Executive Summary

Case Study 2

DDSAnalytics was tasked by Frito Lay’s Executive Leadership to analyze talent management data and report the following significant factors:

* Top Attrition Factors
  + Chi-Squared testing was deployed to test every factor in the available data. DDSAnalytics was able to identify the top three highest contributors to attrition. These top three highest contributors to attrition are as follows:
    1. Salary v. Hourly Employees
    2. Stock Option Level
    3. Job Role
* Attrition Prediction
  + Machine Learning Algorithm - KNN was deployed to predict attrition rates
    - KNN Model Results:
      * Accuracy: 0.87
      * Sensitivity: 0.98
      * Specificity: 0.27
* Salary Prediction
  + Linear regression used to predict average monthly income based on an employee’s age and the average amount of time the employee has been with the company.
    - = 0.83
    - RMSE = $1,285.72
    - Model P-Value < 0.001
    - X1 ~ Age P-Value < 0.001
    - X2 ~ Average Years at Company = 0.002
* Job Role Insights
  + Employees that have the highest stock option level have the lowest average relationship satisfaction rating with their managers.
  + Employees that have the least attrition rate in this group have the highest average relationship satisfaction rating with their managers.