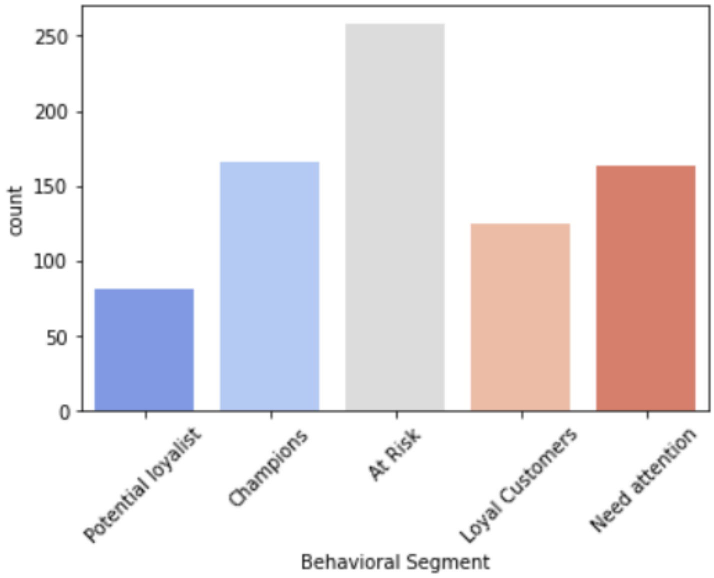
Key Insights of RFM Analysis

Count Plot for customer Behavior Segmentation:



Observation

32.53% of customers fall into the At Risk segment, making it the largest group, while only 10.21% are Potential Loyalists, representing the smallest segment.

Interpretation

The majority of customers show low engagement with the brand, indicating reduced interest and limited repeat purchases. On the positive side, 20.93% of customers belong to the Champions segment, actively purchasing and contributing significantly to overall revenue.

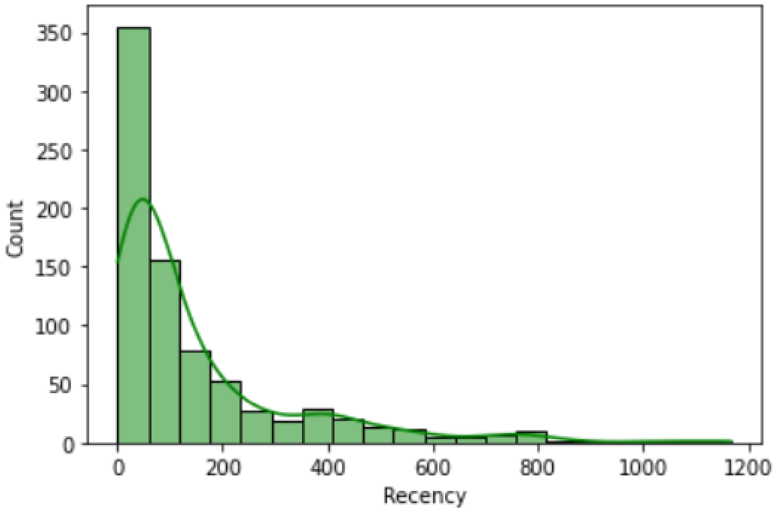
Business Impact

A high proportion of At Risk customers increases the likelihood of customer churn, which may directly affect future sales and profitability if not addressed.

Recommendation

Implement retention strategies such as personalized coupons, loyalty rewards, and targeted discounts to re-engage inactive customers. Additionally, collect post-purchase feedback to understand customer pain points and improve product offerings, helping reduce churn and increase loyalty.

Histogram for Recency:



Observation

The Recency distribution is right-skewed. Most customers have a recency value between 0–100 days, while very few customers made a purchase after 300+ days. A long tail extends beyond 1000 days.

Interpretation

This indicates that a majority of customers purchased a long time ago and have not returned recently. Only a small portion of customers are recent buyers. This shows low customer activity and weak continuous engagement with the business.

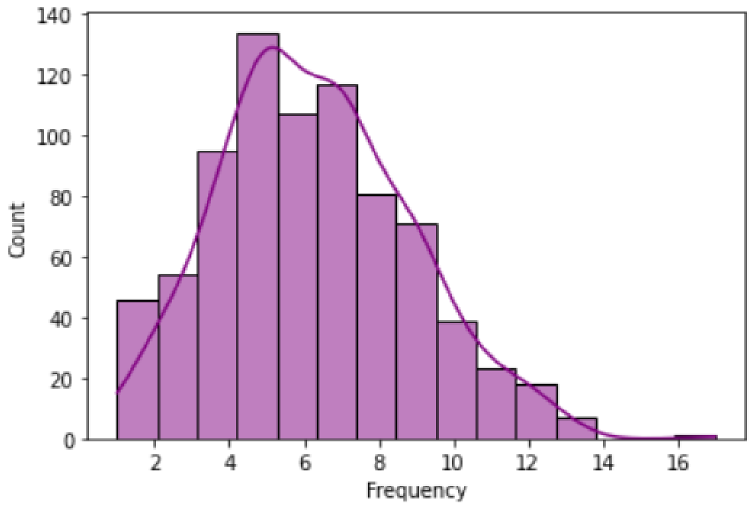
Business Impact

A high concentration of customers with large recency values suggests an increasing risk of customer churn. If customers do not return soon, the business may experience declining revenue and higher customer acquisition costs, as it is losing existing customers instead of retaining them.

Recommendation

Launch re-engagement strategies such as personalized email reminders, limited-time offers, loyalty rewards, and product recommendations to encourage inactive customers to return. Additionally, analyze reasons for inactivity (product issues, pricing, service experience) to prevent further churn.

