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RESEARCH LABS

INNOVATION. AUTOMATION. ANALYTICS

PROJECT ON

BANK CUSTOMER SEGMENTATION

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Agenda

- Introduction
- Business Problem
- Business Objective
- Insights
- Customer Demographics Analysis
- Transaction Behavior Insights
- Customer Segmentation Analysis
- Profitability Risk & Indicators
- Conclusion
- Recommendations

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Introduction

- Banks have a large number of customers with different needs and behaviors.
- Understanding customer behavior is important to improve services, customer satisfaction, and business growth.
- This project analyzes **bank customer transaction data** to understand how customers behave differently.
- The analysis helps the bank to identify valuable customers, reduce customer loss, and make better business decisions.

Business Problem

- Banks cannot quickly identify customers who are becoming inactive.
- Loyal customers are treated the same as low-value customers.
- Marketing offers are sent to the wrong customers, reducing effectiveness.
- Banks face difficulty in predicting customer churn in advance.
- Customer service teams lack insights into customer behavior history.
- Revenue opportunities are lost due to poor personalization.
- Manual analysis is time-consuming and not suitable for real-time decisions

BUSINESS OBJECTIVE

- The main business objective of this project is to analyze bank customer and transaction data to understand customer behavior and identify patterns that support better decision-making. By segmenting customers into new, loyal, and lost groups and applying RFM analysis, the project aims to identify high-value customers and customers at risk of churn. The analysis also focuses on assessing customer risk using credit scores and understanding profitability across different customer segments.

