

# Customer Churn

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# What is Customer Attrition?

Customer attrition, or churn, is when customers stop doing business with a company.

- Importance: High attrition rates can significantly impact a company's revenue and profitability.

## Why Customers Churn:

- Poor customer service.
- Better offers from competitors.
- Lack of engagement or perceived value.



# ***Data Segregation***

- Numerical columns: 'Churn', 'Tenure', 'CityTier', 'WarehouseToHome', 'HourSpendOnApp', 'NumberOfDeviceRegistered', 'SatisfactionScore', 'NumberOfAddress', 'Complain', 'OrderAmountHikeFromlastYear', 'CouponUsed', 'OrderCount', 'DaySinceLastOrder', 'CashbackAmount'
- Categorical columns: 'PreferredLoginDevice', 'PreferredPaymentMode', 'Gender', 'PreferedOrderCat', 'MaritalStatus'], dtype='object'

# **Data PreProcessing**

- 'PreferredLoginDevice`, `Mobile Phone` and `Phone` is merged into one category
- `PreferredPaymentMode`, `Credit Card` and `CC` is merged into one category
- `PreferedOrderCat`, `Mobile Phone` and `Phone` is merged into one category
- For missing values in Numerical Columns, we replace the NULL values with mean.
- And for categorical columns we used OneHotEncoder.

# ***Training the Models***

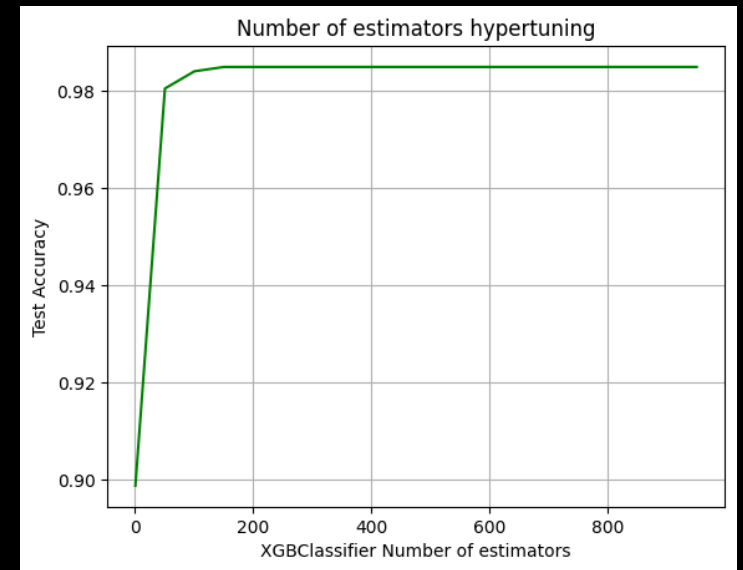
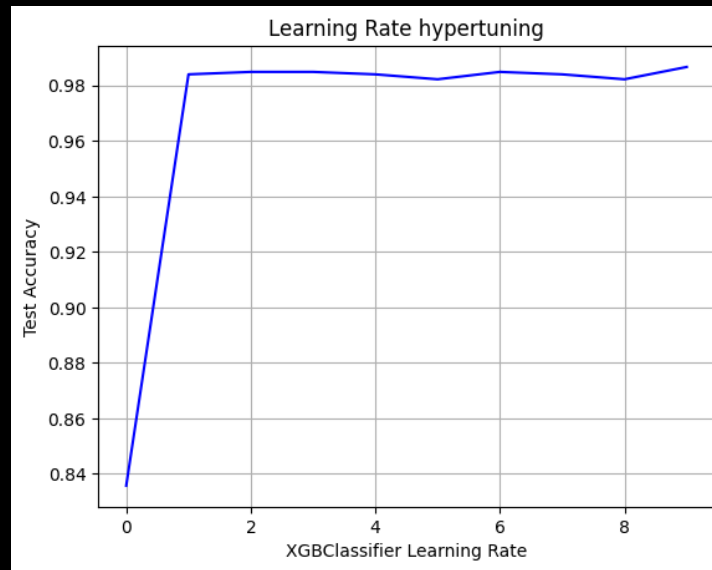
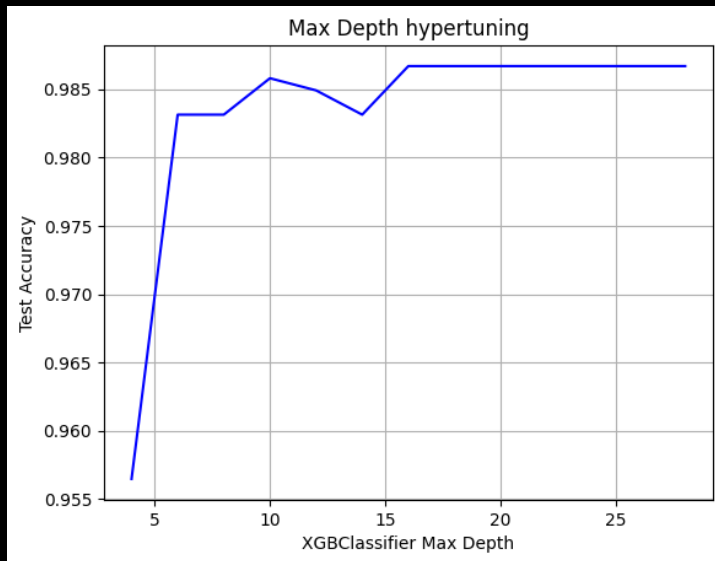
## **Basic Model**