Histogram for Frequency:



Observation

The Frequency distribution is left-skewed, with most customers purchasing between 3 to 7 times. Very few customers have purchased more than 10 times, and only an extremely small number exceed 12–16 purchases.

Interpretation

This indicates that a majority of customers are not repeat buyers beyond a moderate level. Only a small group shows high purchase frequency, meaning customer loyalty and repeat engagement are limited. The business is not successfully converting customers into recurring buyers.

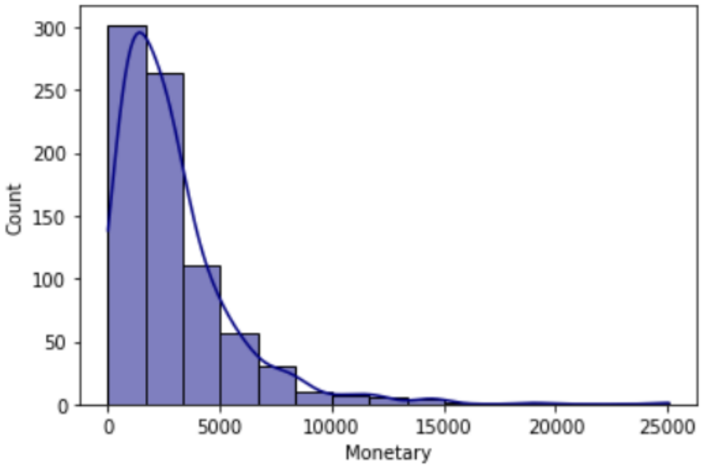
Business Impact

Low purchase frequency suggests weak retention. This means the company is likely spending more on acquiring new customers rather than generating revenue from existing ones, which is costlier and reduces profitability. Without improving repeat purchase behavior, long-term growth and customer lifetime value may remain low.

Recommendation

- Introduce strategies that encourage repeat purchases, such as:
- Loyalty rewards or point-based systems
- Bundled offers and subscription models
- Personalized recommendations based on purchase history
- Discounts or incentives on the second/third purchase
- Regular engagement campaigns (festive offers, reminders)

Histogram for Monetary:



Observation

The Monetary distribution is highly right-skewed. Most customers spend below ₹3,000, while only a small number spend above ₹10,000, and very few reach amounts beyond ₹20,000.

Interpretation

This indicates that the majority of customers contribute small revenue, while a very small group of high-value customers generates a disproportionately large share of the total sales. The business relies heavily on these high-spending customers to sustain overall revenue.

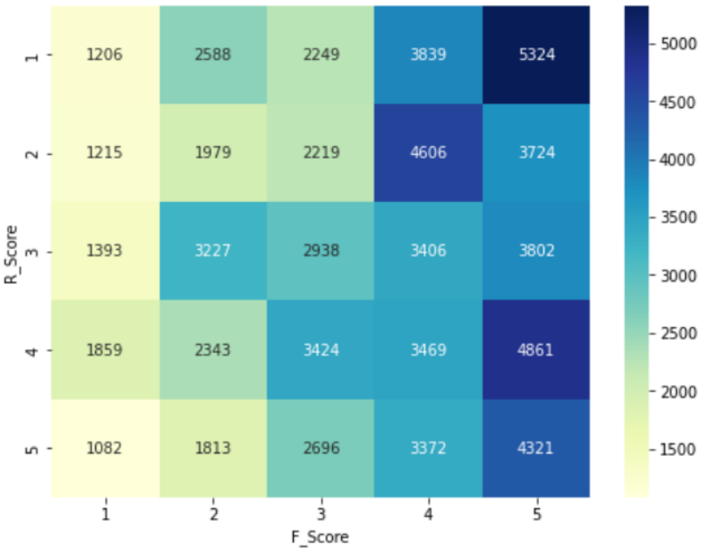
Business Impact

The concentration of revenue among a few customers increases the business risk—losing even a small number of high-value customers could significantly impact revenue. This dependency highlights the need to identify, retain, and nurture these premium customers to ensure long-term profitability.

Recommendation

- Implement strategies that focus on:
- Exclusive membership benefits or premium offers for high-value customers
- Cross-selling and upselling campaigns to increase average transaction value
- Personalized product suggestions based on their purchase history
- Long-term loyalty programs to reward consistent spending
- Marketing efforts to convert low-spending customers into higher spenders

Heat Map for R score & F score:



Observation

The heatmap shows that customers with high Frequency scores (F_Score = 4 or 5) and moderate to high Recency scores (R_Score = 3 to 5) generate the highest Monetary values, with amounts ranging from ₹3,372 to ₹4,861. Conversely, customers with low Frequency and low Recency scores contribute the lowest revenue (₹1,082–₹1,393).

Interpretation

High-value customers tend to purchase frequently and recently, showing strong engagement and loyalty. Customers who buy rarely and haven't purchased recently contribute minimal revenue, indicating low lifetime value and weak brand attachment.

Business Impact

The company's revenue heavily depends on a specific set of loyal and recently active customers. If these customers churn, revenue will drop significantly. This imbalance also exposes growth opportunities—there is potential to convert medium Recency and medium Frequency customers into high-value customers through targeted marketing.

Recommendation

- Prioritize retention strategies (exclusive offers, personalized messaging) for high R & F score customers to protect revenue stability.
- Upsell and cross-sell to medium score customers (R_Score 3–4 and F_Score 3–4) to move them into premium customer status.
- Re-engage low-frequency, low-recency customers with targeted discounts, reminder campaigns, and product recommendations to reactivate them.

Conclusion:

RFM-based segmentation reveals that the business relies heavily on a small set of high-value, recently active customers, while a major portion of the customer base shows declining engagement—indicating a critical need for targeted retention strategies to prevent churn and improve long-term revenue stability.