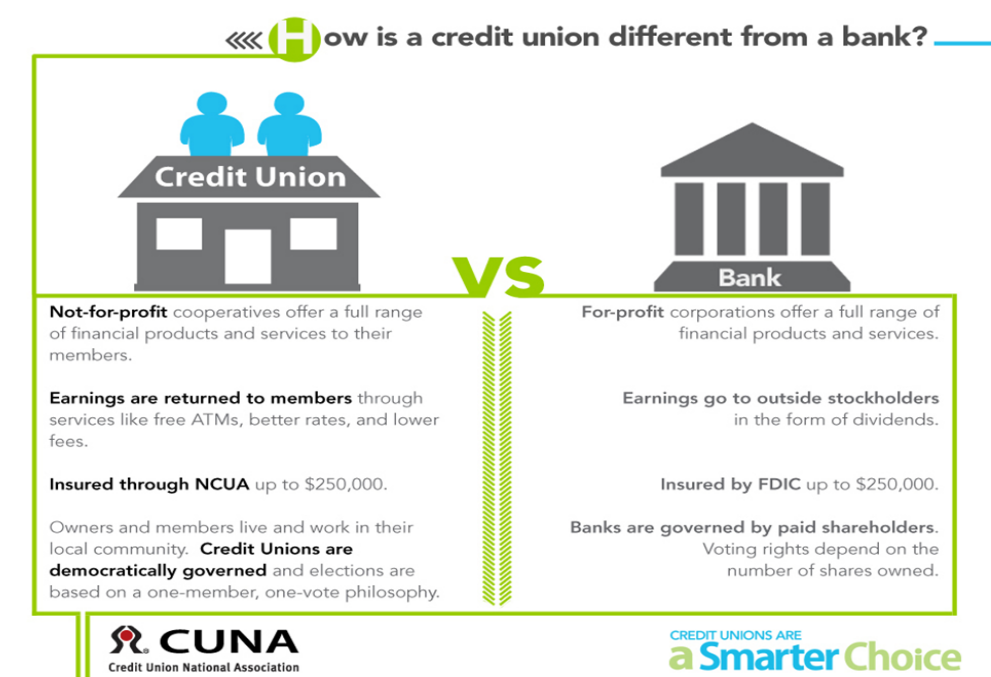# Sound Credit Union — Churn/No Churn

Introduction

Sound Credit Union (SCU) is one of the largest credit unions in Washington State. SCU serves 140,000 members at 29 full-service branches and online. As a credit union, any earnings that SCU makes are passed on to its members. As a result, credit unions face high rates of churn (the rate of attrition or members leaving). This is due to several factors including but not limited to the number of competitors, members' ability to substitute products, membership restrictions, etc.
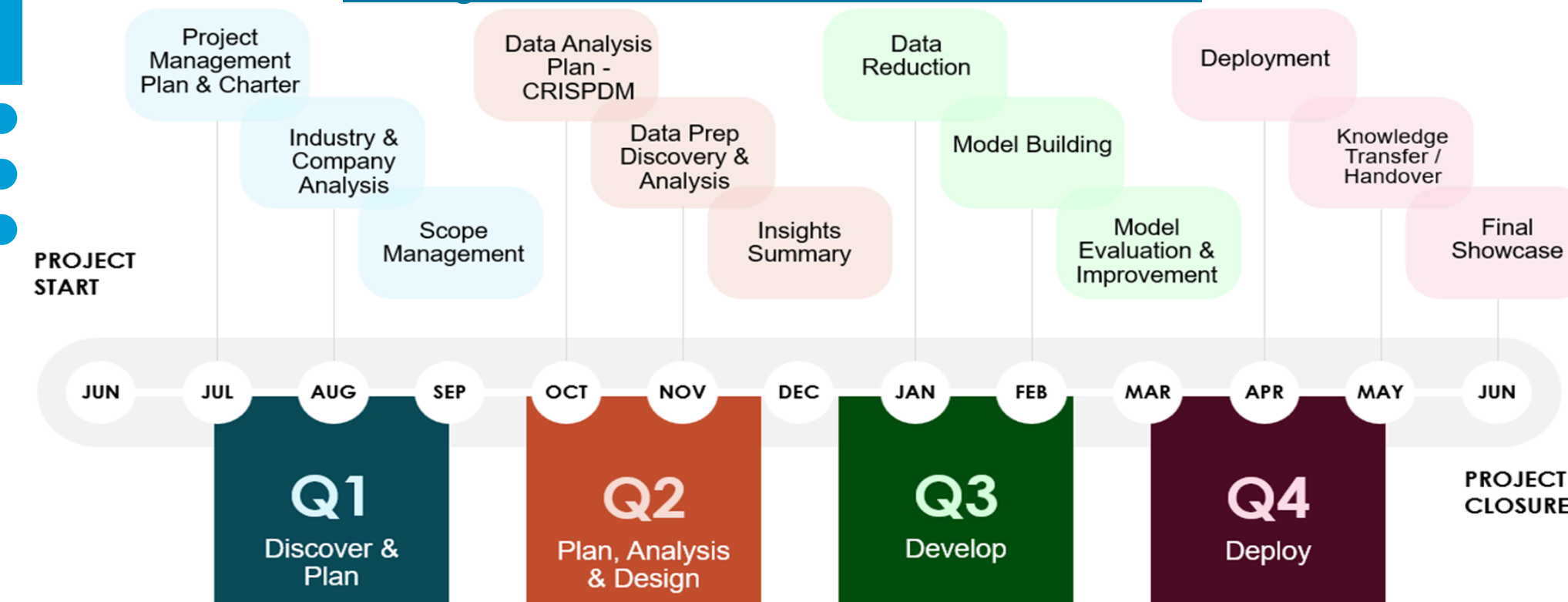
Challenges & Opportunities

