

Retail Customer Retention Analytics – IKEA

Power BI Project Report

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Course: Data Science Nov 1st

[Video Explanation Link](#)

Introduction

IKEA is a globally recognized furniture retailer known for its affordable and stylish home products. With increasing competition from new online and local brands, retaining customers has become essential for long-term success. Although IKEA collects large volumes of customer data, existing reports mainly show past sales and lack insight into customer loyalty and churn.

This project focuses on analyzing customer retention patterns using transaction history, loyalty program data, and store performance records. The goal is to build an interactive Power BI dashboard that highlights key metrics such as churn rate, repeat purchases, and customer lifetime value (CLV), helping IKEA make data-driven decisions to strengthen customer loyalty.

Dataset Overview

Five datasets were used:

- **Customer Demographics** – Customer age, gender, region, income, and membership details.
- **Customer Transactions** – Purchase records including dates, spending, product categories, and store IDs.
- **Store Locations** – Store region, type, and opening year.
- **Loyalty Program** – Loyalty tiers, points earned and redeemed.
- **Churn Labelled Customers** – Identifies active and churned customers.

Task 1: Data Modeling and Cleaning

All datasets were loaded into Power BI. Duplicate records were removed, data types were corrected, missing values were handled, and new date-based columns were created for time analysis. Proper relationships were built between tables, ensuring smooth filtering and accurate reporting.

Screenshot Placeholder:

The screenshot shows the Power BI Data Model view. It displays five tables: Churn_Labelled_Customers, Loyalty_Program, Customer_Transactions, Customer_Demographics, and Store_Locations. Relationships are established between these tables. For example, Churn_Labelled_Customers has a relationship with Loyalty_Program. Loyalty_Program has a relationship with Customer_Transactions. Customer_Transactions has a relationship with Store_Locations. Customer_Demographics also has a relationship with Customer_Transactions. A 'Merge1' table is also present, which contains fields like Amount, Customer_ID, Product_Category, Promotion_Applied, Quantity, Store_ID, Store_Opening_Near, Store_Location_Avg, and Store_Location_Store_Type.

Sender	Age	Membership_Since	Marital_Status	Region	Income_Group	Age_Group	Membership_Duration_(Years)	CLV_Segment	Customer_Segment	Membership_Duration
Ale	50	01 November 2020	Single	London	High	41-60	6	Low	Active	1905
Ale	36	18 August 2021	Single	Birmingham	Medium	25-40	5	Medium	Active	1615
emale	61	19 November 2020	Single	Liverpool	High	60+	6	Low	Active	1887
Ale	21	03 May 2023	Single	Manchester	Medium	Under 25	3	High	High-Value	992
emale	51	11 July 2023	Single	London	High	41-60	3	Low	Active	923
emale	23	21 March 2024	Single	Liverpool	Low	Under 25	2	Medium	Active	669
Ale	39	07 June 2023	Single	Leeds	Low	25-40	3	Medium	Active	957
emale	33	19 December 2022	Single	London	Low	25-40	4	Low	Active	1127
emale	33	24 November 2023	Single	Birmingham	Medium	25-40	3	High	High-Value	787
emale	46	08 September 2021	Single	Birmingham	High	41-60	5	Low	Active	1594
emale	20	30 August 2021	Single	Liverpool	Low	Under 25	5	Medium	Active	1603
Ale	36	26 November 2023	Single	Manchester	Medium	25-40	3	Medium	Active	785
emale	20	02 August 2022	Single	Birmingham	High	Under 25	4	Medium	Active	1266
emale	36	26 August 2023	Single	Birmingham	Low	25-40	3	Medium	Active	877
Ale	24	05 April 2023	Single	London	Low	Under 25	3	Medium	Active	1020
Ale	69	10 February 2024	Single	London	Medium	60+	2	High	High-Value	709
emale	56	26 February 2024	Single	London	Low	41-60	2	High	High-Value	693
Ale	45	08 October 2023	Single	London	High	41-60	3	Low	Active	834
emale	67	14 September 2023	Single	London	Low	60+	3	High	High-Value	858
emale	33	10 September 2021	Single	Leeds	Low	25-40	5	Low	Active	1592
Ale	69	30 June 2022	Single	Birmingham	High	60+	4	Medium	Active	1299
Ale	19	29 June 2021	Single	London	Low	Under 25	5	Medium	Active	1665
Ale	65	26 December 2022	Single	Liverpool	High	60+	4	Low	Active	1120
Ale	29	07 September 2023	Single	Liverpool	Medium	25-40	3	Medium	Active	865
emale	22	01 October 2022	Single	London	Medium	Under 25	4	Medium	Active	1206

