

Company Overview

Providence St. Joseph Health is a health system with 51 hospitals, 829 physician clinics, senior services, supportive housing and many other health and educational services. Providence is committed to improving the health of the communities it serves, Providence employs more than 119,000 caregivers serving communities across Alaska, California, Montana, New Mexico, Oregon, Texas and Washington. The Providence St. Joseph Health family of organizations works together to meet the needs of and advocates for its communities, especially those who are poor and vulnerable.

Project Scope

Providence St. Joseph Health is grappling with record low levels of customer satisfaction with their internal IT services. Providence employees – referred to as caregivers – are upset with a variety of issues from the IT department, including lack of training, long turnarounds for service ticket inquiries, and overall lack of addressing ongoing IT issues. The MSBA team will work to provide analysis that will help Providence St Joseph Health achieve overall increases in caregiver satisfaction as well as a means to continue monitoring success for long-term analysis.

Materials and Methods

Analytics Techniques:

Descriptive, Diagnostic, Predictive and Prescriptive

Analysis Performed:



Project Objectives

1. The MSBA team will use survey data to create baseline Key Performance Metrics (KPIs) for IT Customer Satisfaction
2. The MSBA team will use IT ticket data to create a model that will analyze IT ticket information and predict time to resolve issue.

Executive Survey - Descriptive and Diagnostic Analytics

IS Customer Satisfaction Dashboard

Responses by Region

Team Region

Establish Baseline KPIs:

- Average Business Understanding Score
- Average Overall IS/IT Score
- Average Sentiment Score

The MSBA team chose these 3 KPIs to establish a baseline of what is the current opinion of IT among executive leadership and their team.

Sentiment Analysis:

Our sentiment analysis showed that despite the relatively high average scores on a scale of 1-5, the sentiment analysis score was comparatively low. From the analysis we discovered this was because when describing issues in an open ended question people had many issues with IT department in general. However, they usually had positive experiences working with some people in the IT department which led to high average scores.