- Identify significant variables that indicate a potential member who may churn.
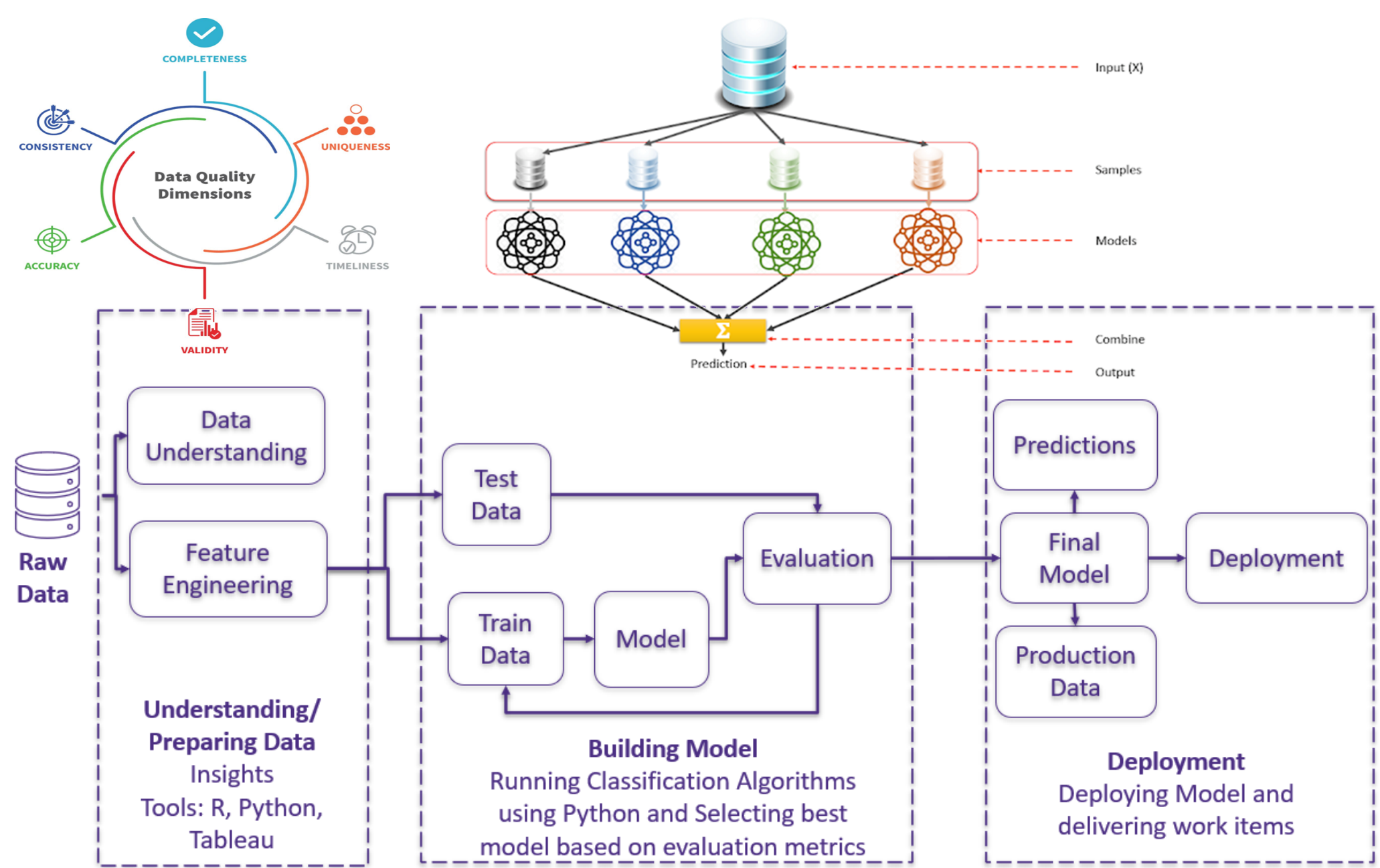- Build predictive model that identifies potential churn members via previous patterns.

