APPROACH DOCUMENT

Project title: Retail Customer Retention Analytics – WALMART

Project Objective: Develop an interactive Customer Retention Analytics Dashboard in Power BI using Walmart data that will:

- Consolidate customer demographics, purchase history, store/e-commerce performance, and membership data.
- Enable dynamic segmentation of high-value, repeat, and churned customers.
- Provide actionable insights to improve retention, loyalty engagement, and regional strategies.

Dataset Description:

1. Customer Demographics Dataset

- Contains individual customer details such as personal attributes and preferences.
- Used to analyze customer profiles, segmentation, and channel preferences for retention strategy.
- **Fields:**
  Customer_ID, Age, Gender, Region, Income_Level, Membership_Since, Preferred_Channel (Store / Online)

2. Customer Transactions Dataset

- Records all customer purchase transactions across stores and online platforms.
- Used for analyzing purchase frequency, spending behavior, product category performance, and promotion impact.
- **Fields:**
  Transaction_ID, Customer_ID, Store_ID, Product_Category, Transaction_Date, Amount, Promotion_Applied (Yes / No)

3. Store Locations Dataset

- Contains metadata about Walmart store locations and their operational details.
- Used to analyze store-type performance, regional sales trends, and retention correlation with store opening years.
- **Fields:**
  Store_ID, Store_Type (Supercenter, Neighborhood Market, Sam's Club, Online), Region, Opening_Year

4. Loyalty Program Dataset

- Captures information about customers enrolled in Walmart's loyalty program.

- Used to evaluate tier-wise engagement, redemption behavior, and loyalty impact on churn and retention.
- **Fields:**
  Customer_ID, Loyalty_Tier (Basic, Plus, Premium, Elite), Points_Earned, Points_Redeemed

5. Churn Labelled Customers Dataset

- Contains churn status and behavioral insights of customers based on recent activity.
- Used to identify churn patterns, retention opportunities, and the reasons behind customer attrition.
- **Fields:**
  Customer_ID, Last_Purchase_Date, Churn_Flag (0 = Active, 1 = Churned), Churn_Reason (Inactivity, Competitor, Low Engagement)

Tasks:

Task 1: Data Modeling & Cleaning

1. **OBJECTIVE:**
   Prepare and sanitize raw datasets to be analysis-ready in the Power BI model. Tasks involved: load & transform in Power Query, remove duplicates, check for missing values / types, make date and duration columns, extract transaction year/month, and set up the data model relationships.

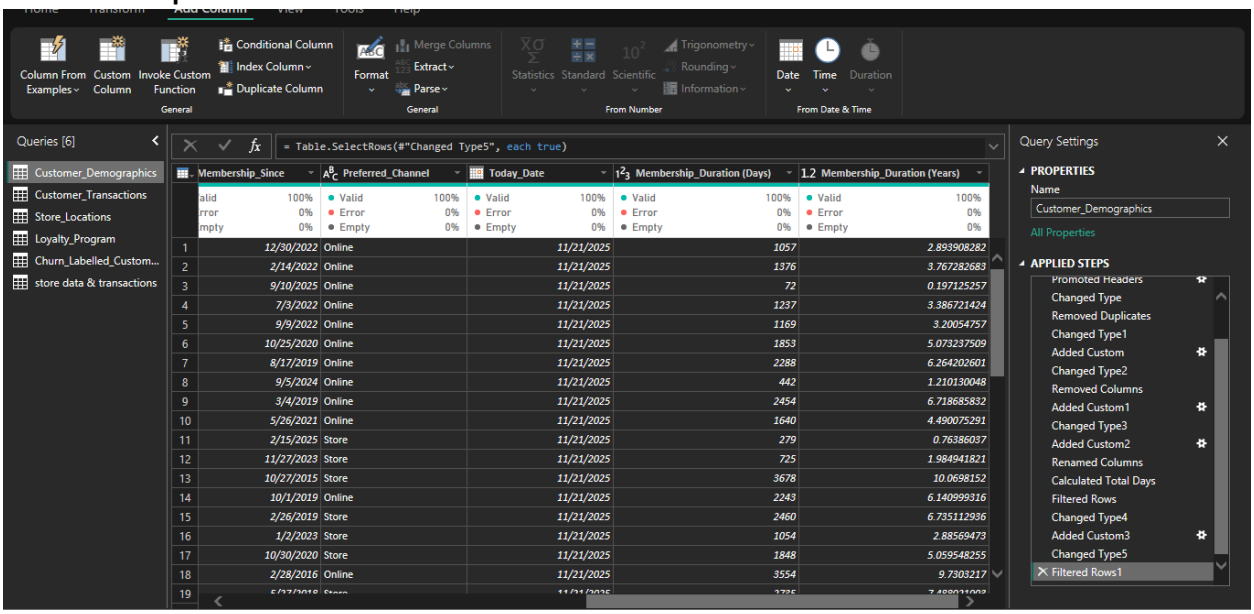
2. **Data Loading & Initial Transformations**:
   All 5 datasets were loaded into Power Query and examined: Customer_Demographics, Customer_Transactions, Store_Locations, Loyalty_Program, Churn_Labelled_Customers. For each table: headers promoted, delimiters checked, and column types set. I changed data types explicitly (Date, Text, Whole Number, Decimal) to avoid data types being changed later in DAX.

3. **Data Cleaning and Formatting:**
   Duplicates: Removed duplicates on key identifiers in Power Query's Remove Duplicates:
   Customer_Demographics → Customer_ID Customer_Transactions → Transaction_ID
   Store_Locations → Store_ID

   Missing values: Did a null value check in all tables and found none, so did not need any data imputation.
   Standardization: Trimmed text fields and normalized case for categorical columns (Region, Income_Level, Preferred_Channel, Promotion_Applied, Loyalty_Tier).

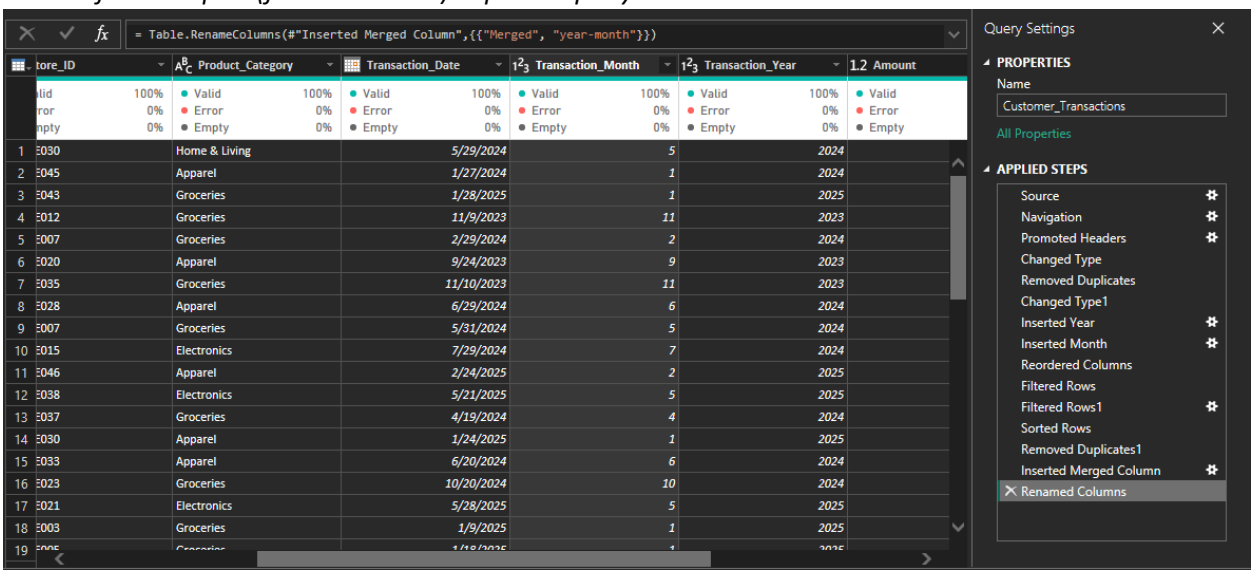
4. **Calculated Columns:**
   The calculated columns below were all added in Power Query as custom columns so that they would load into the model ready to be used.

a. Membership Duration



b. Transaction Year and Month

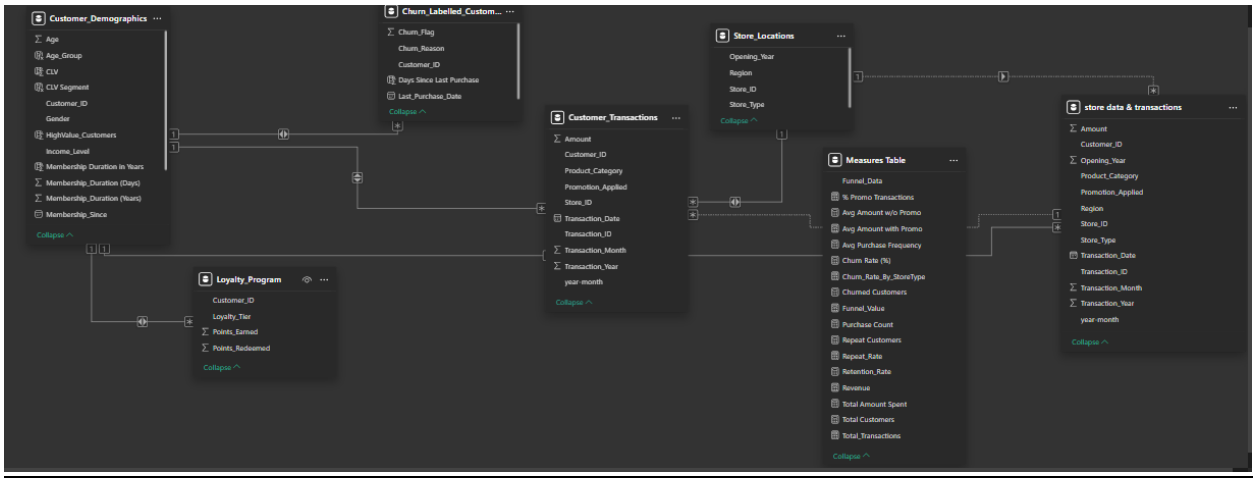
To support time-based trend analysis, I extracted the year and month from Transaction_Date using column for examples (from selection) in power query .



5. <u>Load to Data Model & Relationships:</u>

Once the transformation was complete, I loaded the cleaned tables into Power BI and the following relational model with validated cardinality was created:

- All relationships have been set to single direction (dimension → fact) to optimize model performance and avoid ambiguous filters.



6. **RESULT:** The datasets are clean and standardized, analysis-ready.
   The key analytic columns available now are: Membership_Duration_Days, Membership_Duration_Years, Transaction_Year, Transaction_Month, Year-Month.
   There are no missing values that required imputation — the dataset is physically ready to be analyzed.