1. Customer Demographics Analysis

Total Customers

884.27K

Average Age

40.41

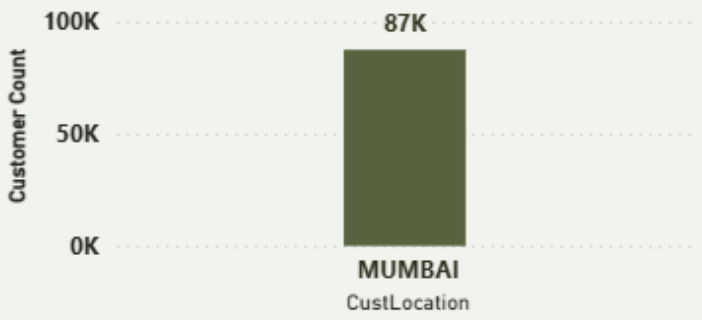
Count of Location

9021

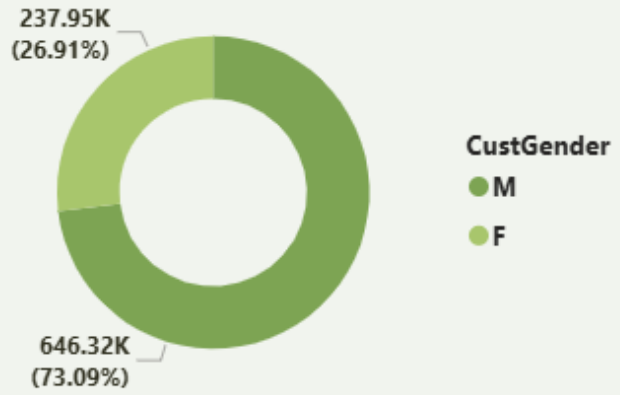
Sum of Account Balance

9021

Customer Count by CustLocation



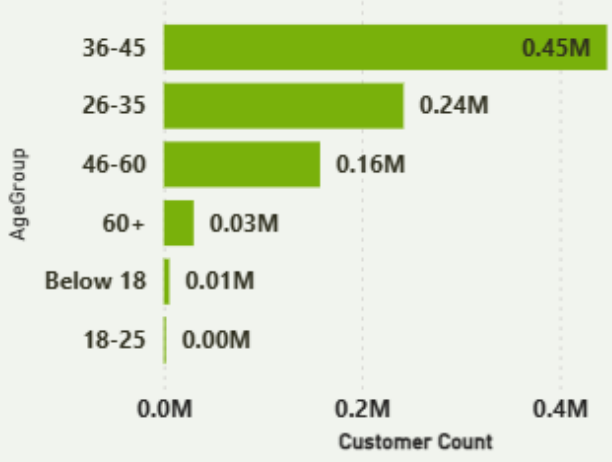
Count of Customer ID by CustomerGender



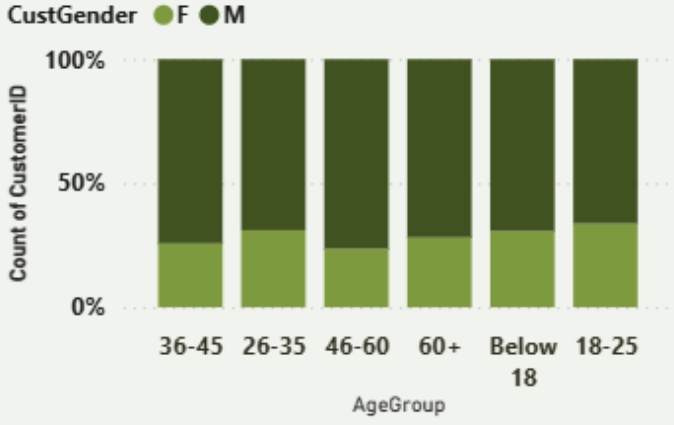
AgeGroup and CustGender

- 18-25
- 26-35
- 36-45
- 46-60
- 60+
- Below 18
  - F
  - M

Customer Count by AgeGroup



Count of CustomerID by AgeGroup and CustGender



CustomerID	CustGender	CustLocation	Age
C1010011	F	NOIDA	34
C1010012	M	MUMBAI	32
C1010014	F	MUMBAI	34
C1010018	F	CHAMPARAN	36
C1010024	M	KOLKATA	61
C1010028	F	DELHI	38
C1010031	M	VAPI	42
C1010035	M	MUMBAI	34
C1010036	M	GURGAON	30
C1010037	M	BANGALORE	45
C1010038	F	LOHIT	34