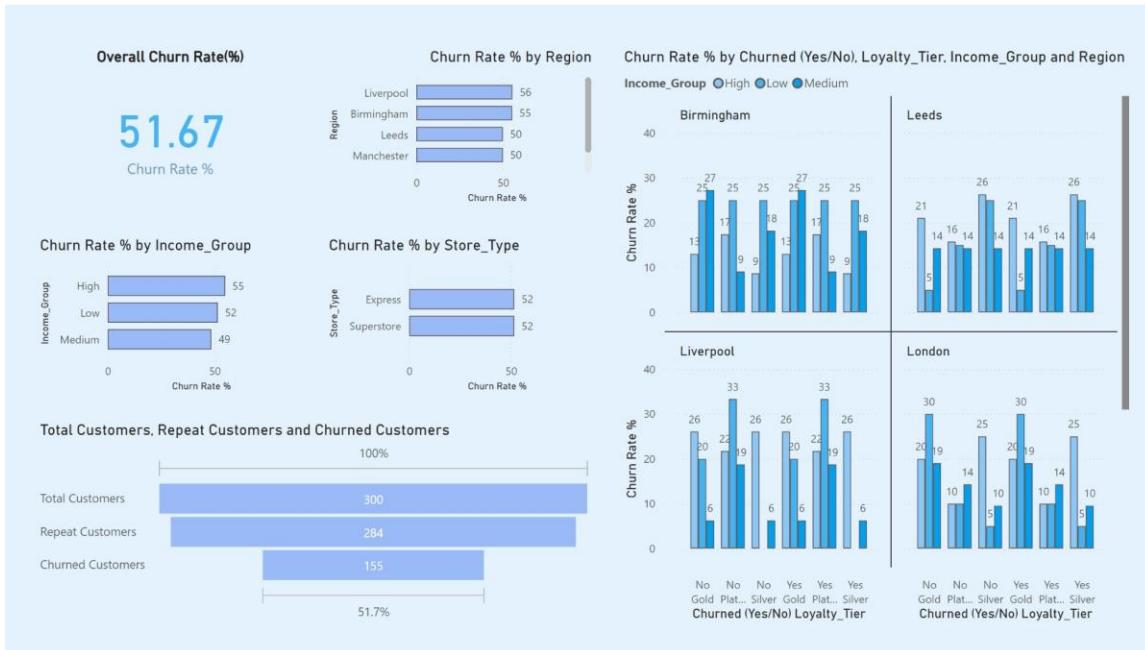
Insights / Observations:

After cleaning and modeling, the data became consistent and ready for analysis. Removing duplicates and correcting data types for improved report accuracy. Creating proper relationships between tables ensures smooth filtering across visuals.

Task 2: Churn and Retention Metrics

Churn rate measures and KPIs were created to track overall retention of health. Visuals showed churn trends by region, income group, and store type. A funnel chart illustrates customer movement from total customers to repeat buyers and churned users.

Screenshot:



Insights / Observations:

The churn rate KPI provides a quick view of overall customer retention health. Visualizing churn by region and income group helps identify specific customer segments with higher churn risk. The funnel chart clearly shows the drop from total customers to repeat and churned customers, highlighting where IKEA should focus on retention efforts. These insights support targeted marketing and loyalty strategies.

Task 3: Repeat Purchase Analysis

Customers were grouped into Low, Mid, and High-tier loyalty segments based on purchase frequency. Charts compared loyalty behavior across age groups and regions, and highlighted product categories preferred by loyal customers.

Screenshot:



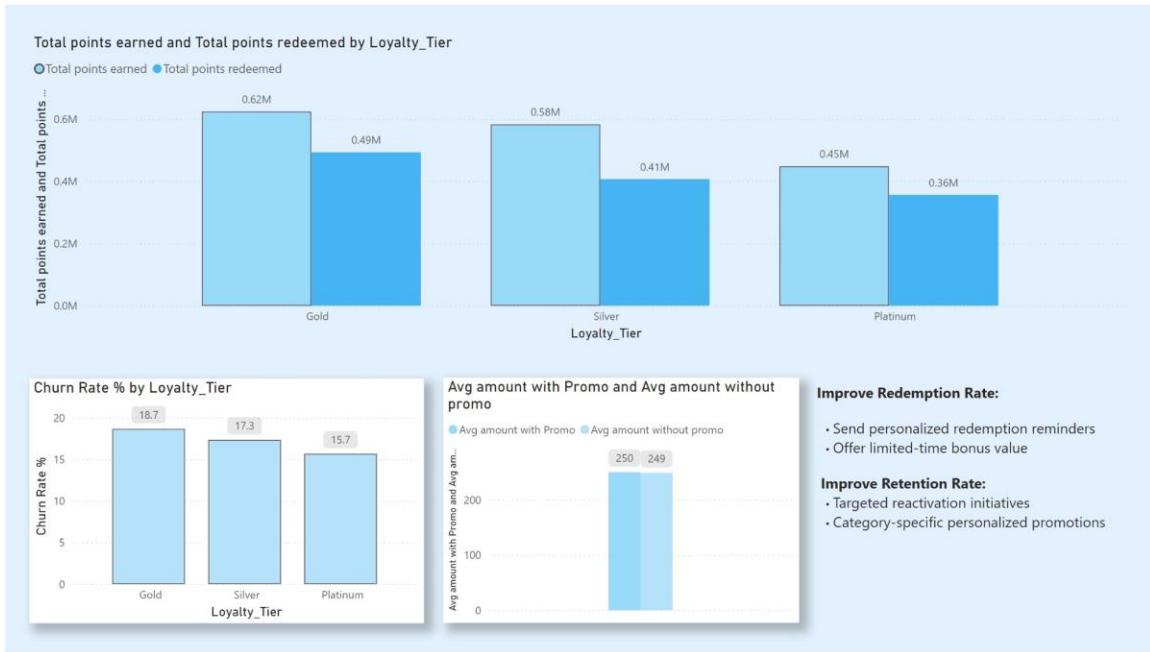
Insights / Observations:

The repeat purchase analysis clearly highlights customer loyalty patterns. High-tier customers contribute frequent purchases and represent IKEA's most valuable segment. Comparing purchase frequency across regions and age groups helps identify markets with stronger loyalty behavior. Understanding product categories preferred by loyal customers provides useful insights for targeted promotions and personalized marketing strategies.

Task 4: Promotion & Loyalty Impact

Analysis compared spending with and without promotions and evaluated churn across loyalty tiers. Points earned versus redeemed were visualized to measure engagement.

Screenshot:



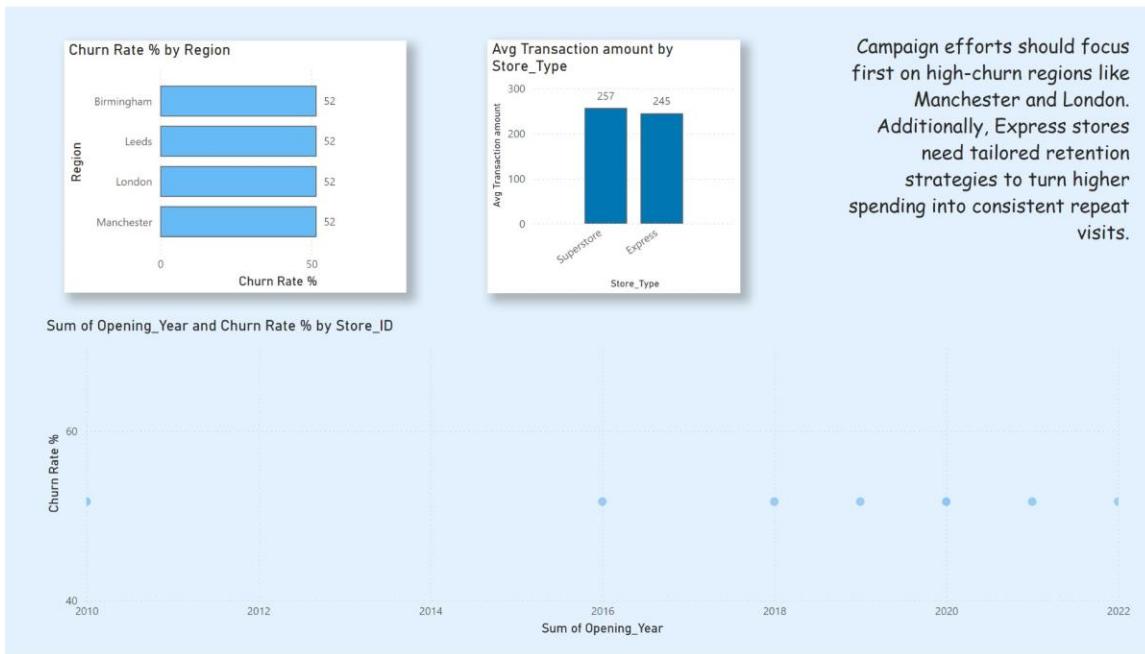
Insights / Observations:

The promotion analysis shows how frequently customers use promotional offers and whether promotions increase spending. Comparing churn rate across loyalty tiers helps identify which tier customers are more likely to stay loyal. The points earned versus redeemed chart highlights customer engagement with the loyalty program. These insights indicate opportunities to improve reward redemption and design better promotional campaigns to strengthen retention.

Task 5: Store Performance vs Retention

Store type, region, and opening year were analyzed against transaction value and churn rate.

Screenshot:



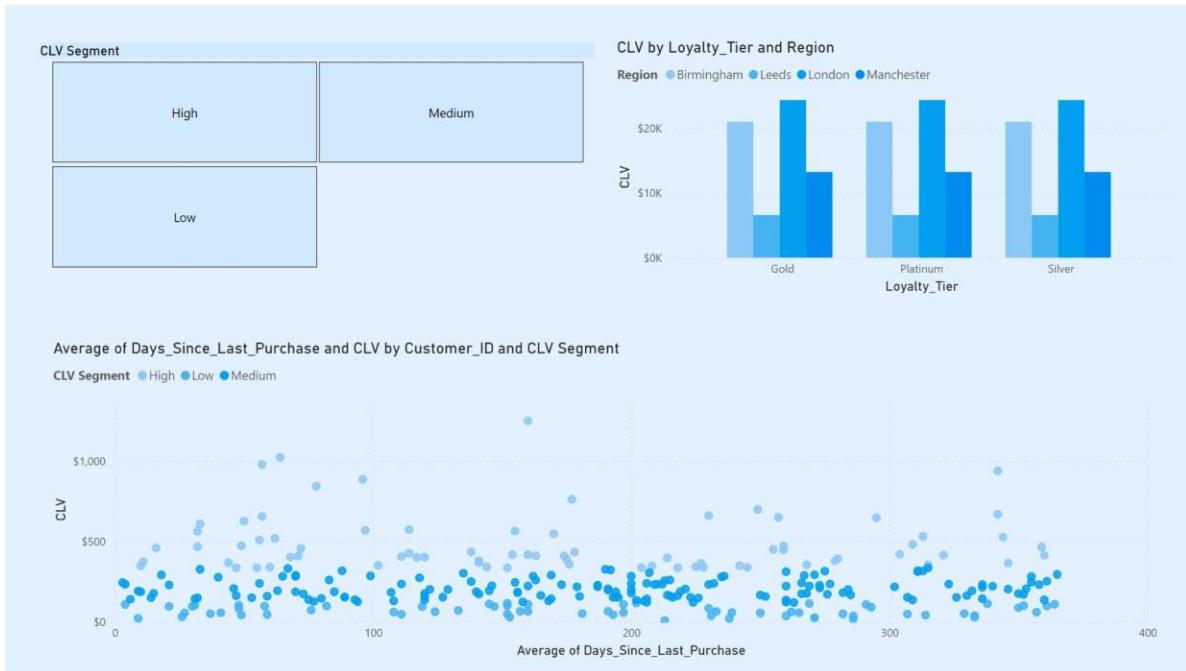
Insights / Observations:

The store-wise analysis highlights differences in customer retention across regions and store formats. Stores with higher average transaction values generally show better retention, indicating stronger customer engagement. The churn rate by region visual helps identify underperforming store areas where targeted marketing and localized loyalty campaigns can improve retention. The correlation between store opening year and retention provides insight into how newer and older stores perform in keeping customers engaged.

Task 6: Customer Value (CLV) Analysis

CLV was calculated based on total spending and membership duration. Customers were segmented into low, medium, and high-value groups.

Screenshot:



Insights / Observations:

The CLV analysis helps identify IKEA's most valuable customers. High CLV customers contribute significantly to revenue and show strong loyalty. Comparing CLV with days since last purchase helps detect high-value customers who are becoming inactive and may need re-engagement campaigns. CLV analysis by region and loyalty tier supports better targeting retention strategies and personalized offers.

Task 7: Final Dashboard and Executive Summary

The objective of this task is to design a complete multi-page Power BI dashboard that presents key customer retention insights in a clear and interactive way for business decision-makers.