Task 2: Churn & Retention Metrics

1. **OBJECTIVE:**
   This task involved calculating the customer churn rate at Walmart, illustrating the differences in the rate across various segments, and figuring out the factors that led to keeping the customers.
   The main analysis revolved around four major aspects — Region, Income Level, Preferred Channel, and Loyalty Tier — and the total customer journey was depicted by means of a funnel chart.

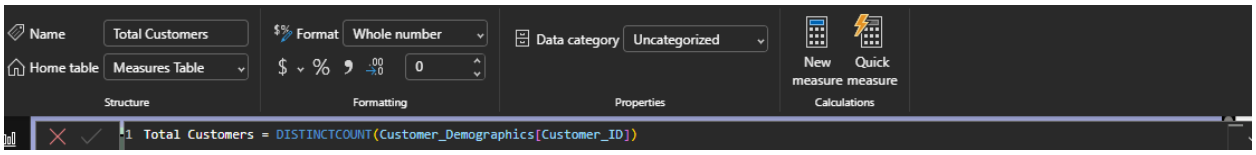
2. **Steps Performed** :

a) To keep the data model organized and all DAX calculations in one place, I created a separate "Measures" table in Power BI.This allowed for easy debugging of multiple visuals and clear KPI management.

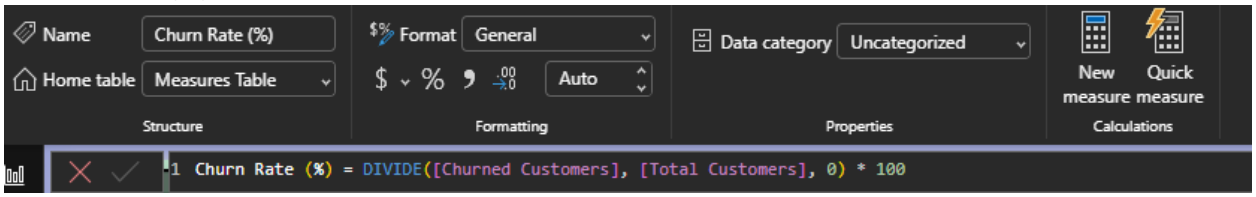
b) Churn Metric Calculation:

The following DAX measures were included in the Measures table:

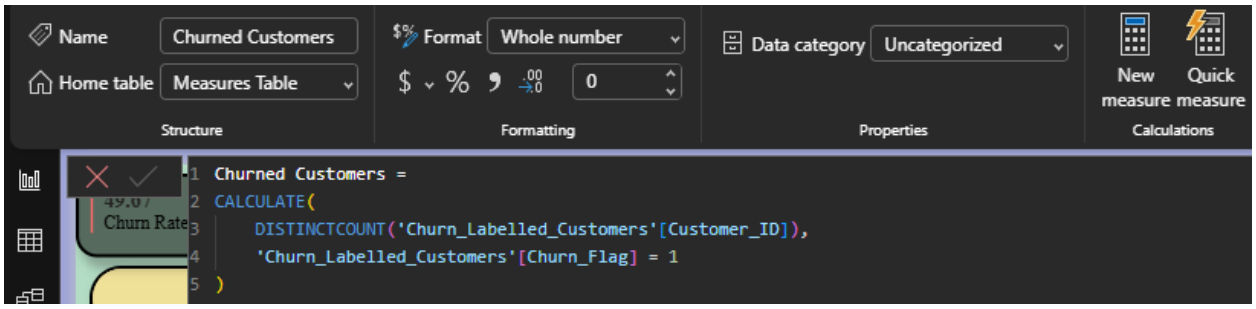
TOTAL CUSTOMERS :

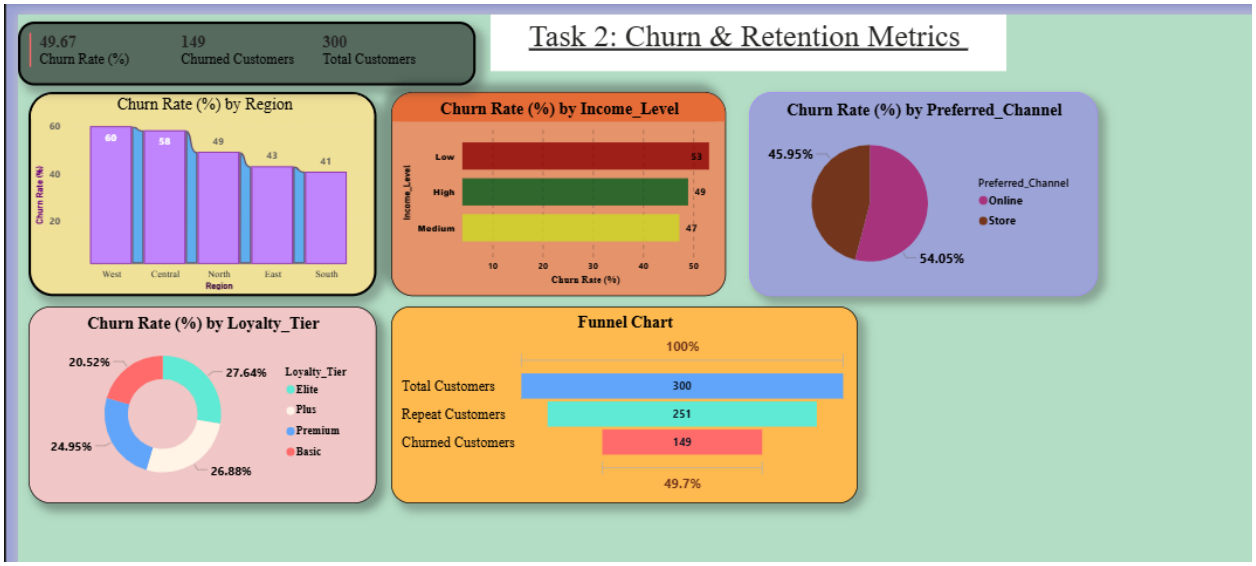


CHRUN RATE (%):



CHRUNED CUSTOMERS :





3. ISIGHTS:

a) **By region:**

The East (43%) and South (41%) have better retention rates, while the West (60%) and Central(58%) regions exhibit the highest churn.

Action: Concentrate on retention initiatives in the Central and Western areas

b) **By Income Level:**

Due to their price sensitivity, low-income customers have the highest rate of customer attrition (53%).

Action: Targeted promotions and loyalty rewards can increase retention.

c) **By Preferred Channel**:
Online customers churn 45.95 percent, while store customers churn slightly more (54.05%).
Action: Incorporate digital loyalty programs and improve in-store interaction.

d) **By Loyalty Tier:**
Basic (20.52%) < Premium (24.95%) < Plus (26.88%) < Elite (27.64%) — churn declines with increasing loyalty tier.
Action: To encourage tier upgrades, make lower tier loyalty benefits stronger.

e) Funnel Chart :

Stage	Customers	% of Total
Total Customers	300	100%
Repeat Customers	251	83.6%
Churned Customers	149	49.7%

The customer drop-off between total and repeat customers is prominently displayed in the funnel chart. Nearly half of customers eventually churn, despite the fact that the majority make at least one repeat purchase. This suggests that there is a need for greater post-purchase engagement**.**

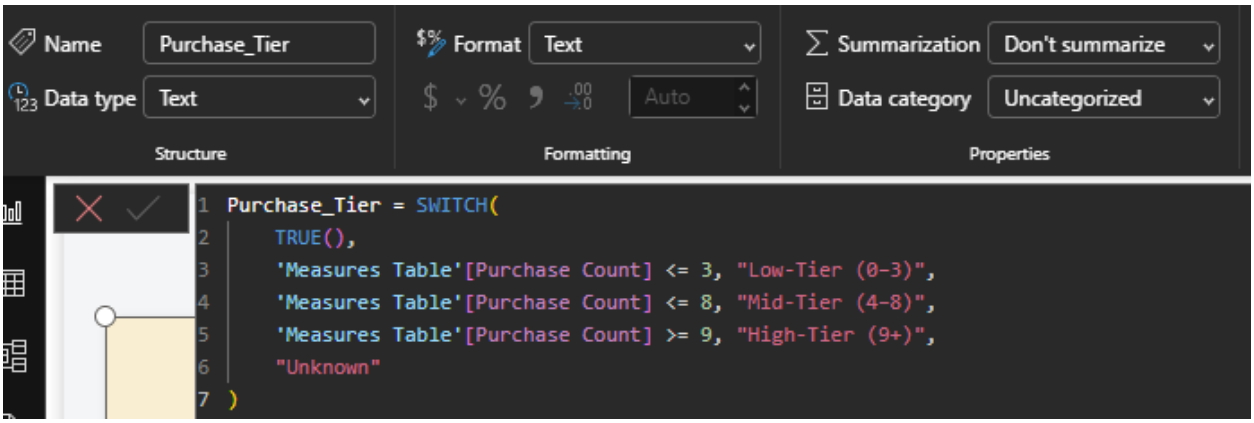
4. Result:
Following the computation of the churn KPIs and their visualization across channels, loyalty tiers, income levels, and regions, the dashboard made it evident how customers behaved. Overall, the churn rate was 49.67%, with higher rates among low-income and in-store customers, as well as in the West and Central regions. The impact of Walmart's loyalty program was confirmed by loyalty analysis, which showed that churn decreased with higher tiers. Through interactive charts and a customer retention flow funnel, the final dashboard graphically summarized these insights and gave a clear picture of Walmart's customer acquisition and retention trends.

Task 3: Repeat Purchase Analysis

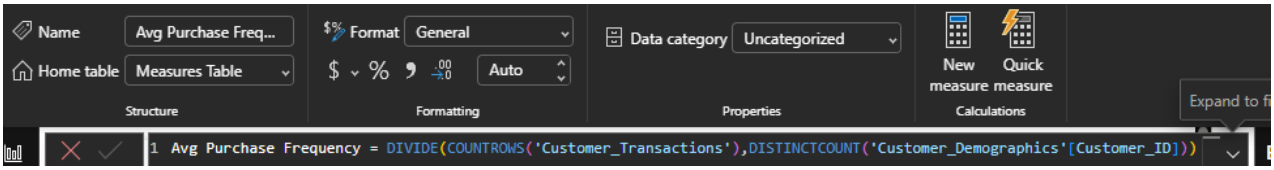
1) OBJECTIVE : Analyzing customer repeat purchase patterns and grouping customers according to purchase volume were the goals of this task. Finding the most popular product categories among devoted consumers and comparing the average purchase frequency across various groups (Region, Age Group, Loyalty Tier) were the main goals of the analysis.