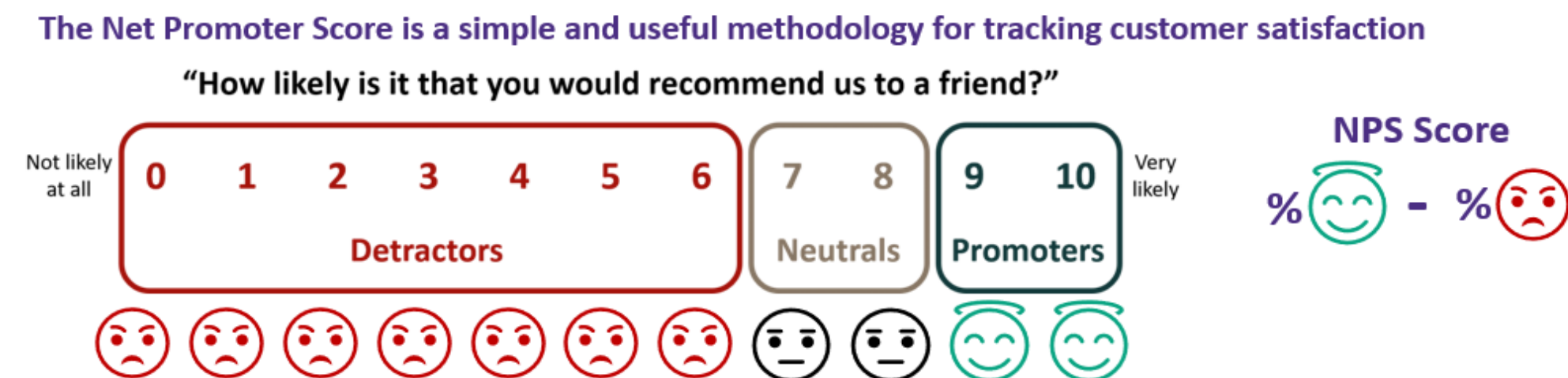|		
40%	Newly acquired customer leave before attaining profitability.	
$300+	Average acquisition cost for a new customer.	
1-2%	Net income loss for each point of customer attrition.	
2 or more years	For an FI to achieve profitability on the typical retail consumer.	

Project Execution Timeline

Analytics Components & Work-Flow Diagram

Understanding/ Preparing Data
Insights
Tools: R, Python, Tableau

Building Model
Running Classification Algorithms using Python and Selecting best model based on evaluation metrics

