**Customer Churn Prediction Report**

**Executive Summary**

This report presents the results of a customer churn prediction model using the Logistic Regression algorithm. The goal of this analysis is to help the company understand and predict customer churn to develop effective strategies for customer retention.

**Data Overview**

**Dataset:** The given dataset “customer\_churn\_large\_dataset.xlsx” is used in the prediction of customer churn.

**Data Preprocessing**

**Data Cleaning:** [Describe any data cleaning steps, such as handling missing values.]

**Feature Engineering:** [Explain any feature engineering performed, including encoding categorical variables or scaling numerical features.]

**Model Building**

**Algorithm Used:** Logistic Regression

**Training and Testing Data Split:** The dataset was split into training and testing sets 80% and 20% respectively.

**Model Training:** [Explain the training process, including any hyperparam tuning.]

**Model Evaluation:** [Discuss the evaluation metrics used, such as accuracy, precision, recall, F1-score, and ROC-AUC.]

Results

**Model Performance:** [Provide an overview of the model's performance, including accuracy and other relevant metrics.]

**Confusion Matrix:**

[Confusion Matrix Values]

**Classification Report:**

[Classification Report Metrics]

**Key Findings**

[Highlight the most important insights and findings from the model.]

[Identify significant features or factors contributing to customer churn.]

**Recommendations**

Retention Strategies: [Provide recommendations for strategies to reduce customer churn based on the model's findings.]

**Conclusion**

In conclusion, this customer churn prediction model using Logistic Regression provides valuable insights into understanding and predicting customer churn. By implementing the recommended retention strategies, the company can potentially reduce churn and improve customer satisfaction.