2) Steps Performed :

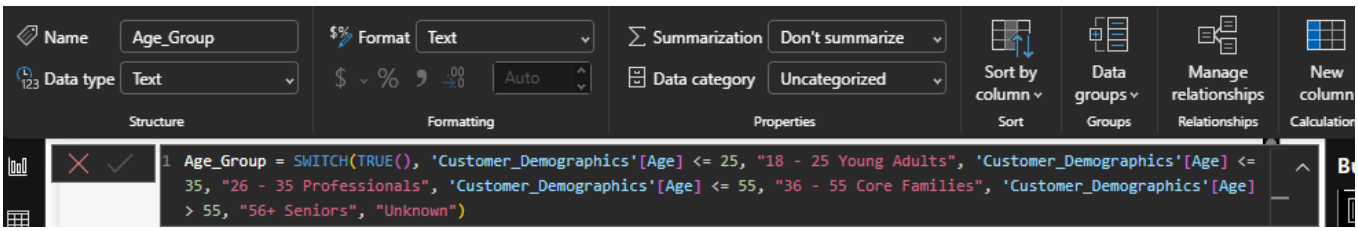
a) Customer Segmentation Using the Purchase Frequency Method:
I used a SWITCH() logic in Power BI Desktop to create a new column called Purchase_Tier after first calculating each customer's purchase count in order to segment customers based on the quantity of purchases:

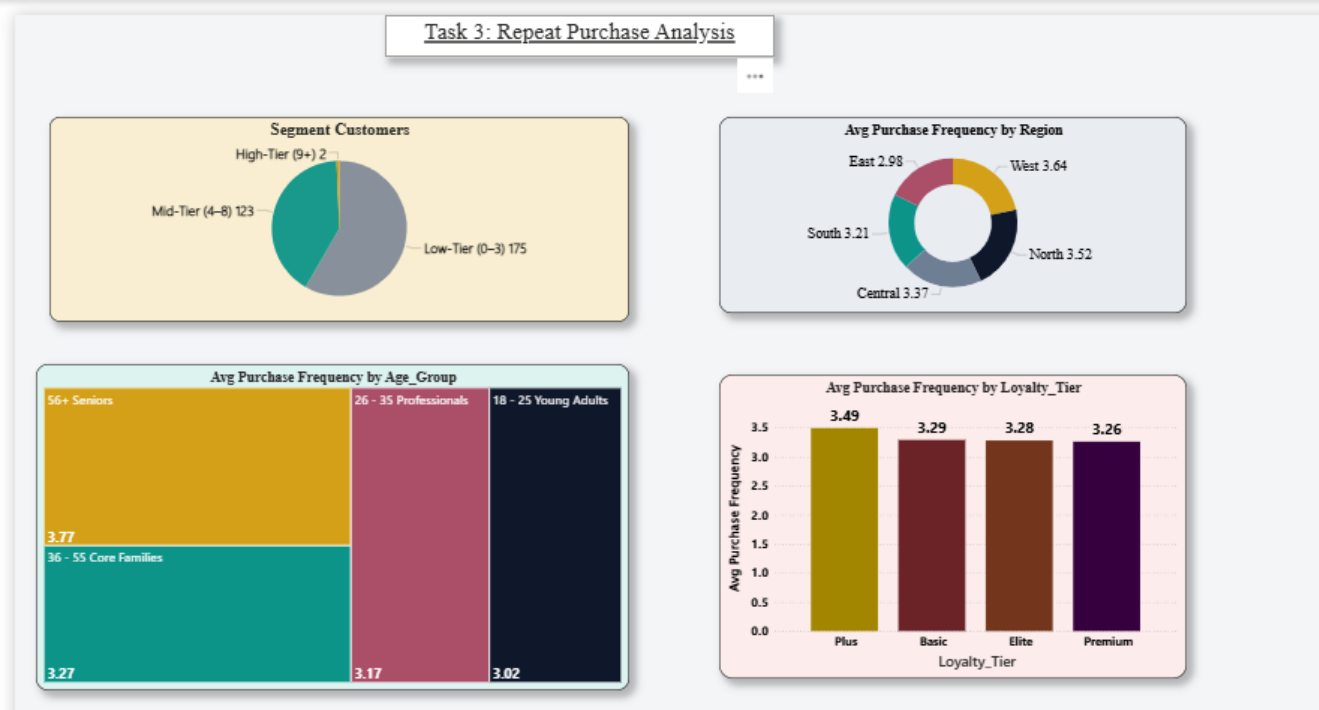


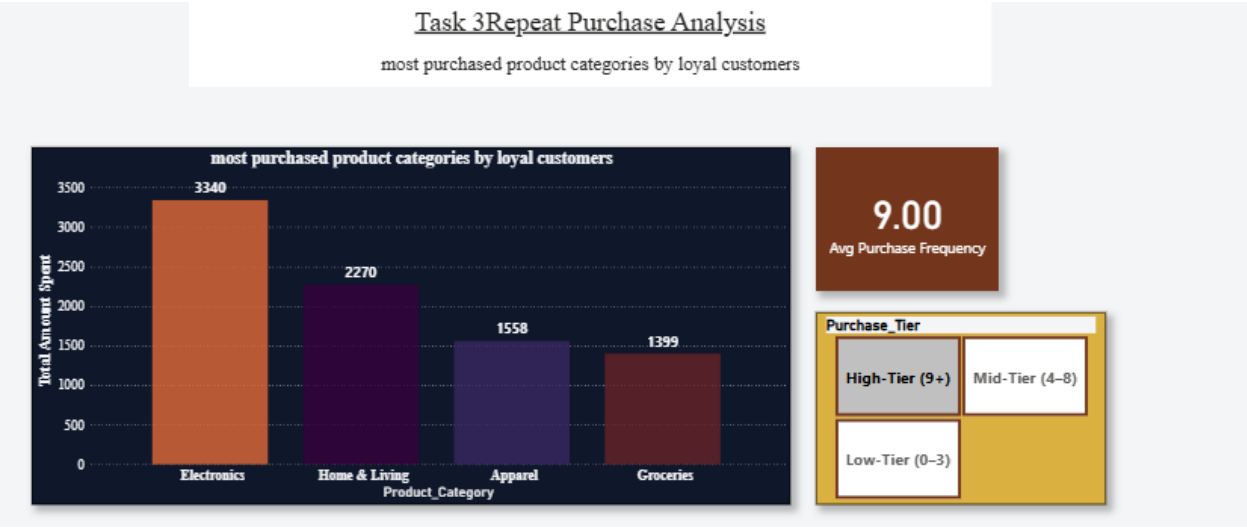
CALCULATING AVERAGE PURCHASE FREQUENCY



AGE GROUP :







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3) INSIGHTS :

a) **Avg Purchase Frequency by Region**:
This showed which regions had customers with higher repeat purchase behavior (e.g., West = 3.64, North = 3.52).
Action: East region requires targeted engagement campaigns or tailored offers to improve repeat purchase frequency.

b) **Avg Purchase Frequency by Age Group**:The treemap made it very evident that, in comparison to younger age groups, 56+ Seniors and 36–55 Core Families have higher rates of repeat purchases.
Action: Walmart's value and loyalty offerings are well-received by older customer groups;

retention initiatives should concentrate on preserving this trust while enhancing interaction with younger consumers.
This clearly highlighted that Seniors and Core Families had slightly higher purchase frequencies.

c) **Avg Purchase Frequency by Loyalty Tier:**
This comparison showed how purchase frequency varies across Basic, Plus, Premium, and Elite tiers.According to this comparison, customers in the Basic tier demonstrated moderate engagement, while those in the Plus tier had the highest average purchase frequency (3.49).
Action: By making Basic-tier members' benefits stronger, you can encourage them to move up to the mid-tier and raise overall rates of repeat business.

d) **Identifying Most Purchased Product Categories (Loyal Customers):**Electronics and Home & Living were the highest-grossing categories among high-tier customers.
Electronics and Home & Living were the most popular product categories among devoted consumers.
Action: Since electronics and home & living generate the most revenue from devoted customers, Walmart should concentrate its premium loyalty programs, special bundles, and targeted marketing efforts on these areas.

4) Result:

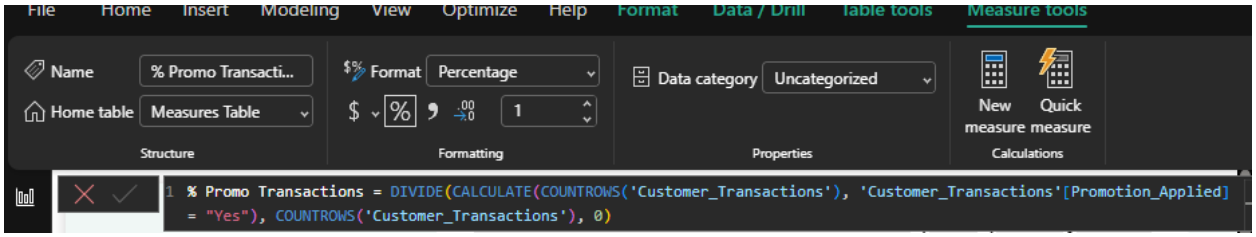
Following customer segmentation and purchase behavior analysis, the dashboard made it evident how various groups influence repeat business. Only a small percentage of customers were in the High-Tier (9+) segment, whereas the majority were in the Low-Tier (0–3 purchases) segment. Seniors and loyal-tier customers exhibited higher levels of engagement, while repeat purchase patterns differed by region, age group, and loyalty tier. Electronics became the most popular product category among devoted customers. All things considered, the analysis of repeat purchases yielded valuable information about which customer segments need more retention efforts and which are the most engaged.

Task 4 :Promotion & Loyalty Impact

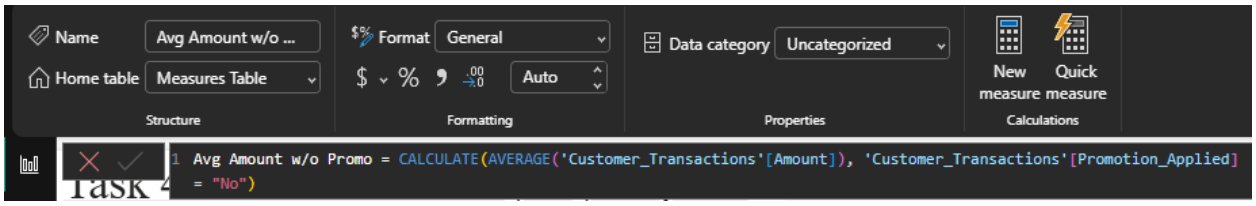
1) OBJECTIVE: This task's goal was to comprehend how loyalty tiers and promotions affect consumer behavior. The percentage of promotional transactions, spending patterns with and without promotions, churn rates across loyalty tiers, and the ratio of earned to redeemed loyalty points were all examined.