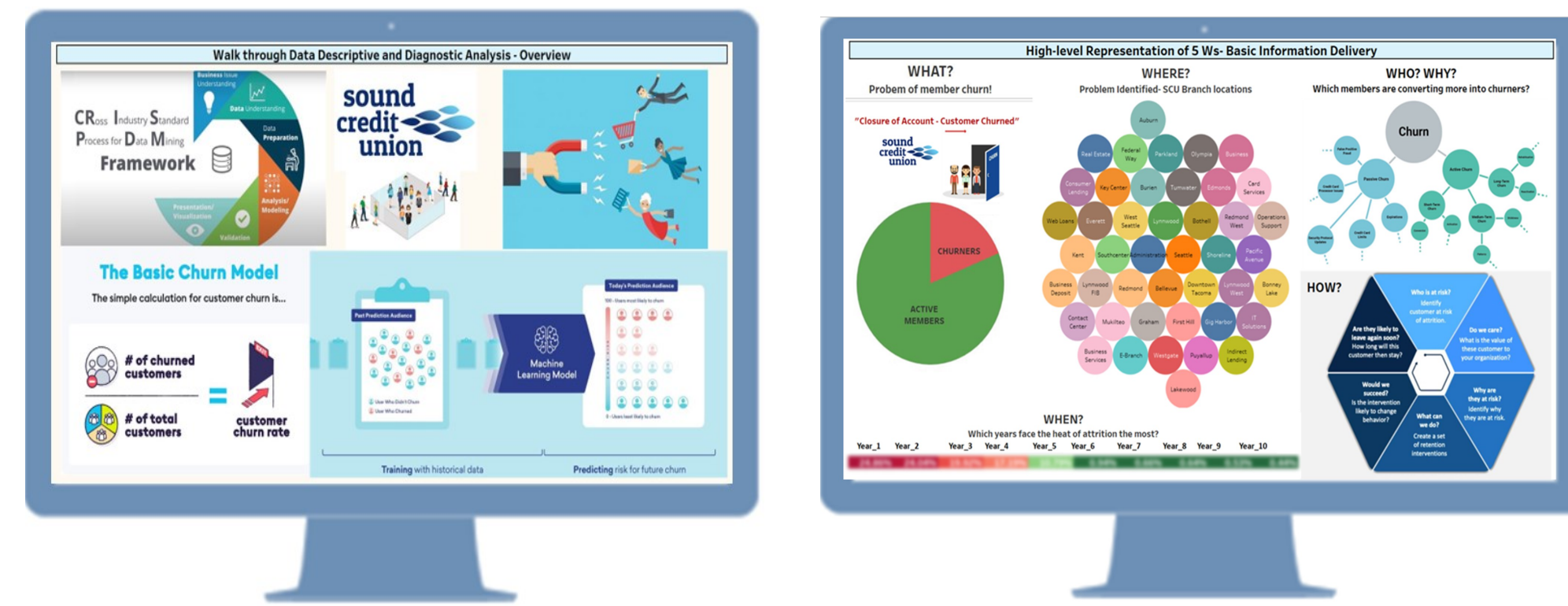Deployment
Deploying Model and delivering work items

Descriptive & Diagnostic Analysis

- During the Descriptive Analytics phase our goal was to explore the data, detect outliers and identify associations between variables using R.
- Using survey data for SCU, we mapped Net Promoter Score data to primary dataset.

The Net Promoter Score is a simple and useful methodology for tracking customer satisfaction

"How likely is it that you would recommend us to a friend?"

- We were able to see the distribution of the data and make visuals through Tableau.

- Determining the most significant variables for churn prediction, solution is carried into 2 models for loan account holders and savings accounts holders.
- Using member transaction behavior, we could refine the model for better predictive power.

