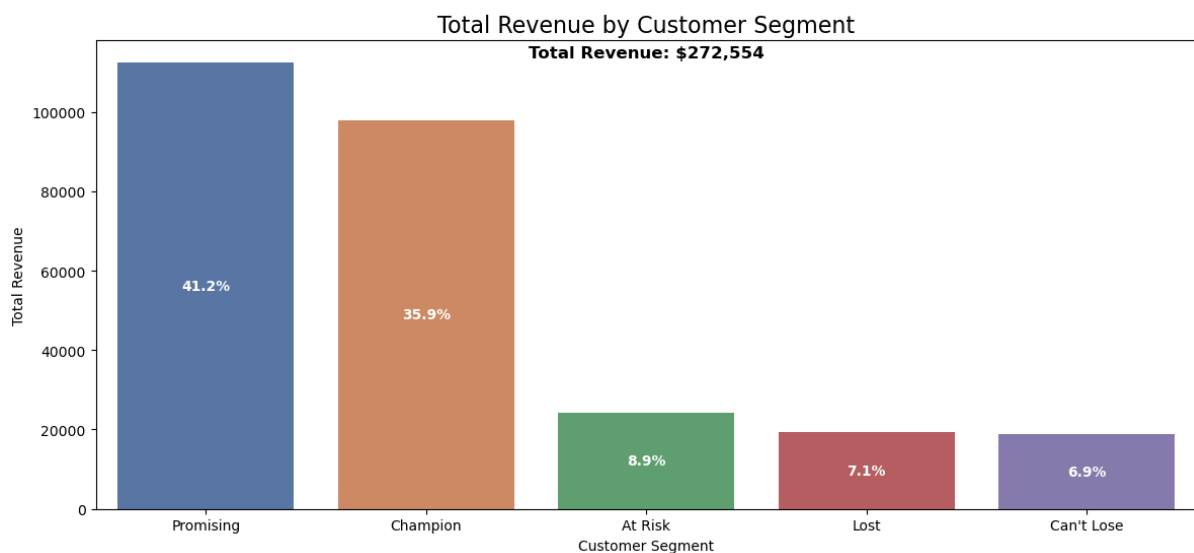
2. Transaction Frequency and Seasonality

The greatest increase in transaction frequency occurred between December 2023 and January 2024, whereas the largest decrease occurred between January 2024 and February 2024. In 2024, December saw much higher transaction counts than in 2023. Targeted marketing is necessary in months with little transactions. Seasonal trends should guide the deployment of resources and inventory.
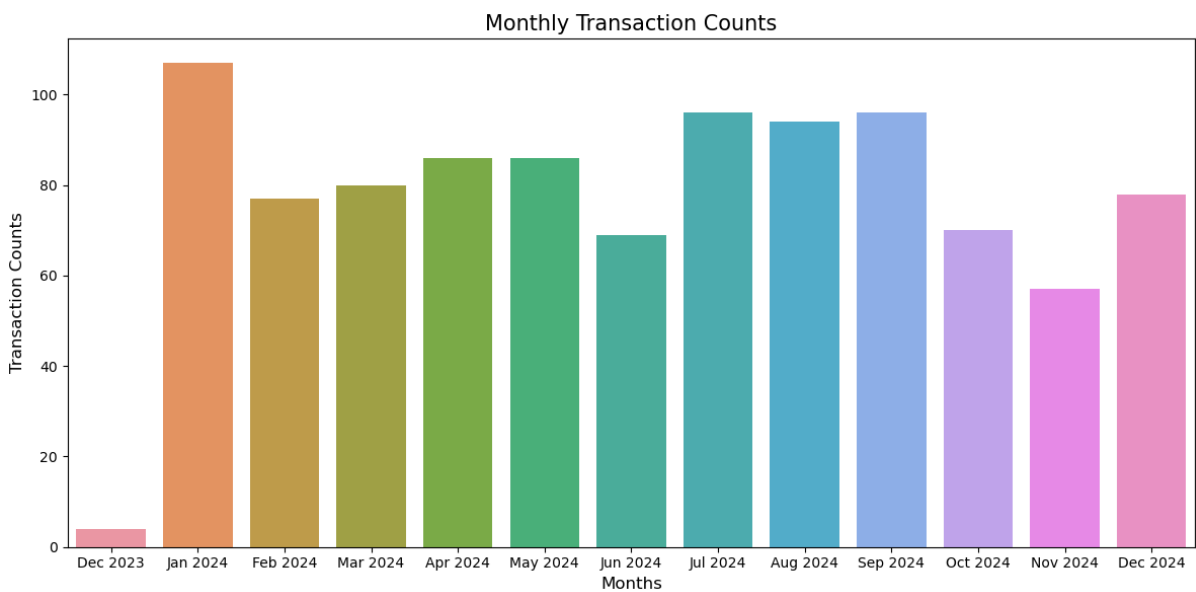
3. Customer Engagement Risk Analysis

Approximately 27% of customers are classified as "At Risk" or "Lost". The revenue contribution from these segments is quite low. Significant chance of income leakage and churn. Re-engaging clients may be less expensive than acquiring new ones.