2) Steps Performed:

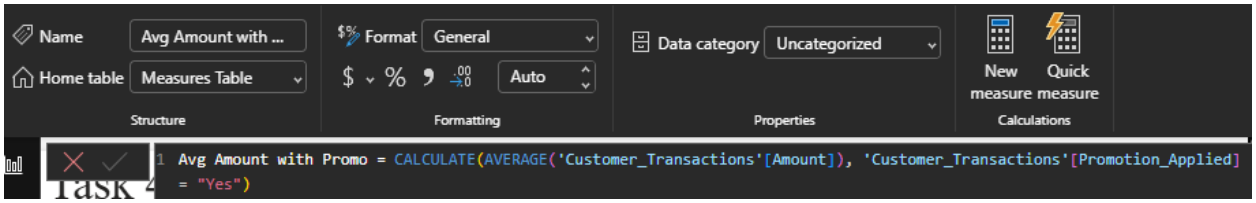
% of Transactions with Promotion Applied



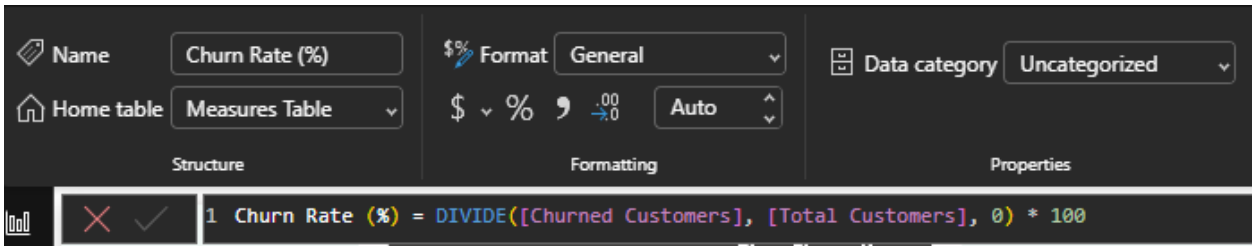
AVG PURCHASE AMOUNT WITHOUT PROMOTIONS

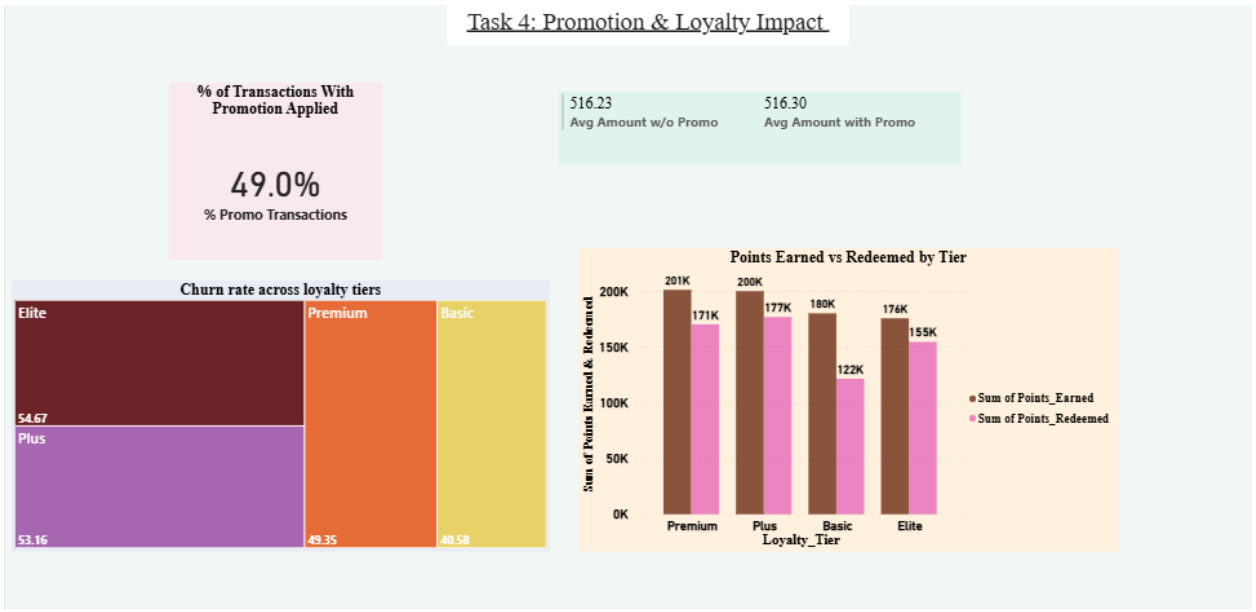


AVG PURCHASE AMOUNT WITH PROMOTIONS



CHRUN RATE





3) INSIGHTS/EXPLANATION :

a) **% of Transactions With Promotion Applied:**
This percentage was displayed using a Card visual, helping quantify promotion adoption across all transactions.More than half of the purchases involve Promotions , which tells us that

promotions play a major role in customer transactions .

b) **Avg Purchase Amount With vs Without Promotions:** Both values were displayed using a Multi-row Card**.**
Action: Although the purchase amount remains the same/identical for with and without promotion applied, this gives the interpretation that discounts/promotions do not increase the cart value. Hence, Walmart should mainly consider loyalty–driven discounts rather than random or flat discounts.

c) **Churn Rate Across Loyalty Tiers**: I visualized churn across loyalty tiers using a **Tree Map**, showing how each tier contributes to churn. This made it easier to see which loyalty tiers have the best customer retention.
Action: Loyalty tiers are effective because higher tiers (Elite, Premium) have much lower churn. Churn in those segments can be decreased by extending benefits to Basic and Plus tiers and stronger loyalty incentives.

d) **Points Earned vs Redeemed by Tier**: To get a clear picture, I used a clustered column chart, which it shows the gap between points earned & points redeemed in each tier.
Action: Basic-tire customers earn more points than they redeem, which tells us there is low engagement. Making this easier for the lower tires can improve retention.

4) Recommendations to Improve Redemption & Retention

Task 4: Promotion & Loyalty Impact
Recommendations to improve redemption & retention

1.Simplify Options for Reward Redemption (Aim for Low Tier Customers)
Customers in the Basic Tier frequently accrue points but never use them because it seems unattainable.
Action: Give users the ability to trade smaller point denominations for immediate benefits, such as 500 points for ₹50 off at the online and in-store checkout.
Reason: Users will be happier and more engaged when they realize that their points have actual value and can be exchanged right away.
Impact: The total value of the loyalty program for customers will rise as the number of "points redeemed" rises and the number of unredeemed points falls.

2. Provide Greater Value for Mid-Tier Members (Minimize Their Exit)
Research indicates that Basic and Plus tier members leave at a higher rate than Premium or Elite members (more churn).
Action: Convince them to upgrade to higher tiers by providing short-term Premium incentives i.e., free delivery for 3 months or double points for their next two purchases.
Why it works: These small "teasers" engage customers and pique their desire to move to a higher tier and spend more money.
Impact: Adds to how often customers shop (purchase frequency) and improves the retention rate in lower-tier level customers.

3. **Utilize Promotions as a Means of Loyalty Development, Not to Just Deliver a Discount**
If it's determined that customers spend roughly the same amount with or without promotions, it's clear that discounts do not genuinely drive growth.
Action: Instead of defaulting to a discount for 10% off, for example, you can reward customers with bonus points instead, especially triple points for a promotion on select dates.
Why this is beneficial: Customers are rewarded for their purchase, while at the same time developing future loyalty because they are able to earn more points than what they would regularly earn based on their purchases.
Impact: Additionally, customers are encouraged to increase their purchases, raises average spend, while coupling a short-term promotional activity into long-term retention..

In conclusion:
- Make points feel useful faster.
- Reward customers for staying active and upgrading.
- Use promotions to strengthen loyalty, not just cut prices.

5) RESULT:

This task has provided a clear understanding of customer behavior in context to promotions and loyalty programs.Promotions account for nearly half of all transactions. This is not leading to increased spend, as the mix of items purchased will not increase by promoting so-called higher-value items. Loyalty tiers exert some influence on churn, with higher tiers showing a greater retention rate, and higher points redemption activity volume. The analysis highlights the need for Walmart to optimize its loyalty program—making redemption easier, improving mid-tier benefits, and shifting promotions toward loyalty-driven incentives rather than pure discounts.

Task 5:Store & Channel Performance vs Retention :

1) OBJECTIVE : The goal of this task is to analyze the performance at store level and channel level by combining store attributes with transaction data .This includes the integration of store metadata with customer transactions, comparing average transaction amounts by store type, visualizing churn rate across store types, and looking at how store opening year correlates with customer retention.

2) Steps Performed:

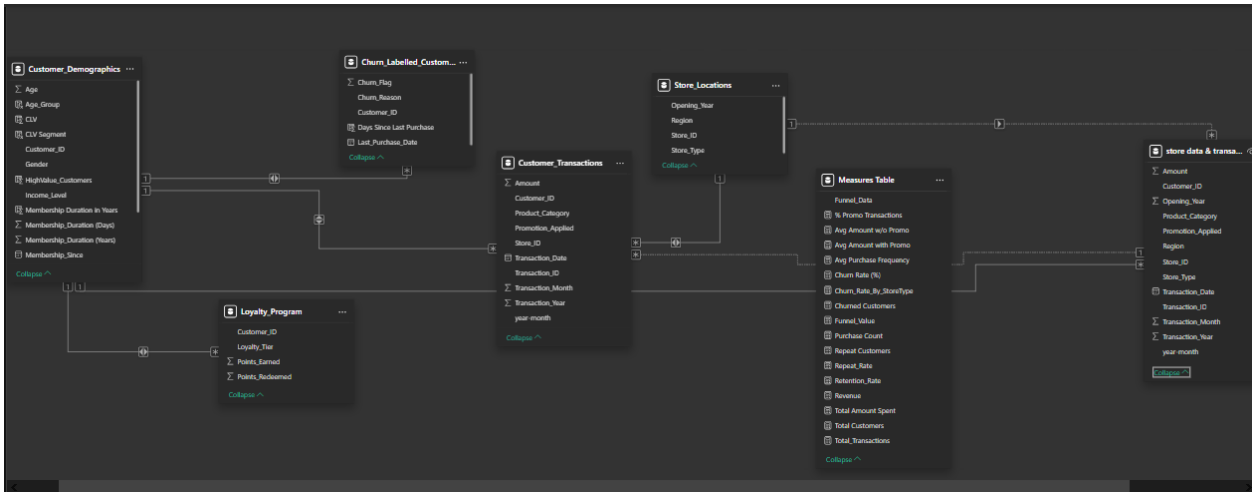
a) **Merge store data with transactions**:

Firstly, I combined Store_Locations with Customer_Transactions in Power Query to analyze performance at the store level. I used Store_ID as the join key.The merged dataset was then saved as a new table, "store and transactions," for clarity and reusability.