A multi-page Power BI dashboard was designed:

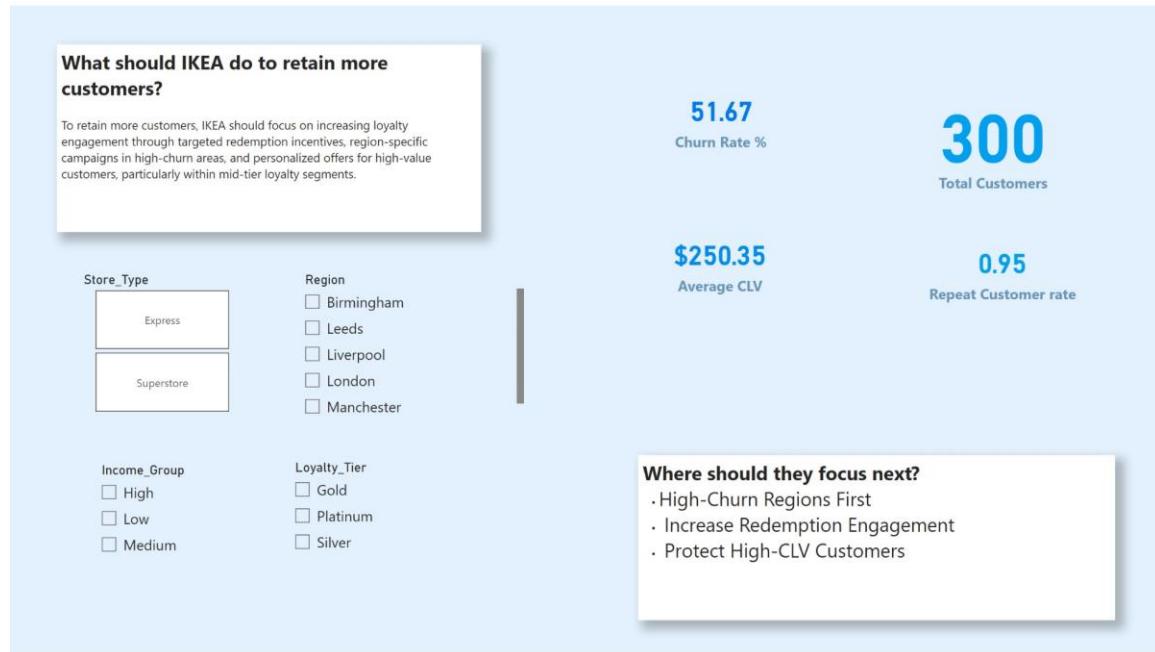
- **Overview KPIs:** Churn Rate, CLV, Repeat Purchase Rate
- **Loyalty & Promotions:** Loyalty tier performance and promotion impact
- **Store & Region Insights:** Store-wise retention trends

- **Customer Segmentation:** Churned, repeat, and high-value customers

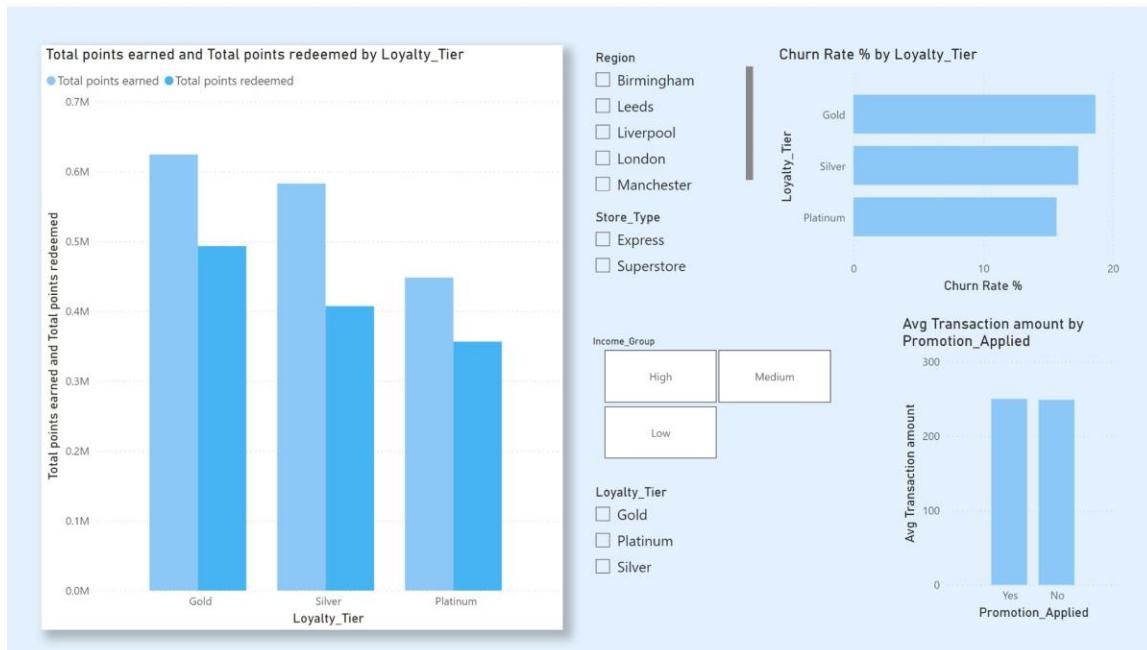
Interactive slicers allow dynamic exploration of all insights.