**Some metrics and axis data have been removed to protect confidential information*

Sentiment Analysis Region Breakdown

IT Ticket Data - Predictive and Prescriptive Analytics

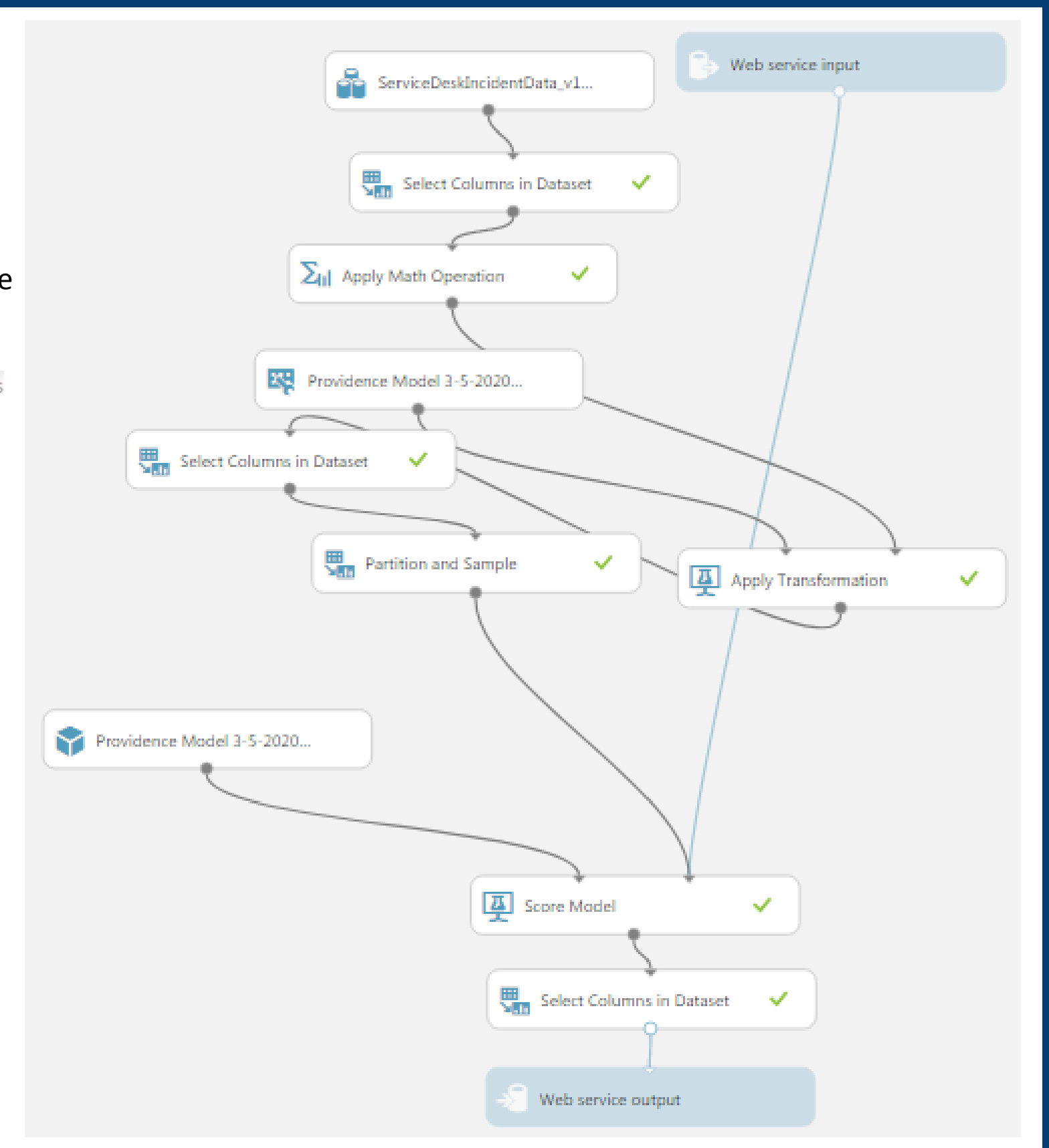
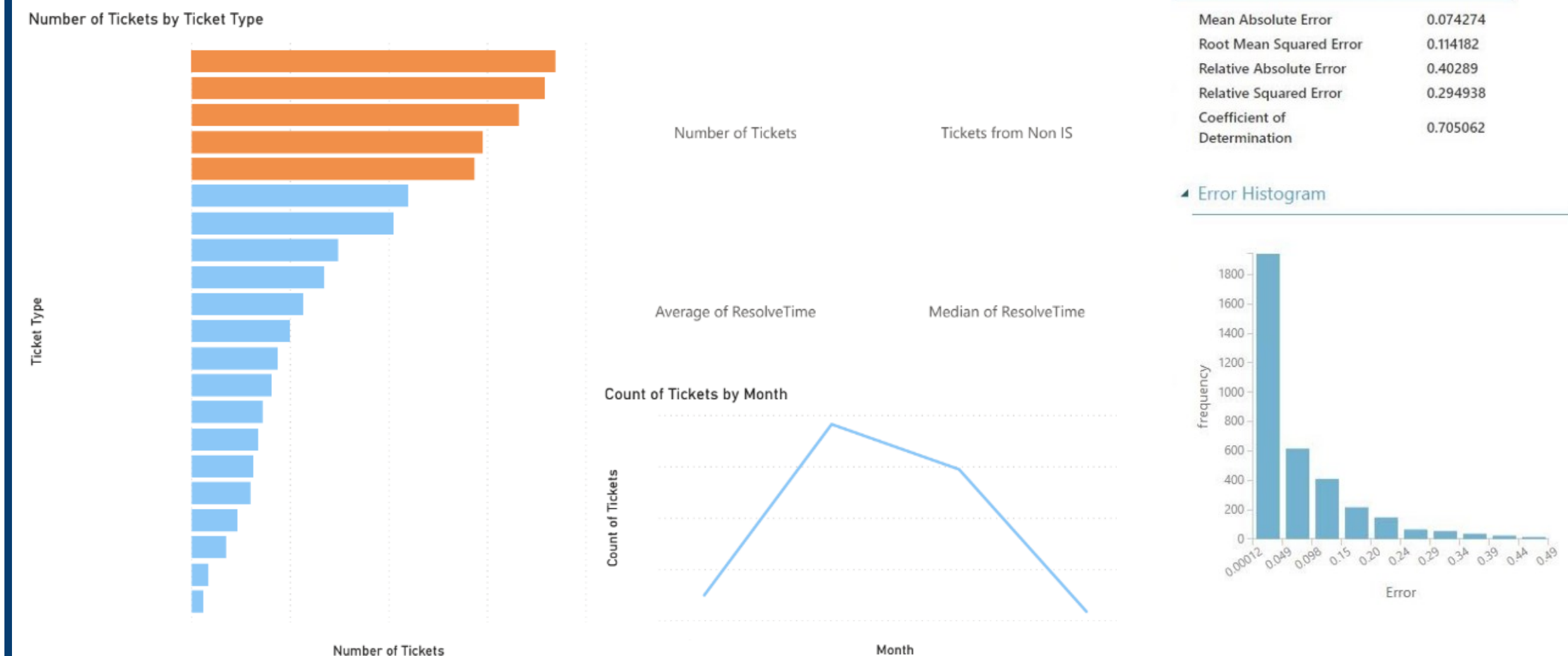
Boosted Tree Regression Model:

From this model we discovered that who the ticket is assigned to is the biggest factor in resolve time.

Deployment:

The MSBA team will give Providence an Excel file with the deployed model that will allow them to input the selected variable from future IT tickets that are submitted and give a predicted time to resolve. An excel file would be the best method of deployment because it will allow Providence to track this real time on their existing Power BI dashboards.

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Recommendations

Based on the analysis the MSBA team did over the last year we have the following recommendations:

- Providence should repeat surveys on a yearly basis to determine how the baseline KPIs have shifted after initiatives to improve IT issues have been complete.
- Provide caregivers a timeframe for expected solution to their issue using the predictive model if the issues can't be solved on the call. In addition, provide a tracking system for service tickets so caregivers are aware of the status of their ticket which will give caregiver peace of mind their issue has not been forgotten.
- Providence can use the model to determine which IT employees are best at resolving tickets and tap them for best practices and training.
- Allocate tickets in the queue to individuals best equipped with understanding those systems in question.

COVID-19 Impact

COVID-19 (coronavirus) is a respiratory illness that has spread throughout the world and has become a global pandemic. It has spread throughout the United States, impacting all areas of daily life. Hospitals in particular are being pushed to capacity. With the unprecedented virus affecting people at a rapid rate, Providence is facing a high volume of patients and a staffing shortage like many other health care providers. Many resource, including members of the IT Caregiver Satisfaction project team are being diverted to support efforts to fight the coronavirus. This has manifested as initiatives to improve IT Satisfaction are being deprioritized and delayed and we expect this to continue in the future until the coronavirus cases have decreased.