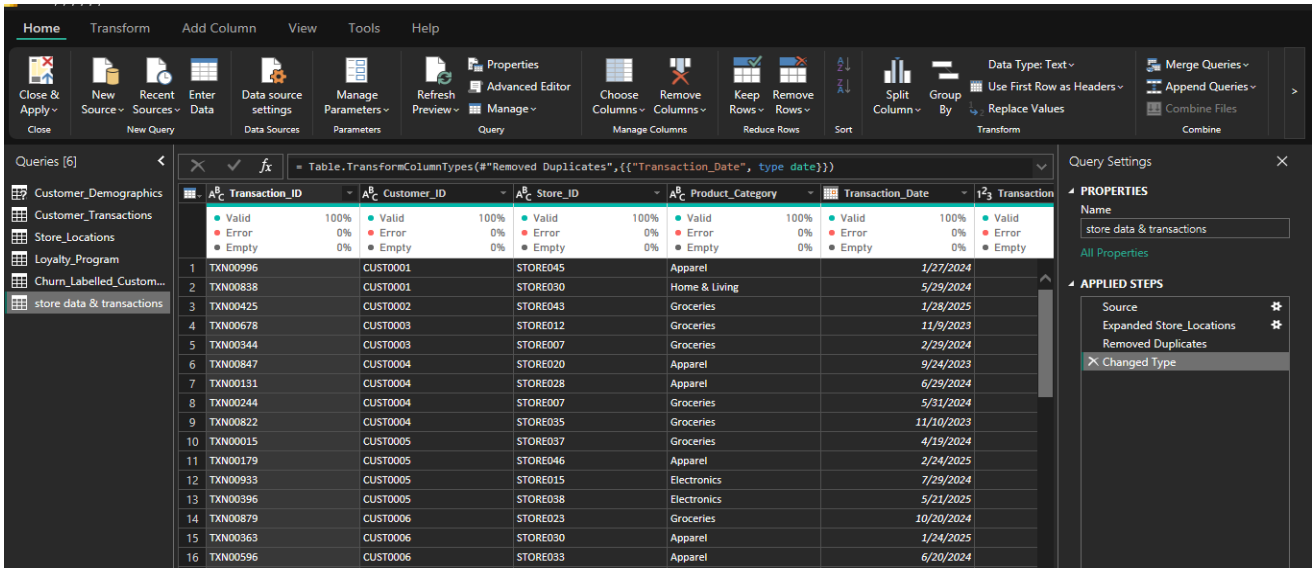
This new table allowed me to analyze store performance without repeatedly creating joins inside visual-level filters.

Action: The merged table offers a single view of the store characteristics and transactions, making analysis at the level of the store much easier to carry out.

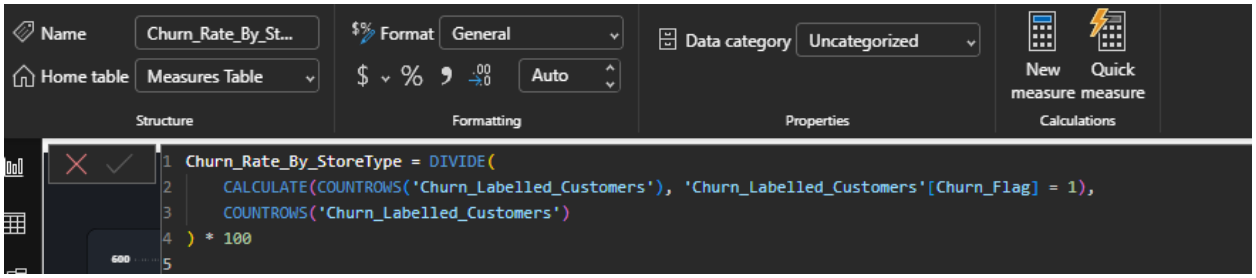
MODEL VIEW:



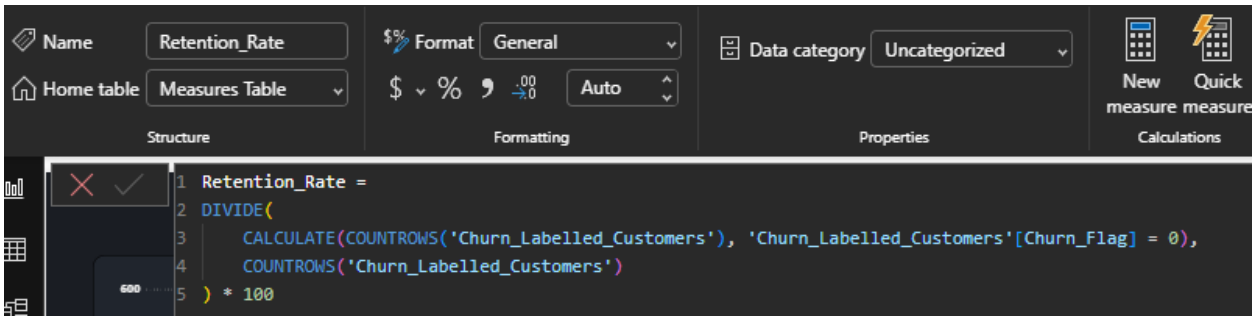
POWER QUERY :

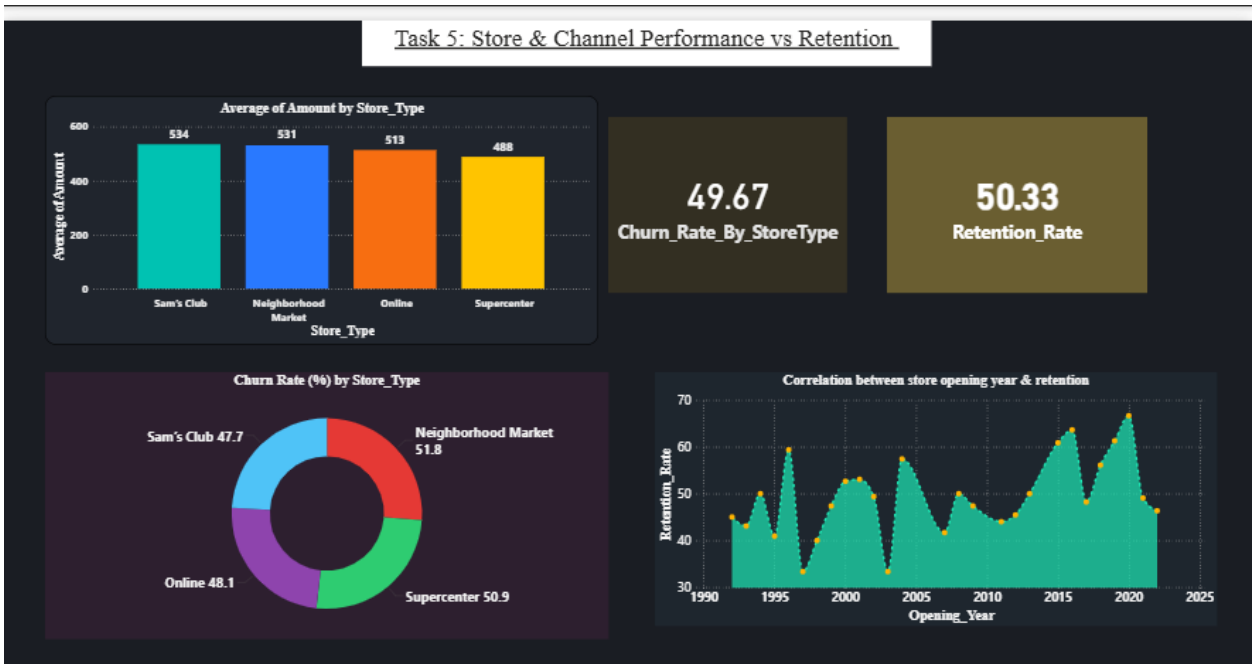


CHURN RATE BY STORE TYPE



RETENTION RATE:





3) INSIGHTS :

a) Visualize Avg. transaction amount by Store Type: From the merged table, I created a **Column Chart**:

- ***X-axis:*** *Store_Type*
- ***Y-axis:*** *Average of Amount*

As shown in the chart, average customer spend for each of the different formats of the stores (Sam's Club, Neighborhood Market, Online, Supercenters) demonstrated wide range in spending. **Action Item**: Sam's Club and Online stores had the highest average spending, Walmart should build on these formats for high-value offerings and memberships.

b) Visualize Churn rate by store type: This was visualized using:

- **Card Visual** showing the churn percentage
- **Donut Chart** with
  - ***Legend:*** *Store_Type*
    Values: *Churn_Rate_By_StoreType*.

As above, it was evident which store types had the highest level of customer churn.
Action: The Neighborhood Markets had the highest churn rate and should be targeted for improvement in service experience and customer loyalty incentives.

c) **Visualize Correlation between store opening year & retention:** I visualized this using an Area Chart

- ***X-axis:*** *Opening_Year*

  Y-axis: *Retention_Rate*

This analysis demonstrated how trends in customer retention differ based on the age of the store. **ACTION:** Newer stores have improved retention, whereas older stores have some jumpiness. Walmart should assess older stores for updates, layout optimizations, or improved customer service.

4) **RESULT:** The integration of store and transaction data and subsequent evaluation of key metrics revealed clear patterns of in-store performance and retention. Sam's Club and online stores had higher average spend (over $100) than Neighborhood Market, which had higher churn rates. Retention recommendations over time showed that newer stores retained a customer better than older stores. Overall, this analysis demonstrated the types of store formats that are performing well, and those that may require improvement.

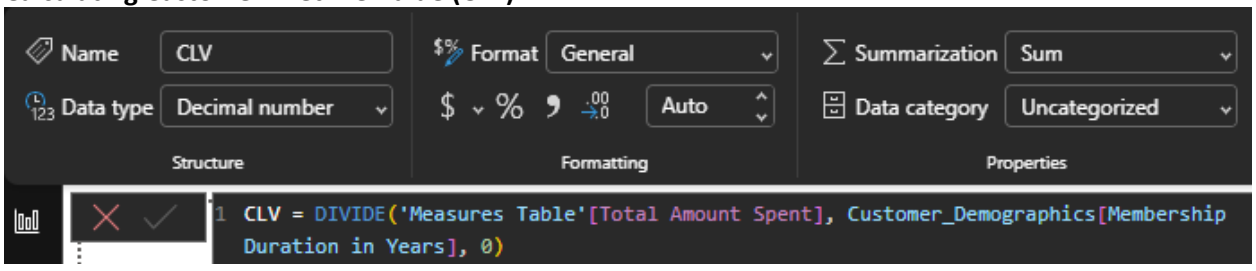
Task 6 :Customer Lifetime Value (CLV) Analysis:

1) **OBJECTIVE :** The goal of this exercise was to compute Customer Lifetime Value (CLV) based on the total spending of each customer and length of membership, to group customers into "high" CLV and "low" CLV groups, and see if we could visualize the relationship of CLV with inactivity among customers and the tiers of customer loyalty. This will help Walmart identify valuable customers and determine which customer segments contribute to long-run profitability.