Predictive & Prescriptive Analytics

TOP 2 MODELS : PERFORMANCE EVALUATION: SAVINGS DATA
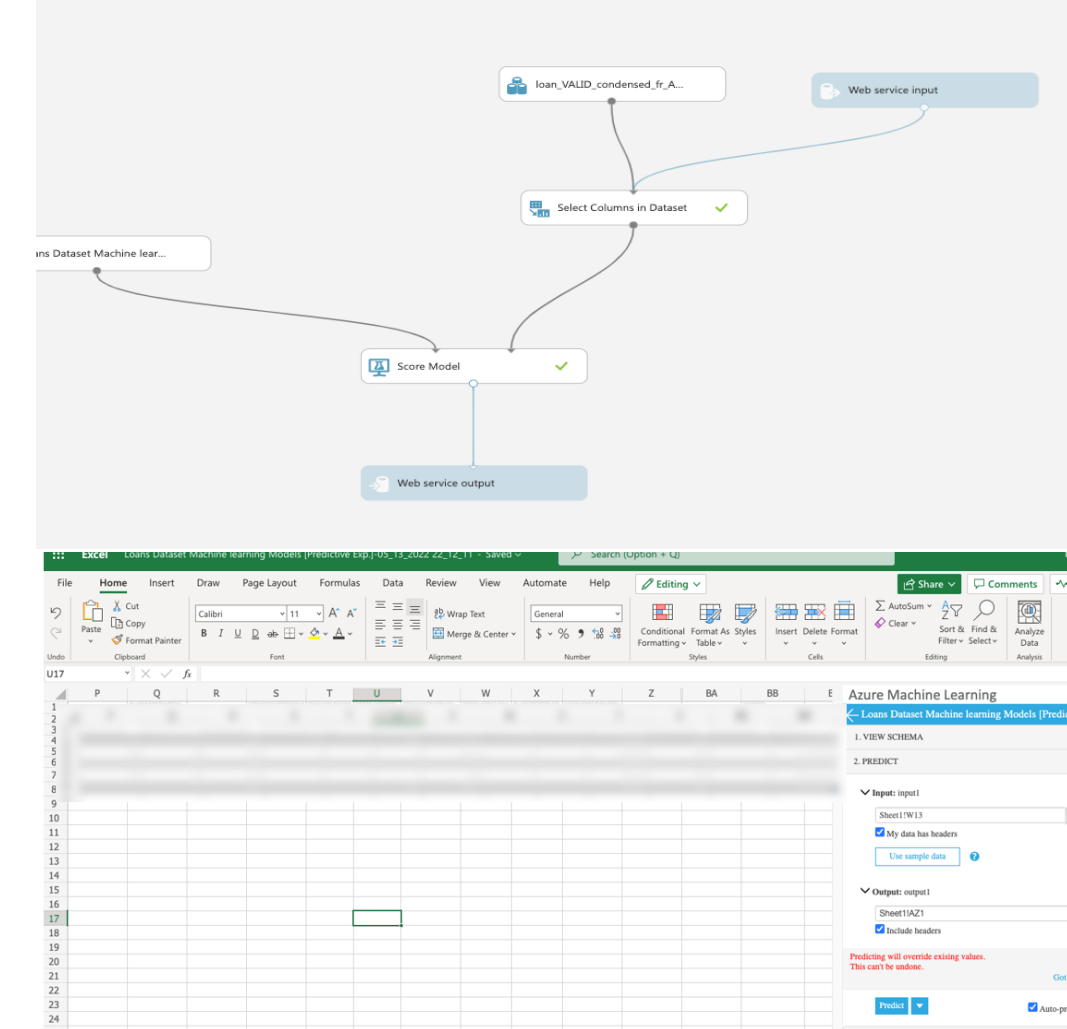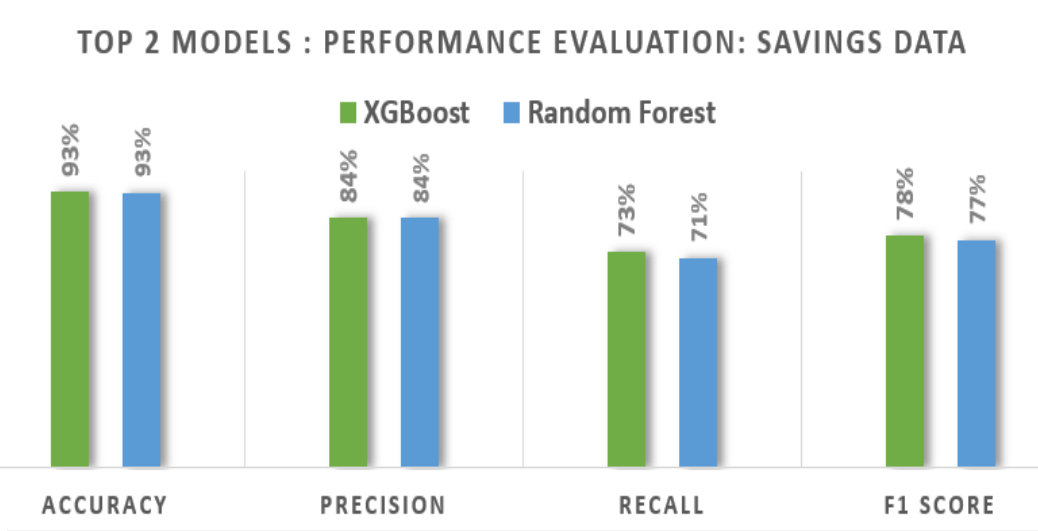
- Modeling was carried out using Python and deployed via Azure ML services.
- Shape Graph below shows importance level for the most significant variables.
- Final models were having 93% accuracy and 84% precision which are the success measure metrics for the churn analysis. Hyper-tuning was performed to enhance model performance.

