**Project Name: Attrition Prediction for AR 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 (3165) Current (1568) and Past (1597) Employees) from 2015 and 2016 years
* Vertical - 'Accounts Receivable’
* Job Role - Team Member
* Attributes
  + Experience in AGS
  + Employee Age
  + Gender
  + Marital Status
  + Work Location
  + Experience Type
  + Production Average Last3 Months
  + Course Level
  + Total Extra Hours Worked
  + Function
  + Shift
  + Transport Mode
  + Engagement Index
  + Quality Average Last3 Months
  + Last 30 Days Leave Count
  + Client
  + Joining Month
  + 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**

* 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))
* 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
* When other attributes are same employees who joined in September, October, November, December have less odds of leaving compared to who joined in January
* When other attributes are same compared to Chennai, Hyderabad employees have less odds of leaving
* When other attributes are same compared to Fresher, Lateral and Industry Fresher employees have higher odds of leaving
* Higher productive employee has less odds of leaving
* Night Shift employee has higher odds of leaving compared to day Shift employees

**Important Factors**

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute** | **Level** | **Effect on Attrition** | **Importance** |
| Engagement Index | Red | More likely | Very High |
| AGS Experience in Months |  | Less likely | Very High |
| Last 30 Days Leave Count |  | More likely | Very High |
| Joining Month | December | Less likely | Very High |
| Work Location | Hyderabad | Less likely | Very High |
| Joining Month | October | Less likely | Very High |
| Joining Month | November | Less likely | Very High |
| Experience Type | Lateral | More likely | Very High |
| ProdAvgLast3Months |  | Less likely | High |
| Shift | Night | More likely | High |
| Engagement Index | Green | Less likely | High |
| Joining Month | September | Less likely | High |
| Transport Mode | Cab | Less likely | High |
| Joining Month | July | Less likely | High |
| Experience Type | Industry Fresher | More likely | Medium |
| Transport Mode | Self | Less likely | Medium |
| Joining Month | April | Less likely | Medium |
| Joining Month | August | Less likely | Medium |
| Total Extra Hours Worked |  | More likely | Medium |

**Model Results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Count** | **Current Employee probabilities** | **Employee Leaving probabilities** | **Accuracy**  **%** |
| All Data | 3165 | 0.1908 | 0.8125 | 87.96 |