2) **Steps Performed:**

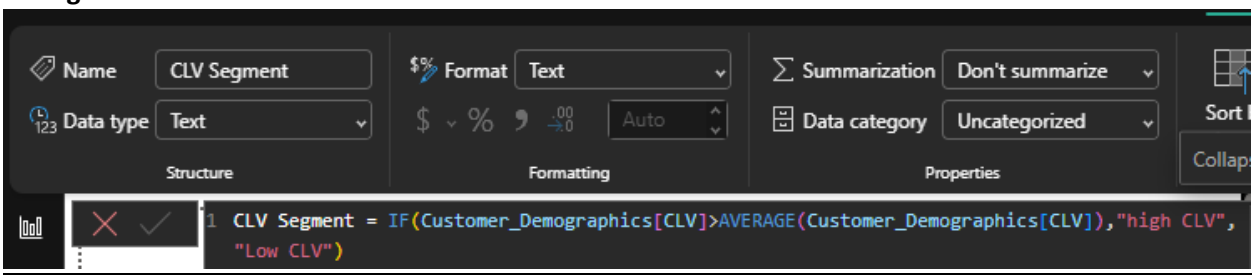
I created a calculated column CLV inside the *Customer_Demographics* table using:

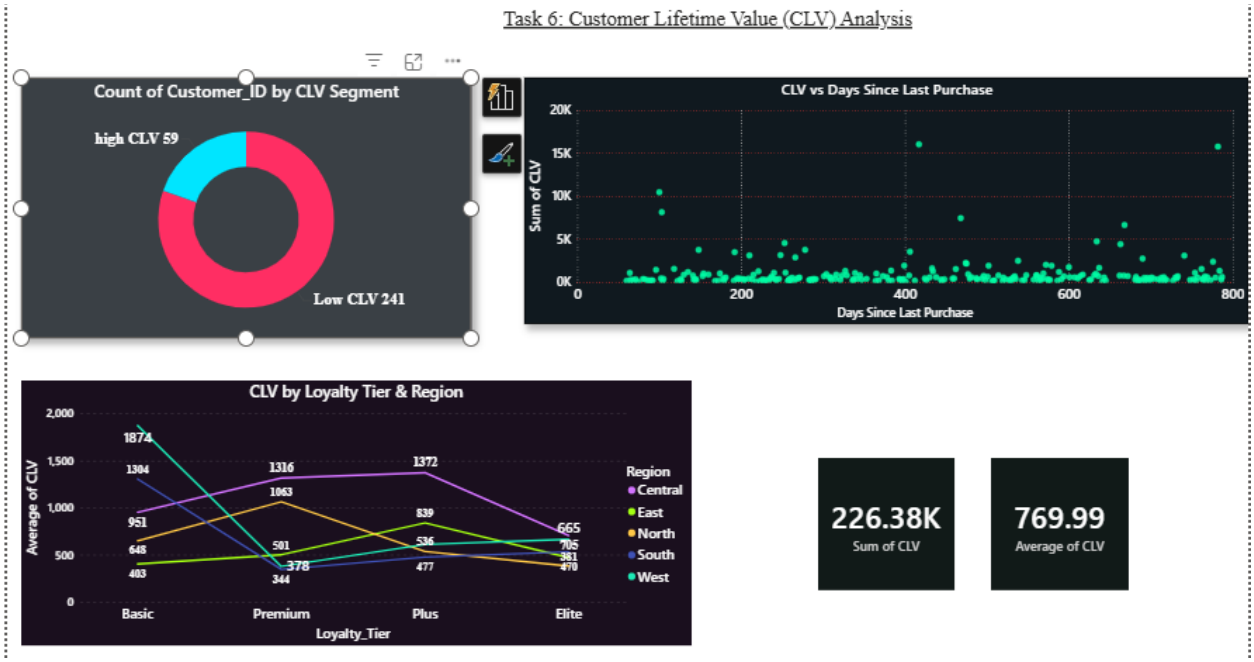
Calculating Customer Lifetime Value (CLV)



CLV gives a long-term perspective on customer value beyond single purchases

To segment customers based on CLV:





3) INSIGHTS:

a) Segment customers into Low, High CLV: A **Donut Chart** was used to visualize:

- ***Legend:*** *CLV Segment*
- ***Values:*** *Count of Customer_ID*

This explored how many customers fit into either the high or low CLV segments.
Action: Only a small group of customers fit within the "High CLV" segments, which tells us we need to focus on keeping these valuable customers.

b) Visualize CLV vs Days Since Last Purchase: To analyze value vs inactivity, I used the **scatter chart:**

- ***X-axis:*** *Days Since Last Purchase (from Churn_Labelled_Customers)*
- ***Y-axis:*** *Sum of CLV*

This examined whether high-value customers were becoming inactive customers
Action: A number of high-CLV customers had long gaps of inactivity; we should devote resources to keep these customers engaged.

c) **Visualize CLV by Loyalty Tier & Region :** To understand performance across loyalty categories and geography, I used a Line Chart:

- ***X-axis:*** *Loyalty_Tier*
- ***Y-axis:*** *Average CLV*
- ***Legend:*** *Region*

This visual depicted differences in customer lifetime value for both loyalty tiers and regions.
Action: CLV for Premium and Elite tiers looks very strong in some regions, thus regional loyalty strategies should be tailored.

4) **RESULT:**

High CLV customers: 59
Low CLV customers: 241
Sum of CLV: 226.38K
Average CLV: 769.99

The scatter plot revealed that some high-value customers had long intervals since their last purchase, thus they are a potential churn risk.The comparison of CLV across loyalty tiers revealed that Premium and Plus customers from the Central and North regions are the most valuable.

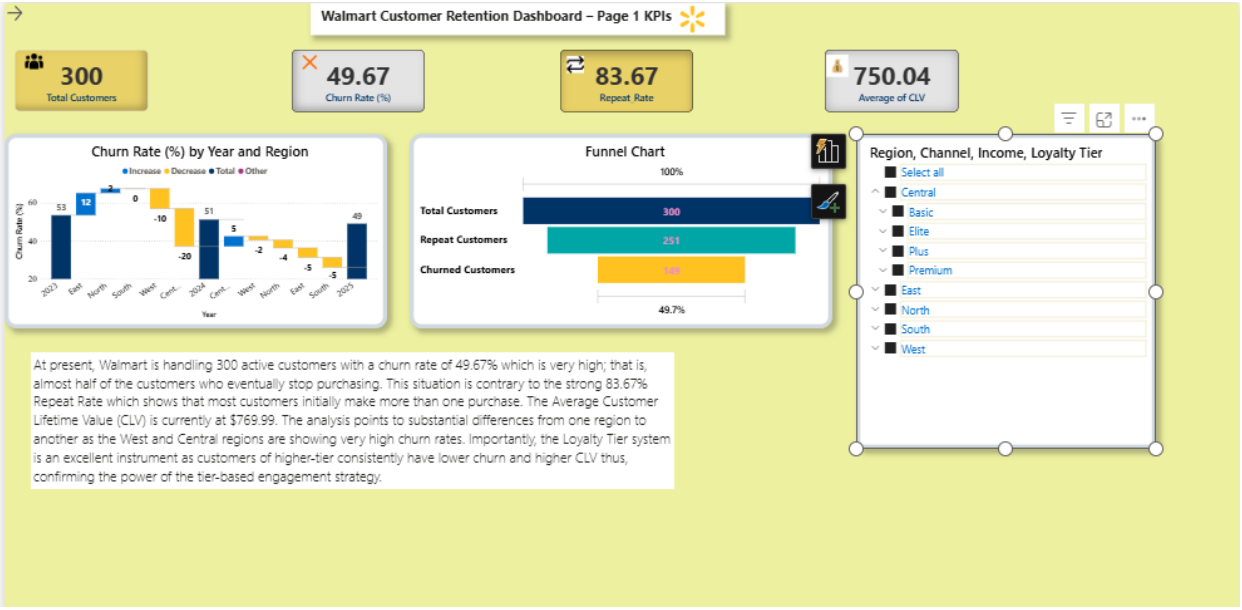
This task helped in identifying which customers are the main sources of long-term value and which segments need targeted retention efforts.CLV segmentation revealed that only a small fraction of customers contribute significantly to the company's revenue, while the analysis of regions and loyalty tiers made it possible to locate the areas for strategic investment. In summary, CLV analysis provides Walmart with a solid base to launch personalized retention campaigns, loyalty program improvements, and revenue optimization plans.

Task 7 : Final Dashboard & Executive Summary

OBJECTIVE : Task 7's objective was to create a fully functional, multi-page Power BI report that visually communicates all KPIs, charts, and insights derived from the previous tasks.

PAGE 1: KPIs (Churn, CLV, Repeat Rate)

1. **OBJECTIVE:** The first page concentrates on the main customer retention KPIs and, besides that, through an executive summary, it gives to the decision-makers a very brief concept of the customer health at Walmart.



2. **<u>INSIGHTS :</u>**

The first page of the dashboard was meant to be the top-level summary page. The following KPI's used:
These KPIs are the wedges of the current customer retention performance at Walmart.
In order to visually describe the flow of retention, a funnel chart was used:

Total Customers → Repeat Customers → Churned Customers

There was also a Churn Rate by Year & Region visualization in the form of a waterfall chart to portray the changes in the churn rate across the regions on a yearly basis.
To enable interactive filtering across all pages, I included slicers for:

- *Region*
- *Channel*
- *Income Level*
- *Loyalty Tier*

By using these slicers, users can access specific customer segments and observe how KPIs vary across different demographics and channels.

