

# Customer Segmentation and RFM Analysis for Strategic Retail Marketing

This report aims to answer the business question:

**"How can an online retail business use transaction history to better understand its customer base and allocate marketing efforts effectively?"**

Using transaction-level sales data from the OnlineRetail dataset, this analysis applies **RFM segmentation** (Recency, Frequency, Monetary) and supporting sales metrics to uncover customer behaviour patterns, revenue drivers, and product performance.

The report focuses on five core areas:

1. **Customer Segmentation** – Grouping customers to tailor engagement strategies
2. **Revenue Concentration** – Identifying which segments drive the most revenue
3. **Churn Risk Detection** – Highlighting disengaged customers for reactivation
4. **Marketing Efficiency** – Prioritising high-impact targets for campaigns
5. **Product Performance** – Understanding which products generate and sustain value

These insights inform data-driven recommendations to support customer retention, increase marketing ROI, and align promotional strategies with actual buyer behaviour.

## Segment definitions (RFM score ranges)

	R-score	F-score	M-score	Business Meaning
<i>Champions</i>	4	4	4	Recent, frequent, high spend
<i>Loyal Customers</i>	>=3	>=3		Frequent buyers
<i>Big Spenders</i>	>=2	>=2	4	High spend though may not be frequent
<i>At Risk</i>	<=2	>=2	>=2	Haven't purchased in a while but once loyal
<i>Needs Attention</i>	<=2	<=2	<=2	Generally low across the board
<i>New Customers</i>	4	<=2		Recent first-time buyers
<i>Lost</i>	1	1	1	Inactive, low across the board
<i>Others</i>				

## Key Insights

### 1. Customer Segmentation

- **Loyal Customers** make up the largest segment (21.8%) and contribute 23.3% of revenue. This group represents a consistent and dependable customer base.
- **Champions** are the most valuable group, generating **over 50% of total revenue** while representing only 11.3% of customers. Retention of this group should be a top priority.
- **Big Spenders** are only 4.6% of customers but contribute 8.6% of revenue. Valuable despite low frequency.
- **At Risk** customers are the second largest group. With timely engagement, this segment has high potential for recovery.
- **Lost** customers account for 10.2% of the base but contribute only 0.8% of revenue. Low priority for re-engagement efforts.

Enables clear customer targeting strategies: retain Champions, nurture Loyal Customers, and re-engage At Risk customers.

## 2. Revenue Concentration

- The top 3 segments, **Champions, Loyal Customers, and Big Spenders** contribute **82% of total revenue**.
- The **top 20 customers alone** account for **24% of revenue**, highlighting strong revenue concentration among a small subset.

High-value customers are critical to revenue. Programs like loyalty rewards, VIP campaigns, or personalised communication could enhance retention and maximise lifetime value.

## 3. Churn Risk Detection

- **757 customers** are currently at risk of churning.
- These customers have not purchased in the last 50 days, with an average recency of **172 days**.
- Importantly, **over two-thirds** of the At Risk segment have made more than one purchase, indicating potential for recovery.

Targeted win-back campaigns such as discounts or reminders could be deployed to recover potentially loyal customers.

## 4. Marketing Efficiency

- Most high-value customers have **average order values under £5000**, indicating that **purchase frequency** is the key driver of revenue rather than large one-off orders.
- However, some customers contribute significantly through just **one or two high-value purchases** (~£80,000), highlighting **varied buying behaviour**.
- Most top-spending customers (94%) are **based in the UK**, suggesting **marketing efforts should be focused mainly within the UK**.
- Seasonal dips (e.g. summer) and peaks (e.g. November) point to opportunities for **seasonal marketing pushes** or retention offers.

Marketing spend can be better allocated by targeting frequent buyers while also recognizing the value of occasional high-value purchasers, ensuring both types of behaviour are supported through tailored campaigns across key seasonal periods.

## 5. Product Performance

- No single product dominates. The top-selling item accounts for only **1.9% of total revenue**. Success is distributed across many SKUs.
- High-volume orders (e.g. 70,000+ units) by a single customer indicate the need for **inventory readiness** for bulk purchases.
- Most top revenue-generating items are priced **under £3**, implying that **high volume, low unit price** drives revenue.
- Product sales don't seem to be seasonal. No consistent product trend across segments, suggesting customer preferences vary.

Product promotions should be **personalised** based on purchase history. No "one size fits all". Segment-specific or customer-specific offers will be more effective.

## Final Recommendations

To optimise customer engagement, increase retention, and drive revenue growth, the following actions are recommended:

### 1. Strengthen Relationships with High-Value Customers

- Launch a **tiered loyalty program** targeting Champions, Loyal Customers, and Big Spenders with exclusive perks, early product access, and personalised offers.
- Assign account managers or VIP support for the top 20 customers to protect revenue concentration and encourage repeat orders.

### 2. Re-engage At-Risk and Dormant Customers

- Design **targeted win-back campaigns** for At Risk and Needs Attention segments with time-limited discounts or reminders based on past purchases.
- Introduce automated alerts when a customer enters an "At Risk" state to enable timely interventions.

### 3. Prepare for Bulk Orders and Outliers

- Create stock buffers for top-selling products and set **early stock-out alerts** to avoid missed revenue from large, unexpected orders.
- Establish a **wholesale or B2B sales process** for customers with high single-order values, including special pricing or dedicated support.

### 4. Optimise Timing of Promotions

- Align major marketing pushes with the **Autumn to early Winter peak**. Run build-up campaigns in Q3 to increase early seasonal spending.
- Counteract summer slumps by launching limited time offers to sustain engagement.

### 5. Improve Marketing Efficiency

- Focus efforts on **UK-based customers**, who represent the vast majority of revenue.
- Limit investment in low-revenue, high-churn segments like Lost customers unless further behavioural signals suggest potential recovery.

This structured approach allows the business to make data-driven decisions that align with customer behaviour, ultimately increasing loyalty and revenue efficiency.