Project Name: Attrition Prediction for Day Shift Employees

Project Goals

Determine active employees that are high risk of attrition

Description

Build a statistical model which gives us the risk score (probability of employee leaving) for employees by capturing important factors attributing to attrition using Human Resource data for current and past employee.

**Input**

* Active and Inactive Employee (Total (548) Current (357) and Past (191) Employees) from 2015 and 2016 years
* Vertical - 'Accounts Receivable’
* Job Role - Team Member
* Shifts – all day shifts (06:30 AM-03:30 PM, 08:00 AM-05:00 PM, 09:00 AM-06:00 PM, 10:00 AM-07:00 PM, 11:00 AM-08:00 PM, 12:00 PM-09:00 PM, 01:00 PM-10:00 PM)
* Attributes
  + Experience in AGS
  + Employee Age
  + Gender
  + Marital Status
  + Work Location
  + Experience Type
  + Production Average Last3 Months
  + Course Level
  + Total Extra Hours Worked
  + Function
  + Transport Mode
  + Engagement Index
  + Quality Average Last3 Months
  + Last 30 Days Leave Count
  + Client
  + Joining Month
  + Shift
  + Job Role

Assumptions

* Considered current work related attributes only
* Considered attributes (where missing data was less than 20%) with imputation
* Previous location attributes will not be useful to tell about attrition as dynamics of business is changed significantly within last 2 years (Chennai to Hyderabad)

Findings

* People are leaving in early in their career (Newly joined are leaving more compared to AGS veterans)
* Last 30 days leave count is the among the highest contributing variable to the analysis
* Managers are well aware about probable attrition of employee. (Engagement Index (Red) has very high positive effect similarly high negative effect of Engagement Index (green))
* When other attributes are same employees who joined in August, September, May, February, June have high odds of leaving compared to who joined in January
* When other attributes are same compared to Chennai, Vellore employees have high odds of leaving
* Higher productive employee has less odds of leaving while people with higher quality have high odds of leaving.

 Important Factors

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Level** | **Effect on Attrition** | **Importance** |
| AGS Experience in Months |  | Less likely | Very High |
| Last 30 Days Leave Count |  | More likely | Very High |
| Engagement Index | Red | More Likely | Very High |
| Joining Month | August | More Likely | Very High |
| Joining Month | September | More Likely | Very High |
| Engagement Index | Green | Less likely | High |
| Quality Average Last3 Months |  | More Likely | High |
| Joining Month | May | More Likely | High |
| Production Average Last3 Months |  | Less likely | High |
| Work Location | Vellore | More Likely | Medium |
| Joining Month | February | More Likely | High |
| Joining Month | June | More Likely | Medium |
| Transport Mode | Cab | Less likely | Medium |

 Model Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Count** | **Current Employee probabilities** | **Employee Leaving probabilities** | **Accuracy**  **%** |
| All Data | 548 | 0.1284 | 0.7598 | 88.5036 |