<u>SUMMARY:</u> Walmart keeps about 300 active customers currently, and has a churn rate of 49.67%, which means that almost half of the customers are those who have not purchased for some time.
The Repeat Rate is 83.67%, which means that there is strong repeat behavior but still a high proportion of customers who eventually churn.
The Average CLV is 769.99, which means that the average customer is responsible for about $770 over their membership duration.
After regional filtering, one can see that there are quite a few differences in churn between the regions.
The West & Central regions show significantly higher churn.
Loyalty tiers have a big influence on retention: customers in higher tiers always demonstrate lower

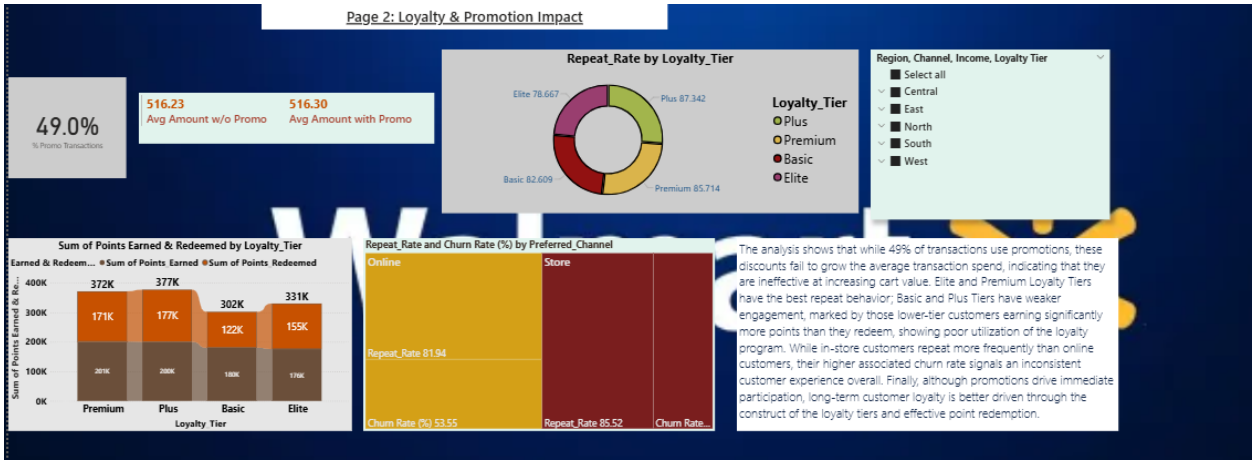
churn and higher CLV, thus loyalty program is confirmed as a valuable one.

Overall: Walmart has a strong repeat purchase pattern but they are struggling with long-term retention. There is a substantial potential to raise CLV and lower churn by implementing tier-based loyalty strategies, engaging regions more effectively and running targeted retention programs.

3. **RESULT :** Page 1 effectively combines essential KPIs with an executive narrative that decision-makers can easily understand Walmart's customer health at a glance.
   The interactive slicers enable the immediate drill-downs into the specific customer segments while the summary box clearly and professionally connects the insights.

PAGE 2 : Loyalty & Promotion Impact

1. **OBJECTIVE :**Page 2 focused on the analysis of Walmart's loyalty tiers and promotional strategy in driving customer behavior, mainly repeat purchases, churn reduction, and points redemption patterns. This helps Walmart understand whether promotions drive real value and how loyalty tiers influence long-term retention.



2. **INSIGHTS:**

   a) **% of Transactions Using Promotions** : A Card visual was then added for the DAX measure that displays the percentage of transactions where customers used promotions. This KPI sets up how dependent customers are on promotional benefits.

   b) **Average Purchase Amount – With vs Without Promotions:** I used a Multi-row Card visual to present:

   - *Avg Amount w/o Promo*
   - *Avg Amount with Promo*

These measures help make decisions on whether promotions increase purchase value or just discount customer behavior with no uplift.

c) **Repeat Rate by Loyalty Tier:** A **donut-style multi-ring visual** was added to compare repeat purchase behavior across loyalty tiers:

- *Elite*
- *Premium*
- *Plus*
- *Basic*

This infographic reveals how loyalty programs drive repeat purchases. This exposes gaps in loyalty engagement and redemption behavior.

d) **Points Earned vs Redeemed:** A Stacked Column Chart was used to compare:

- *Sum of Points Earned*
- *Sum of Points Redeemed*

This carefully reveals that there are discrepancies in the loyalty and the redemption parts of the behavior.

e) **Repeat Rate & Churn Rate by Preferred Channel :** A Treemap visual shows Repeat Rate and Churn Rate for:

- *Online customers*
- *Store customers*

It additionally reveals what effect each channel has on customers when it comes to loyalty and which of these channels are more prone to losing customers.

f) **Slicers :** A unified slicer panel was added for:

- *Region*
- *Channel*
- *Income Level*
- *Loyalty Tier*

In this way individuals have the possibility to change filters on the board in real-time and assess the effect of loyalty or promotions on different segments of customers.

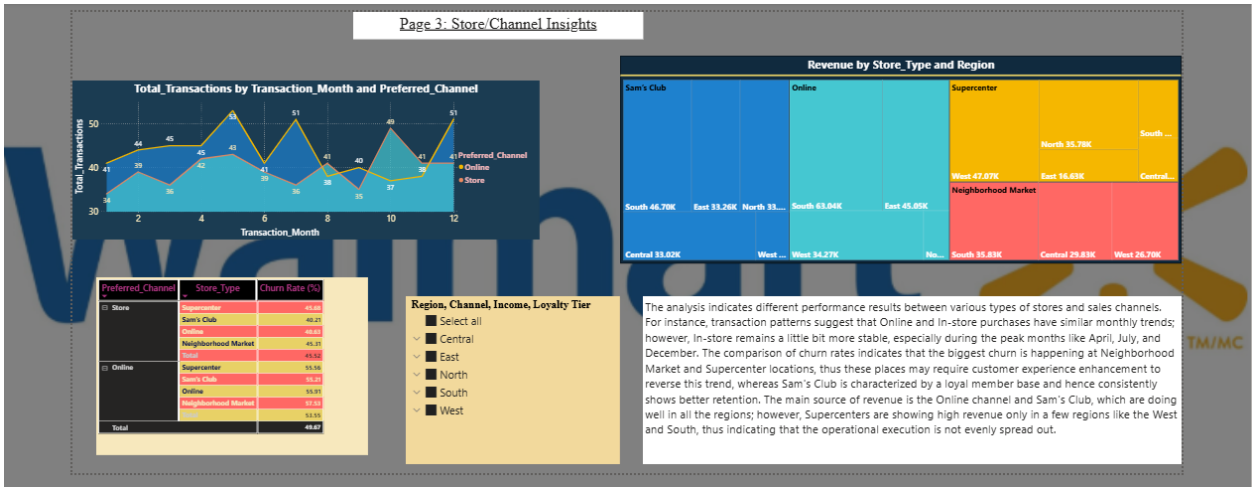
SUMMARY: The analysis reveals that while promotions are present in 49% of transactions, the average transaction amount remains the same, thus these promotions are quite ineffective in terms of cart value.

The Elite and Premium Loyalty Tiers are characterized by the best repeat behavior whereas Basic and Plus Tiers are weaker in terms of their engagement with the loyalty program. Lower-tier customers, in particular, earn significantly more points than they redeem, which is an indication of the poor utilization of the loyalty program.The customers who shop in-store are more loyal than those who buy online, however, their higher churn rate is indicative of an overall inconsistent customer experience.On the other hand, customer loyalty will remain intact if the customers will be given loyalty tier upgrades and will experience better point redemption rather than being continuously subjected to promotions.

3. **RESULT:** Page 2 clearly illustrates that the strongest factor for customer loyalty is actually loyalty tiers—the very opposite of what is generally believed, that is, promotions.Promotions are the ones to be indulged in by most of the customers, but they fail to increase the customer spending and reduce the customer churn.Customers from lower-tier segments accumulate a lot of loyalty points but conversely very few are redeemed, thus there is an indication of loyalty program-related difficulties.In general, this page offers Walmart a number of steps to take in order to not only fortify its loyalty system but also to keep customers through non-discount-based strategies.

PAGE 3 : Store/Channel Insights

1. **OBJECTIVE :** Page 3 was aimed at local and channel-level performance evaluation by diving deep into transaction trends, store-type churn behavior, and revenue distribution across regions. With this page, Walmart gets to know the contribution of different store formats and sales channels to customer activity, churn, and revenue generation.



2. **INSIGHTS:**

a) **Total Transactions by Month & Preferred Channel:** A Line Chart was added to compare monthly transaction counts for:

- *Online Channel*
- *Store Channel*

They can use this picture to find out the seasonal trends, the months in which there is a peak, and the differences in purchase activity between channels.

b) Churn Rate by Store Type (Store vs Online): A Matrix visual was used to show churn rate for each:

- *Store Type (Supercenter, Sam's Club, Online, Neighborhood Market)*
- *Preferred Channel (Store vs Online)*

It gives a very explicit division of which are the places where churn is the highest and which store formats have retention problems.

c) Revenue by Store Type & Region: A **T**reemap visual was used with:

- *Category: Store_Type + Region*
- *Values: Total Revenue (Sum of Amount)*

It indicates the store formats that bring in the most revenue as well as the differences in performance of various regions.

d) Slicers: Similar to previous pages, slicers were added to allow interactive filtering:

- *Region*
- *Channel*
- *Income Level*
- *Loyalty Tier*

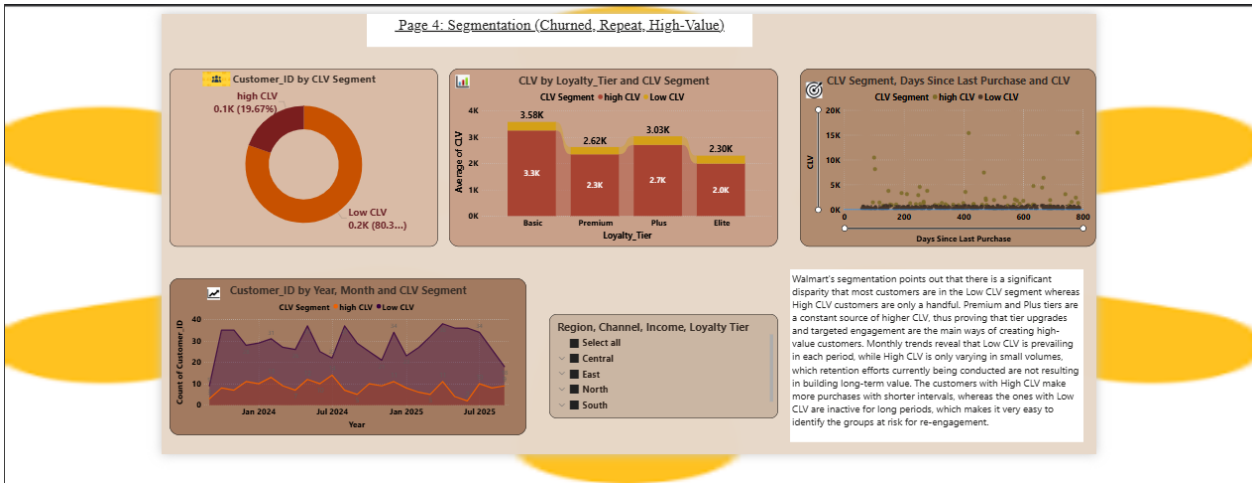
This is how detailed drill-down analysis for store/channel performance is made possible.