RFM Customer Segments by value

4. RFM Metrics Correlation

Complex customer behavior is demonstrated by the correlation between monetary, frequency, and recency measurements. There is a strong positive relationship between monetary value and frequency. Recency has a moderately negative correlation with M and F. This indicates that recent customers tend to spend more, frequent buyers have significantly higher monetary contribution. There is potential for advanced predictive customer value modeling.

Correlation Matrix of RFM values within Champion Segment
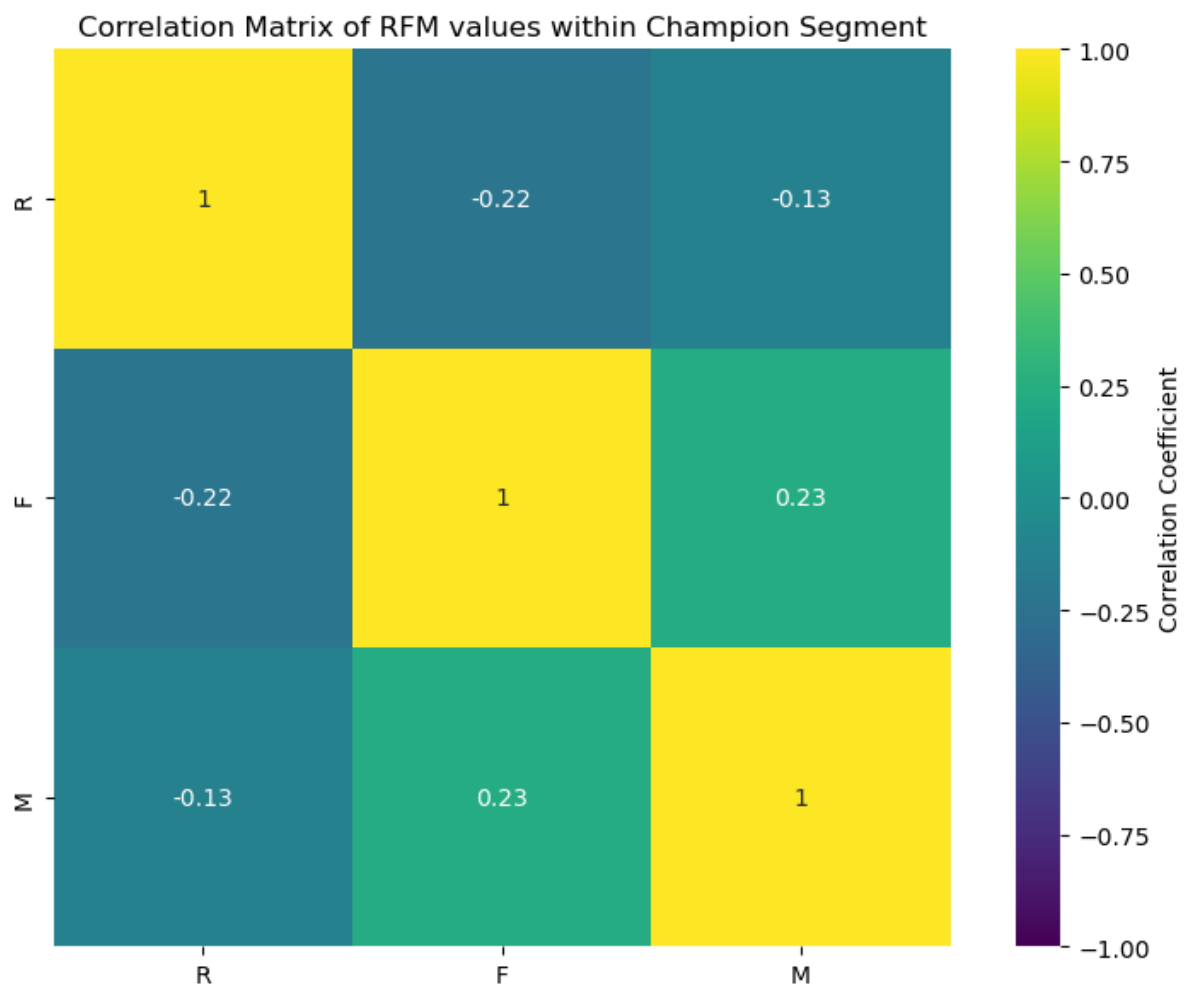
5. Product Performance

In terms of sales volume and revenue, books were the top category. In terms of sales volume, they were followed by clothing, electronics, and home decor. The revenue generated by categories showed the same pattern. Every category has a comparable split, with the exception of HomeDecor, which lags slightly. Increased sales of products in the HomeDecor category can be achieved through additional marketing or promotions.

Top 10 Selling Products

Product Categories by Quantity Sold

Product Categories by Total Revenue