2. Transaction Behavior Insights

Total Transaction

₹ 1.65bn

Average Transaction

₹ 1.57K

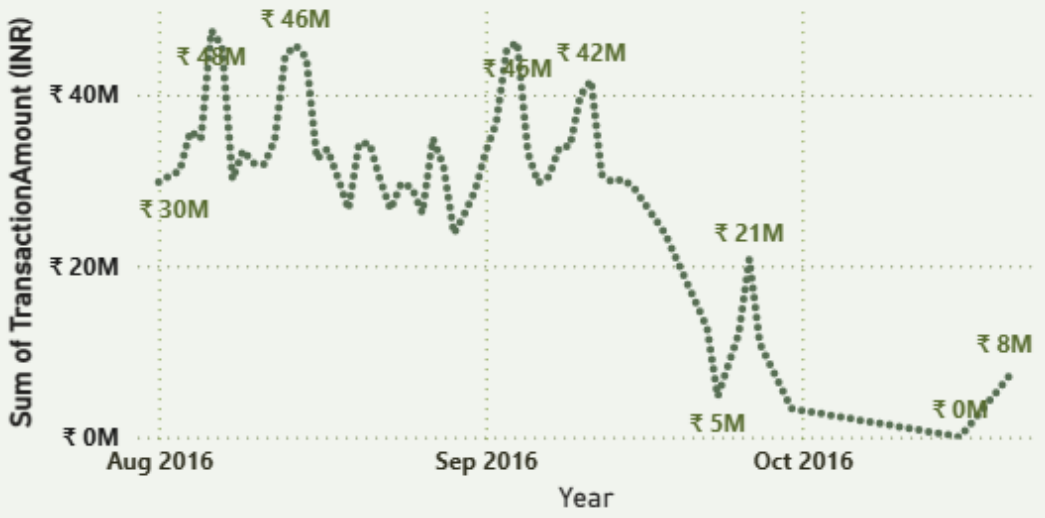
Maximum Of Tansaction

₹ 1.56M

Average Account Balance

114.83K

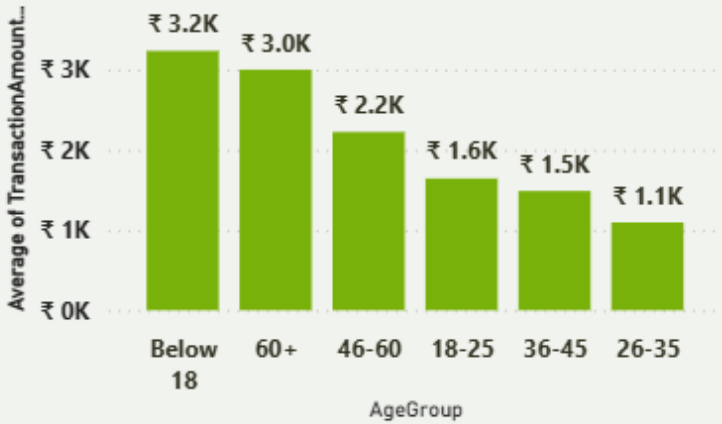
Transaction volume changed over time



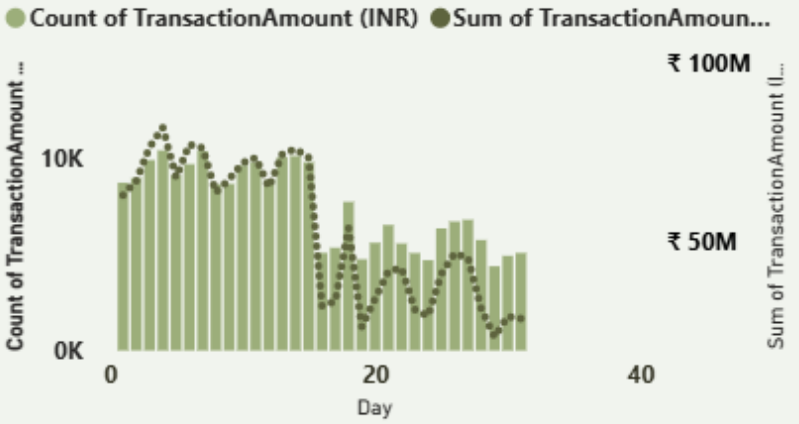
Year, Quarter, Month and Day

- 2016
  - Qtr 1
  - Qtr 2
    - April
    - May
    - June
      - 1
      - 2

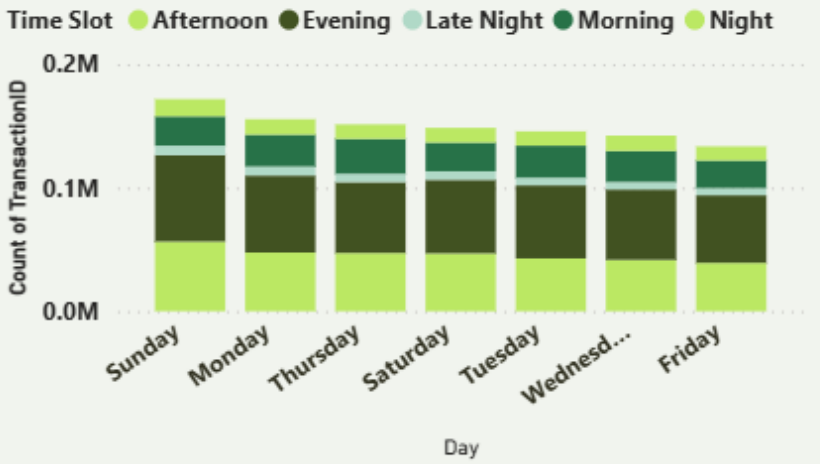
Average of TransactionAmount (INR) by AgeGroup