Team 7

Check us out on LinkedIn to know more about us and connect with us scanning the barcode!
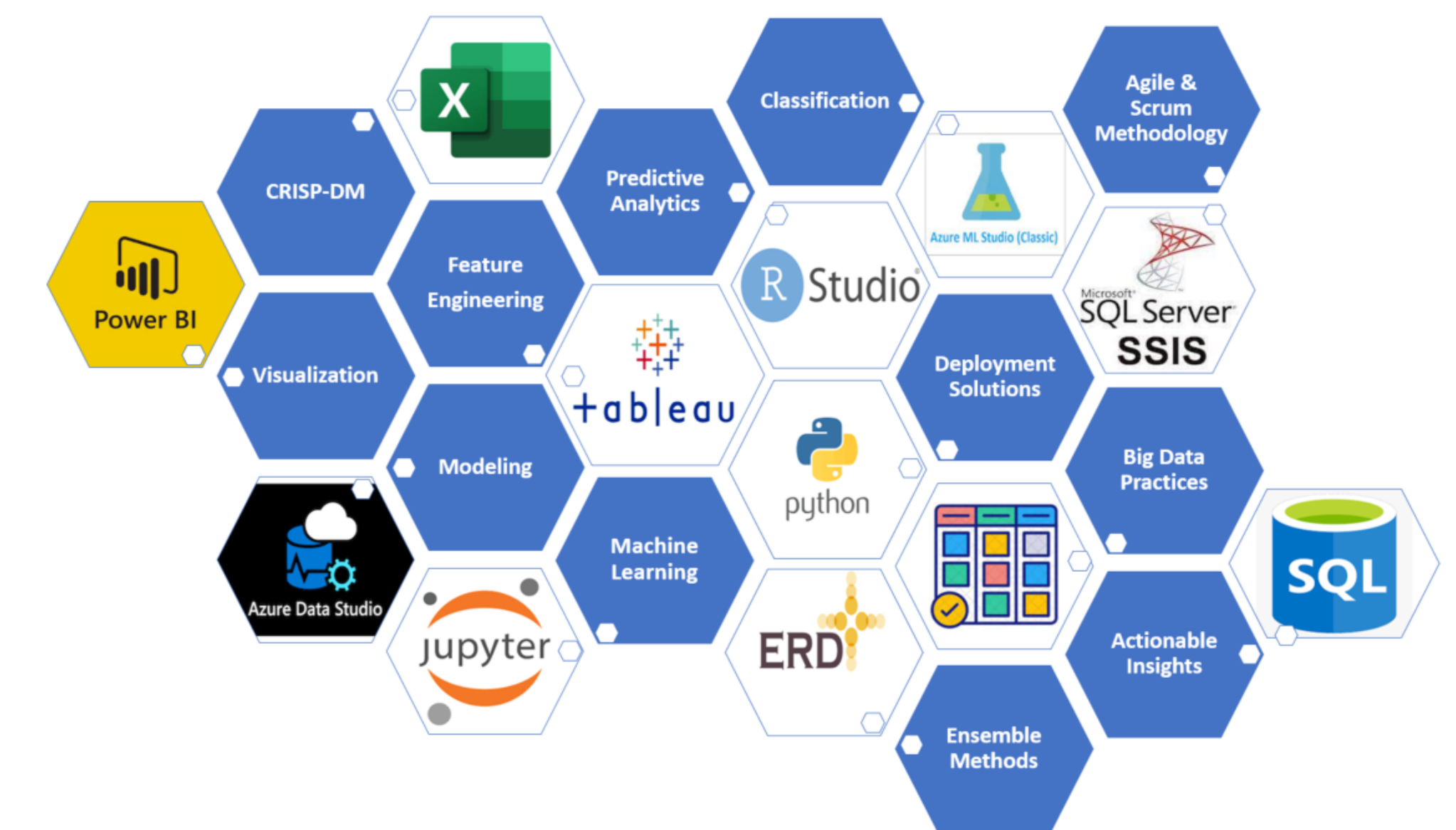

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Tools, Methods & Platforms Used

Solutions & Recommendations

Based on model predictions, SCU can retain potential churners by taking actions like providing best offer recommendations to improve CLV i.e., Member/Customer Lifetime Value, performing RFM analysis and increasing member satisfaction validating SCU's mission *'Standing with you through all waves of life'*.

1. Relevant offers for SCU members based on their needs and segments

2. Enhancing member's experience at SCU by providing next best offer suited for them

3. Increase member satisfaction and decrease attrition rate