Global Retail Chain Customer Segmentation

Driving 20% Revenue Growth Potential Through Data-Driven Customer Segmentation

Used Python clustering to identify high-value customer cohorts and built actionable Looker Studio dashboards for targeted marketing

1. Project Snapshot

Category	Details
Role	Business Intelligence Analyst (Business Intelligence Course Project)
Tools Used	Python (Pandas, NumPy, Scikit-learn, matplotlib), Looker Studio
Key Techniques	RFM Analysis, K-Means Clustering, Data Visualization
Core Impact	Identified 44% of customers driving 85% revenue; recommended personalized promotions and expansion regions

2. Business Problem

🎯 **Blind Marketing:**

One-size-fits-all promotions

📉 **Revenue Leakage:**

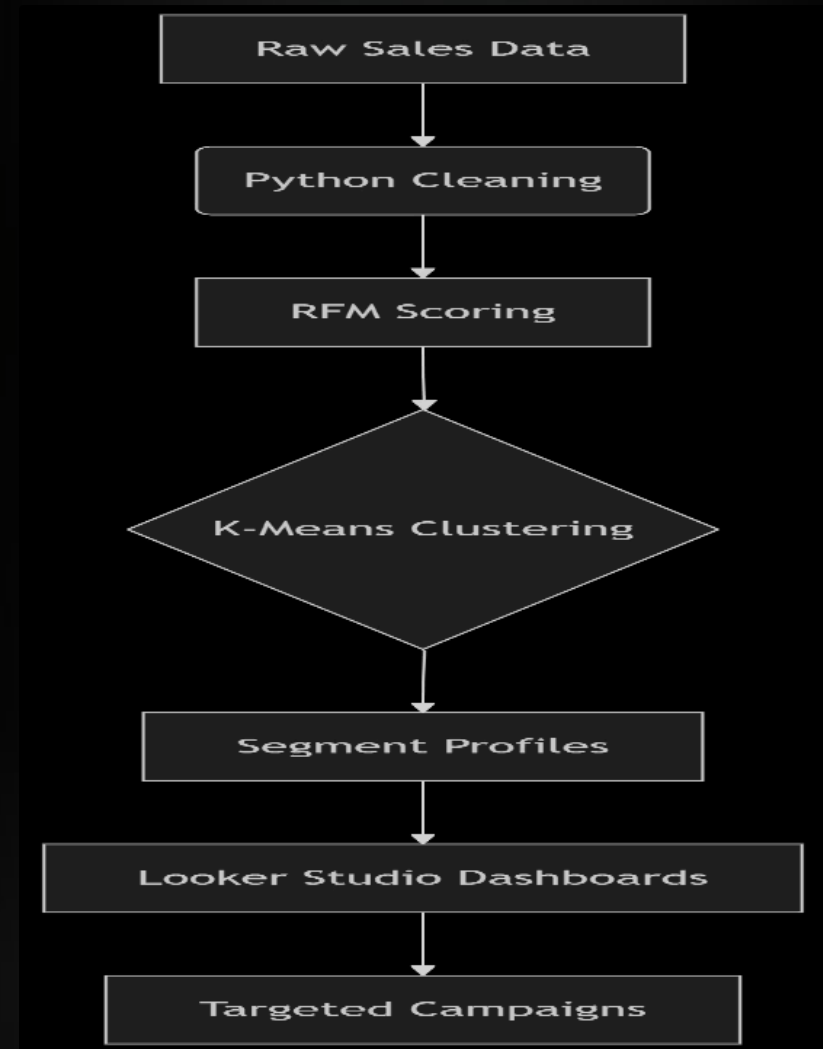High-value customers not receiving VIP treatment

📊 **Market Blindness:**

No visibility on growing and underperforming markets

3. Solution

3.1 Workflow Architecture Diagram

3.2 Key Steps:

Phase	Action	Technical Approach
Data Preparation	Cleaned 2 years of customer data	Pandas: groupby(), one-hot encoding
Feature Engineering	Performed feature engineering to create new columns including but not limited to RFM (Recency, Frequency, Monetary) scores, Total_Spend = Sum(MNTs), and Total_purchases.	Calculated purchase gaps, visit counts, spend averages
Clustering	Identified two distinct customer segments guided by KMeans clustering	Scikit-learn: KMeans(n_clusters=2), elbow method
Insight Generation	Profiled "Champions" (44% of customers, 85% revenue)	Comparative analysis: df['Segment'].describe()
Visualization	Built executive-friendly dashboards	Looker Studio: RFM quadrant + cohort behaviour trends

4. Key Insights & Business Impact

4.1 Segment Breakdown:

Segment	% Customers	% Revenue	Behaviour	Strategy
Champions	44%	85%	Recent, frequent, high spend	VIP loyalty programs
Potential Loyalists	20%	36%	High frequency, medium spend	Personalization experiments
At-Risk	8%	20%	Declining recency	Win-back campaigns

4.2 Strategic Recommendations:

1

VIP Treatment:

Target High LTV (Smaller family size and higher income) customers by premium offers.

2

Personalized Coupons:

Personalized offers for high-margin categories in underperforming markets such as Spain.

3

Win-Back Kit:

Reactivate "High_risk" segment via win-back campaigns to boost monthly revenue by at least 20%.

Thank You!

Let's Connect

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