**SPRINT RETROSPECTIVE**

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**People Analytics at Seagate: A Strategic Approach**

**to Predict Voluntary Churn and Optimize the Hiring Process**

**Master of Science in Business Analytics**

**Course: Experiential Projects**

**S24 – 004 – Group 4 – Project 2**

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Table of Contents

[Product Backlog 3](#_Toc163918246)

[Lessons Learned 4](#_Toc163918247)

[Ø Solutions and Successes (What went well?) 4](#_Toc163918248)

[Ø Challenges and Problems (What did not go well?) 4](#_Toc163918249)

[Ø Recommendations for Improvement (What would you change?) 5](#_Toc163918250)

[Ø Questions or Uncertainties Remaining for the Team 5](#_Toc163918251)

[Burndown Chart 6](#_Toc163918252)

[Velocity Chart 7](#_Toc163918253)

# **Product Backlog**



# **Lessons Learned**

## **Solutions and Successes (What went well?)**

**Sprint 1:**

**Data Cleaning:** Our team diligently cleaned the dataset provided by the client, addressing data quality issues such as inconsistencies and missing values. This effort laid a solid groundwork for robust feature engineering**.**

**Feature Engineering:** We conducted comprehensive feature engineering to enhance the dataset's potential for predictive modeling. This process was instrumental in preparing the data for effective analysis in the subsequent sprint.

**Sprint 2:**

**Development of Predictive Models:** We developed predictive models to analyze the key drivers of voluntary churn. These models, built on the clean and enhanced data from Sprint 1, began to provide valuable insights, meanwhile highlighting areas for further refinement.

## **Challenges and Problems (What did not go well?)**

**Sprint 1:**

**Selective Data Cleaning and Preparation:** While the data cleaning process itself was manageable, our team encountered challenges in deciding which columns to retain for effective feature engineering and which rows to eliminate to ensure a clean dataset for analysis. These decisions were crucial as they directly impacted the quality and feasibility of the data for predictive modeling.

**Sprint 2:**

**Model Accuracy and Refinement:** The predictive model developed did not initially meet the expected thresholds for accuracy. This challenge underscored the need for iterative testing and model tuning to enhance performance.

**Understanding Model Outputs**: The team faced challenges in interpreting some of the model outputs, indicating a need for deeper understanding of model dynamics and the relationships between variables.

## **Recommendations for Improvement (What would you change?)**

**Sprint 1:**

**Pre-modeling Exploratory Sessions:** Conduct structured exploratory data analysis sessions before feature engineering to allow team members to generate hypotheses and comprehend the underlying data characteristics acutely.

**Sprint 2:**

**Model Reviews:** Establish a routine where model outputs are reviewed by cross-functional team members, including domain experts to gain diverse insights that might improve model relevance and accuracy.

**Model Interpretation Sessions:** Collocate targeted sessions focused on predictive model interpretation with varied test datasets, particularly emphasizing complex outputs and the relationships between variables. This would help the team not only in fine-tuning the model but also in functionally communicating findings to the stakeholders.

## **Questions or Uncertainties Remaining for the Team**

**Sprint 1:**

**Optimal Techniques for Data Cleaning:** What are the most effective techniques for handling large sets of uncleaned data in a way that preserves the integrity of the dataset?

**Sprint 2:**

**Model Scalability:** How can we ensure that our model scales effectively with larger datasets without compromising performance?

**Model Adjustment:** How can we assess the performance of the model in real-world application? What criteria should trigger a model re-evaluation or restructuring?

# **Burndown Chart**



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The project burndown chart visually depicts the progress of work against the project's timeline, spanning from March 5 to April 28. The X-axis enumerates the days of the project, while the dual-scaled Y-axis measures the story points on the left and another metric which is the total story points on the right.

Several critical components are highlighted in the chart: The orange line represents the total remaining story points, indicating the expected decrease in workload over time, starting from approximately 145 story points. The ideal burndown, indicated by the blue line, when measured against the total remaining story points, reflects the team's progress in accordance with the planned trajectory. The actual story points completed each day are illustrated by the yellow bars, fluctuating to reflect the varying pace of task completion. The green bars represent the planned story points, setting a benchmark for the expected progress on any given day. These bars give insight into the projected volume of work against which actual performance can be measured. The black dotted line denotes the current date, providing a straightforward comparison for stakeholders to check the status. Observing the trends on either side of the dotted line is instrumental in understanding the project's dynamics and managing expectations for its conclusion. As the project progresses, continual monitoring of these elements will be vital for deriving insights that inform any necessary strategic adjustments.

# **Velocity Chart**

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The Project Velocity Chart provides a comprehensive view of the work undertaken across several iterations, known as sprints in terms of story points, a unit of measure indicating the effort required to complete a task or project. The chart categorizes the work into committed story points (yellow bars) and completed story points (green bars) over the course of four sprints.

In Sprint 0, the team showed commendable alignment between the story points they committed to and those they completed, indicating a strong start. Sprint 1 witnessed a substantial increase in both committed and completed story points, suggesting an enhancement in the team's capacity for work delivery. Despite committing to more story points in Sprint 1, the team still accomplished a significant volume of work hinting at potentially optimistic commitments. Currently, in Sprint 2, the chart indicates that the team has not yet completed few story points, implying that the tasks are in progress. Sprint 3 shows only committed story points, with no completion recorded, which aligns with the current phase i.e. Sprint 2 is underway and work for Sprint 3 is yet to begin.

This velocity chart serves as a crucial tool for evaluating team performance over time and for strategizing upcoming sprints. It reflects the team's proficiency in estimating and executing tasks, and the absence of completed points in Sprint 3 is expected given the project's timeline. The insights gained here are vital for the team to fine-tune their future commitments and approach, ensuring realistic objectives and a steady workflow.