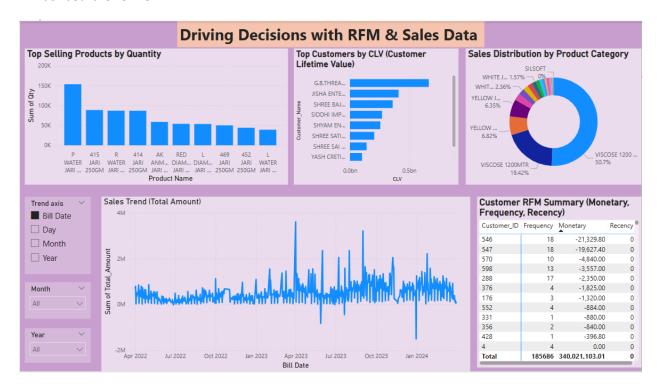# 📊 Business Intelligence Report

Driving Strategic Decisions with RFM, CLV, Churn & Product Analysis

1. Executive Summary

This dashboard provides comprehensive insights into customer behavior, product performance, sales trends, and churn risk through RFM (Recency, Frequency, Monetary) analysis, Customer Lifetime Value (CLV), and Market Basket techniques. The insights aim to optimize decision-making across marketing, sales, and retention strategies.

---

2. Dashboard Overview

Sales Growth, Churn Risk & Product Intelligence

Y ANMOL JARI 250GM + WATER GOLD JARI 250GM
Top_Product_Pair

602
Total Customers

339
Active Customers

263
Inactive_Customers

917K
Total_Unique_Pairs

Active Customers Distribution by Year

- 288 (26.67%)
- 451 (41.76%)
- 341 (31.57%)

Year
- 2023
- 2022
- 2024

Inward Returns (Negative Qty) Over Time

Sum of Qty: 10K, 5K, 0K

Month: 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 10 11 12 1 2 3 10 12 1 2 3 10 12 1
1000 / 1001 JARI 250GM / 1002 JARI 250GM / 1003 JARI 250GM / 1...

Month: All
Year: All
Qty: -600 — 7336

Active Customer Trend Over Months

Active_Customers: 250, 200, 150, 100, 50, 0
Month: 0, 5, 10

Customer RFM Table with Churn Analysis

Customer_ID	CustomerLifespan	Sum of LastPurchase	Sum of Year	Churn_Status
601	2.00		50550	Inactive
600	0.00		12132	Inactive
599	23.00		592709	Active
598	1.00		26299	Inactive
597	0.00		4046	Inactive
596	7.00		40465	Active
595	5.00		93012	Inactive
594	11.00		22256	Active
593	10.00		34375	Inactive
592	5.00		90993	Inactive
591	23.00		260965	Active
Total	**9.18**		**375640629**	**Active**

🍀 **Dashboard Sections:**

1. **RFM & Sales Intelligence**

   o Top-selling products by quantity

   o CLV-based customer segmentation

   o Product category-wise sales contribution

   o Sales trend over time (daily/monthly/yearly)

2. **Customer Growth & Churn Risk**

   o Active vs. Inactive customers

   o Customer trend over months

   o RFM with churn insights

   o Inward returns analysis

3. **Product Affinity & Market Basket Analysis**

   o Most frequently co-purchased product pairs

   o Total unique product combinations

   o Top product pairs KPI

3. Business Analysis & Key Insights

🛒 **Product Sales Insights**

- **Top-selling Products**: Products like "P WATER JARI 250GM" dominate sales volume.

- **Product Category Split**: "VISCOSE 1200 MTR" contributes over 50% to category-level sales.

✅ Recommendation:

- Focus promotions on high-performing product categories.

- Explore bundling strategies for medium-performing items using affinity analysis.

📈 **Sales Performance**

- **Trend Observations**: Sales have shown consistent growth post-2022 with visible seasonal peaks.

- **Returns Monitoring**: Negative quantity trends highlight months with higher return rates.

✅ Recommendation:

- Investigate spikes in returns and initiate root-cause analysis (quality, logistics).

- Apply seasonality forecasting to optimize stock & marketing plans.

👥 **Customer Intelligence**

- **CLV Leaders**: A small group of customers drives a major portion of revenue.

- **RFM Analysis**:

  - Recency: Several customers show inactivity >6 months.

  - Frequency: Top customers purchase frequently (10+ times).

  - Monetary: Some high-value customers haven't purchased recently.

✅ Recommendation:

- Launch loyalty programs for frequent & high-value buyers.

- Design win-back campaigns for recently churned customers.

❗ **Customer Churn Analysis**

- **Active Customers**: Reduced from 451 (2022) to 288 (2024).

- **Inactive (Churned)**: Rising churn trend observed in 2023–2024.

- **Monthly Trends**: Active customer base dropped mid-year, followed by recovery.

✅ Recommendation:

- Use recency data to predict churn and re-engage proactively.

- Introduce periodic engagement emails and check-ins.

🔗 **Market Basket Analysis**

- **Top Product Pair**: "Y ANMOL JARI 250GM + WATER GOLD JARI 250GM" most frequent pair.

- **Co-purchase Combinations**: Over 917K unique product combinations analyzed.

✅ Recommendation:

- Promote top product pairs as bundles.

- Use co-purchase logic in e-commerce recommendation engines.

---

4. Strategic Recommendations

Area	Action Item
Customer Retention	Launch targeted campaigns for churned users based on recency
Product Strategy	Promote top-performing & high-margin items as bundles
Revenue Growth	Focus on top CLV customers with exclusive offers
Returns Reduction	Investigate inward returns and improve quality assurance checks
Data Monitoring	Schedule weekly data refresh & alerts for key KPIs (churn, CLV)

5. Conclusion

This dashboard empowers stakeholders to make informed business decisions across sales, marketing, and customer success by tracking key metrics like CLV, churn rate, product performance, and buying patterns.

With the RFM and affinity modeling in place, the company is better positioned to:

- Understand customer loyalty behavior

- Predict potential churns

- Optimize product bundling strategies

- Improve overall profitability and customer satisfaction