SUMMARY : The findings show different performance results based on store types and sales channels. The transaction patterns show that Online and In-store purchasing are similarly spikey across months, but In-store transactions are very slightly more stable, particularly in peak months like April, July and December.
Analysis of churn rate indicates that both Neighborhood Market and Supercenter locations have the highest churn, indicating an opportunity to improve the customer experience at these formats. Concerning the Sam's Club format, it has consistently shown lower churn rates, suggesting more loyal members, and that the in-store experience is more robust.
Revenue analysis indicates that Online and Sam's Club are consistently the highest revenue-generating source in all regions and while Supercenters are also a strong revenue source in certain regions (the West and South), they are not a steady revenue-generating store in all regions.
In summary,
Online and Sam's Club drive strong revenue and a stable performance. However, Neighborhood Market and Supercenter stores will need to be addressed for improvement opportunities. The insights provide a clear opportunity for Walmart to improve consistency store-level operational execution, reduce churn and improved in-store experience within the under-performing store format and regions.

3. **RESULT:** Page 3 lays out Walmart's store and channel performance and indicates which store formats provide solid results and contribute to churn.The findings suggest that Online and Sam's Club locations outperform other formats consistently while Neighborhood Market and some regions of Supercenter need action for improvement in operations.This page gives a clear direction for store level strategy, region planning, and pinpoint retention strategies.

PAGE 4 : Segmentation (Churned, Repeat, High-Value)

1. **OBJECTIVE:** Page 4's objective was to segment customers of Walmart based on their Customer Lifetime Value (CLV) and find the patterns that loyalty tiers, purchase timelines, and inactivity levels create. This page is useful for Walmart to locate their high-value customers, get the low-value behavior insight, and spot at-risk segments that are hard to retain, thus, sending them retention campaigns.



2. **INSIGHTS:**

a) **Customer Segmentation by CLV:** A Donut Chart was produced from the CLV Segment column (High CLV vs Low CLV). The graph gives a glance at the discrepancy between value segments and points out the proportion of the customer base that falls into each category.

b) **CLV by Loyalty Tier and CLV Segment:** A Clustered Column Chart was added to compare:

- *Average CLV*
- *Across Loyalty Tiers (Basic, Premium, Plus, Elite)*
- *Divided by High CLV vs Low CLV segments*

This is useful in figuring out how loyalty tiers affect customer value and at which point Walmart should concentrate the work of their upgrading and engaging by customers.

c) Customer Count by Year/Month and CLV Segment: A Line & Area Chart tracks:

- *Monthly customer counts*
- *Segmented into High CLV and Low CLV groups*
- *Across multiple years*

This image is about long-term value trends and is a revelation for whether Walmart is growing its high-value customer pool or not.

d) CLV vs Days Since Last Purchase: A Scatter Plot compares:

- *CLV (Y-axis)*
- *Days Since Last Purchase (X-axis)*
- *Segmented by CLV Segment*

It is simple to spot those customers who are at risk by means of this data: The cluster of Low CLV customers is at high inactivity values, whereas the High CLV customers demonstrate shorter gaps between purchases.

e) Slicers : A unified slicer panel was added for:

- *Region*
- *Channel*
- *Income Level*
- *Loyalty Tier*

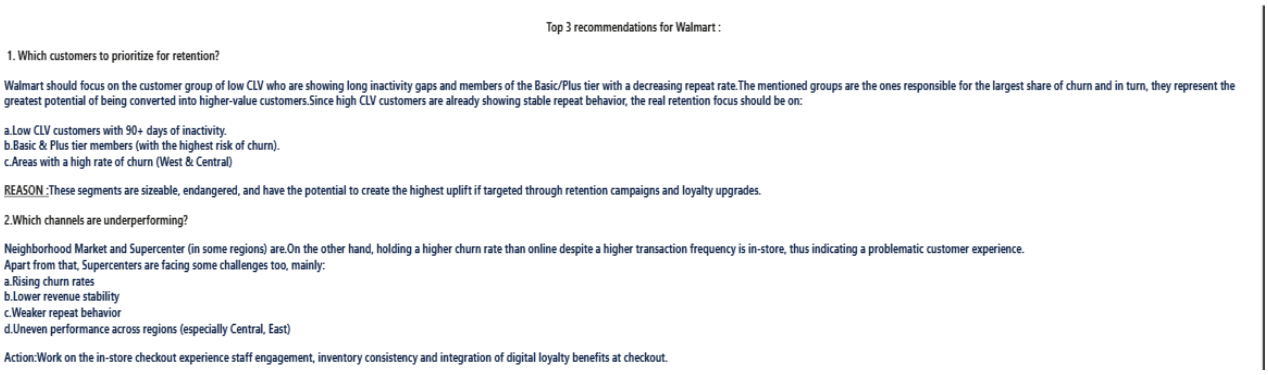
Here one can also cross-filter to find out how different customer attributes reflect on CLV behavior.

SUMMARY : The segmentation analysis underlines a clear split between the high-value and low-value customer segments of Walmart. The majority of customers belong to the Low CLV segment, while only a minority forms the High CLV group, indicating that there is a need to grow the high-value base. Analyzed by loyalty tier, higher tiers such as Premium and Plus demonstrate stronger CLV performance, with the Basic tier overrepresenting low-value customers. This directly reinforces the importance of tier upgrades and targeted loyalty engagement.
In the timeline view of customer counts, it can be observed that Low CLV customers constantly dominate, whereas High CLV customers vary month to month but remain low in volume. This reflects the fact that although there is some retention going on, it is not heavily increasing the high-value customer pool over time.The scatter plot comparing Days Since Last Purchase vs CLV shows that customers who have higher CLV tend to make more frequent purchases and fewer long gaps between transactions, while low CLV customers cluster toward longer inactivity periods. It's from this pattern that one can easily identify at-risk groups for re-engagement campaigns.

Overall:Most customers generate low lifetime value, while the share of truly high-value customers

remains very small. The loyalty tier performance, purchase frequency, and inactivity duration all speak to a strong need for proactive reactivation campaigns, loyalty upgrades, and personalized retention strategies to extend Walmart's high-value customer base and reduce churn.

f) Top 3 recommendations for Walmart :



Top 3 recommendations for Walmart :

1. Which customers to prioritize for retention?

Walmart should focus on the customer group of low CLV who are showing long inactivity gaps and members of the Basic/Plus tier with a decreasing repeat rate.The mentioned groups are the ones responsible for the largest share of churn and in turn, they represent the greatest potential of being converted into higher-value customers.Since high CLV customers are already showing stable repeat behavior, the real retention focus should be on:

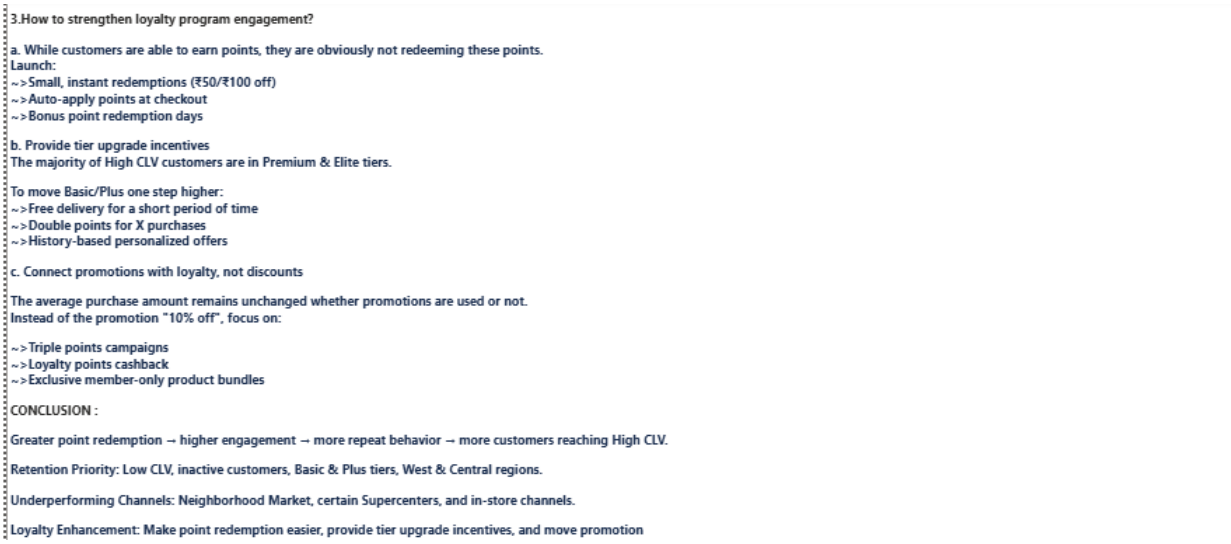
a.Low CLV customers with 90+ days of inactivity.
b.Basic & Plus tier members (with the highest risk of churn).
c.Areas with a high rate of churn (West & Central)

REASON :These segments are sizeable, endangered, and have the potential to create the highest uplift if targeted through retention campaigns and loyalty upgrades.

2.Which channels are underperforming?

Neighborhood Market and Supercenter (in some regions) are.On the other hand, holding a higher churn rate than online despite a higher transaction frequency is in-store, thus indicating a problematic customer experience.
Apart from that, Supercenters are facing some challenges too, mainly:
a.Rising churn rates
b.Lower revenue stability
c.Weaker repeat behavior
d.Uneven performance across regions (especially Central, East)

Action:Work on the in-store checkout experience staff engagement, inventory consistency and integration of digital loyalty benefits at checkout.



3.How to strengthen loyalty program engagement?

a. While customers are able to earn points, they are obviously not redeeming these points.
Launch:
~>Small, instant redemptions (₹50/₹100 off)
~>Auto-apply points at checkout
~>Bonus point redemption days

b. Provide tier upgrade incentives
The majority of High CLV customers are in Premium & Elite tiers.

To move Basic/Plus one step higher:
~>Free delivery for a short period of time
~>Double points for X purchases
~>History-based personalized offers

c. Connect promotions with loyalty, not discounts

The average purchase amount remains unchanged whether promotions are used or not.
Instead of the promotion "10% off", focus on:

~>Triple points campaigns
~>Loyalty points cashback
~>Exclusive member-only product bundles

CONCLUSION :

Greater point redemption → higher engagement → more repeat behavior → more customers reaching High CLV.

Retention Priority: Low CLV, inactive customers, Basic & Plus tiers, West & Central regions.

Underperforming Channels: Neighborhood Market, certain Supercenters, and in-store channels.

Loyalty Enhancement: Make point redemption easier, provide tier upgrade incentives, and move promotion

RESULT : Page 4 does an excellent job in highlighting Walmart's customer value distribution and determines the drivers behind High and Low CLV behavior The insights make evident that loyalty tier upgrades, frequent engagement, and targeted reactivation campaigns are the necessary strategies to be undertaken for increasing the number of high-value customers and reducing churn in low-value segments. The segmentation provides Walmart with an actionable framework to focus its attention and personalize marketing towards strategic growth of the customer's lifetime value.

Task 8 : Video explanation: Expressing the finding and actionable insights

LINK :

Retail Customer Retain Analytics - Walmart.mp4