- Logistic Classifier: 91% Test Accuracy

## **Complex Model**

- Decision Tree Classifier: 97% Test Accuracy
- XGB Classifier: 98% Test Accuracy

# Hypertuning the XGB parameters



After hypertuning XGB Classifier params, we use the optimal values:

- max\_depth: 16
- eta: 0.4
- n\_estimators: 400

# Retention Strategies

## Personalized Retention Strategies:

- Targeted offers and loyalty rewards for at-risk customers.
- Customized communication and engagement plans.

## Customer Segmentation:

- Segment customers based on churn risk to tailor marketing efforts.





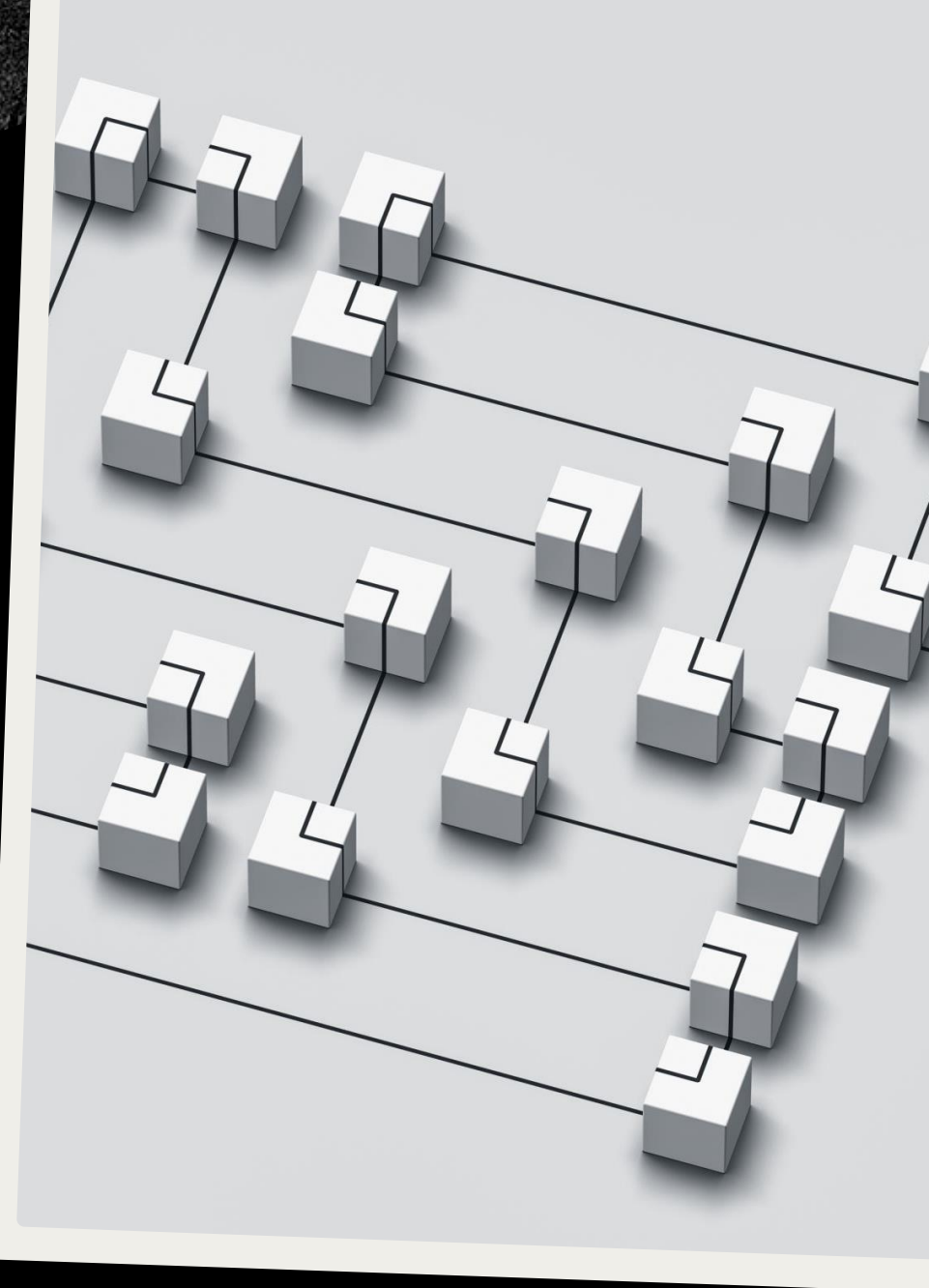
# Implementation and Next Steps

## Implementation:

- Integrate the predictive model into Loblaw's Digital's customer management system.
- Develop a feedback loop to update the model with new data.

## Next Steps:

- Continuous model refinement.
- Further research on effective retention strategies.







***Thank you***