Screenshot:

Overview KPIs



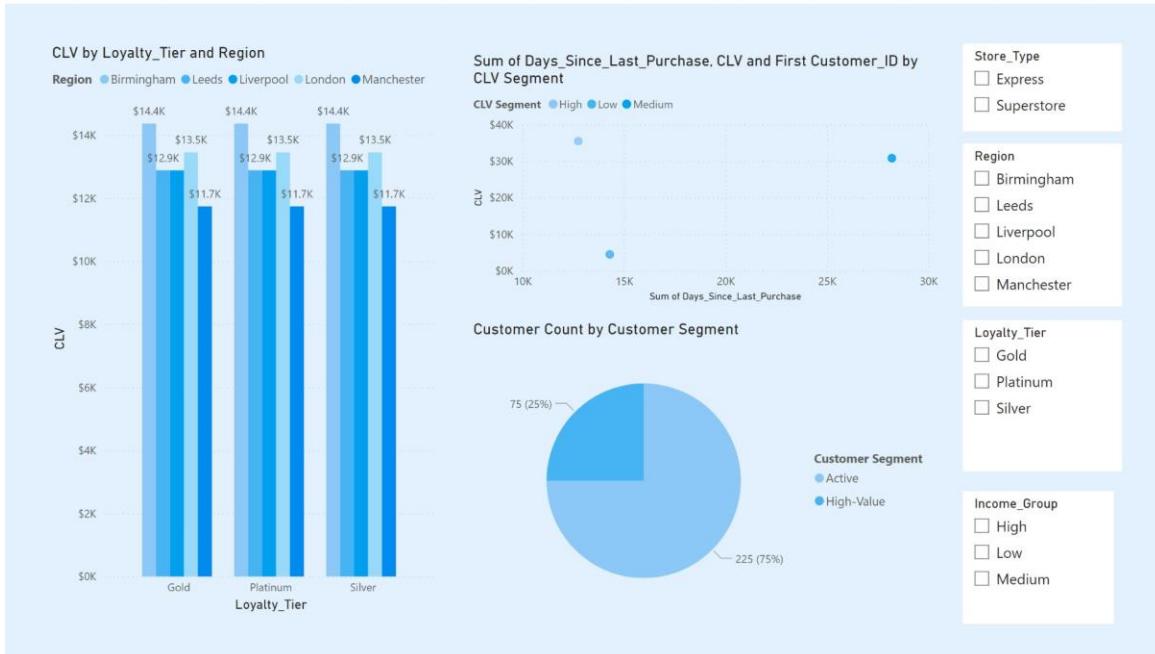
Loyalty & Promotions:



Store & Region Insights:



Customer Segmentation:



Insights / Observations:

The final dashboard provides a complete view of customer retention performance across demographics, loyalty tiers, promotions, and store regions. Interactive slicers allow users to explore specific segments and identify high-risk churn groups. The executive summary highlights key business recommendations, helping IKEA focus on improving loyalty rewards, targeted promotions, and store-level engagement strategies. This dashboard enables data-driven decision-making to enhance customer retention and long-term growth.

Conclusion

This project provides a clear view of IKEA's customer retention landscape. By combining churn analysis, loyalty behavior, promotion impact, and store performance, the dashboard supports data-driven decisions to improve customer engagement and long-term growth. Like carefully arranging furniture in a room, each insight fits together to build a stronger foundation for customer loyalty.

8. Video Explanation Link

<https://www.loom.com/share/bee5761b6b0e49008776a0a8ce55ea18>