Count of TransactionAmount (INR) and Sum of TransactionAmount (INR) by Day



Count of TransactionID by Day and Time Slot



3. Customer Segmentation Analysis

Count of Loyal Customers

144K

Count of Lost Customer

572.85K

New Customer Revenue

₹ 1.17bn

Count of Customer

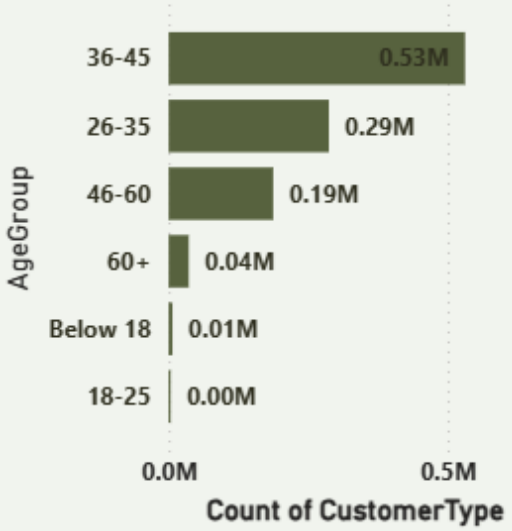
884.27K

CustomerType

Lost | Loyal | New

Count of TransactionID by CustomerType

Count of CustomerType by AgeGroup

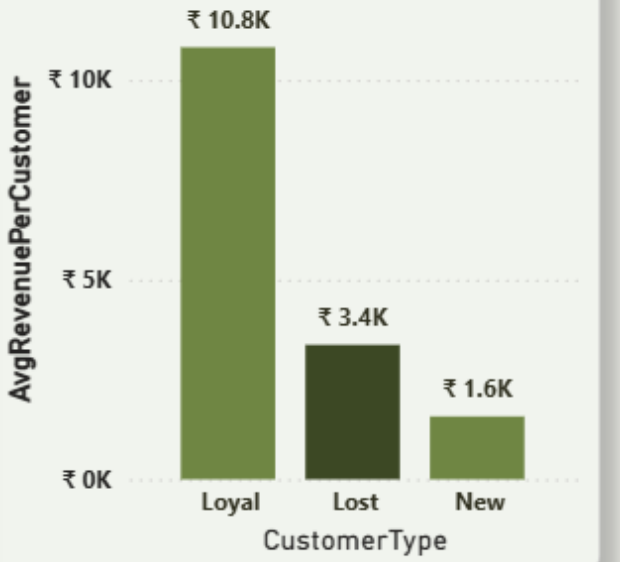


Revenue by customer segment

Gender

- F
- M

Highest Average Revenue



CustomerType	Average of Frequency (F)	Average of Recency (R)	Average of Monetary (M)
Loyal	1.00	-18.61	₹ 1,803.8986
New	1.00	0.00	₹ 1,575.4508
Lost	1.00	-9.53	₹ 1,571.5876
Total	1.00	-2.80	₹ 1,574.335

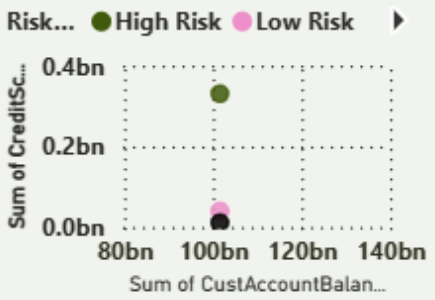
Average of TransactionsPerCustomer by CustomerType and CustomerT...

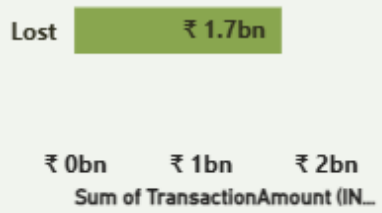
4. Profitability Risk & Indicators

Total Revenue
₹ 1.65bn

High Risk Customers
884K

Average Credit score
364.87

Sum of CustAccountBalance and Sum of CreditScore by RiskLevel


Sum of TransactionAmount (INR) by Customer Segment


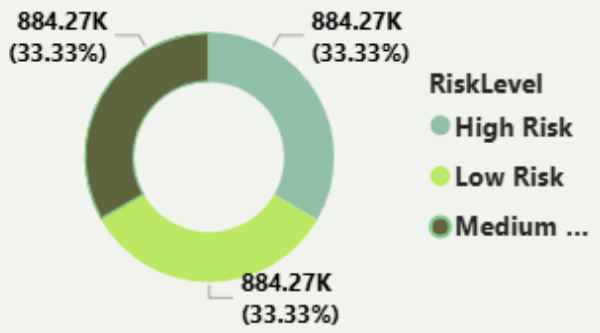
Total Monetory
₹ 1.65bn

AverageCreditScore by CustomerType


RiskLevel
- ○ High Risk
- ○ Low Risk
- ○ Medium Risk

CreditScore
- ○ 300.00
- ○ 301.00
- ○ 302.00
- ○ 303.00
- ○ 304.00
- ○ 305.00
- ○ 306.00
- ○ 307.00

AverageCreditScore by CustomerType


Count of CustomerID by RiskLevel


CustomerID	CustomerType	Sum of TransactionAmount (INR)	RiskLevel
C1132457	Lost	₹ 136,964	High Risk
C2714137	Lost	₹ 150,010	High Risk
C3310289	Lost	₹ 115,920	High Risk
C4723963	Lost	₹ 149,525	High Risk
C5539341	Lost	₹ 132,910.19	High Risk
C5622625	Lost	₹ 116,992.23	High Risk
C6714030	Lost	₹ 152,298	High Risk
C7027980	Lost	₹ 135,122.7	High Risk
C7916279	Lost	₹ 112,545	High Risk
C8220562	Lost	₹ 151,344	High Risk
Total		₹ 1,353,631.12	

INSIGHTS

- Loyal customers generate maximum value
- Early churn signals can be detected using transaction patterns
- Marketing efforts are not optimally targeted
- Marketing efforts are not optimally targeted
- High-risk customers do not always generate high revenue
- Lack of personalization leads to revenue loss
- Manual analysis limits timely decision-making

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Conclusion

This project helps banks understand real-time customer behavior using transaction data. By segmenting customers, banks can quickly identify active, inactive, and high-value customers and take timely actions such as personalized offers and retention strategies. Overall, the dashboard supports faster decision-making and improves customer engagement and revenue in real-time banking operations.

Recommendations

Based on this customer segmentation project, banks should use transaction data regularly to monitor customer activity and segment customers into new, loyal, and inactive groups. By doing this, banks can focus more on high-value customers, re-engage inactive customers with targeted offers, and guide new customers toward long-term relationships. The dashboard can be used in real time to track customer behavior, support quick decisions, and improve customer retention and revenue growth.

THANK YOU

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