**Project Name: Attrition Analysis**

**Description**

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

**Project Goals**

* High-level timing goals are to create appropriate buffer for the risky employee.

**Input**

* Active and Inactive Employee (Total (2980) Current (1596) and Past (1384) Employees) from 2015 and 2016 years
* Vertical - 'AR Follow up'
* Job Role - Team Member, Desk Head, Team Leader
* Attributes - Experience in AGS + Employee Age + Gender + Marital Status + Work Location + Job Role + Experience Type + Prod Avg During Notice + Course + Last30DaysLeaveCount + Total Extra Hours Worked + Function + Shift + Transport Mode + Engagement Index
* Education Courses grouped - "BA/Bcom/BPharm", "BCA/BBA", "BE/Btech", "BSc”, "CS/CA (inter)", "Diploma", "HSC", "MA/Mcom”, "MBA", "MCA", "ME/Mtech", "MSc/Mpharm/MPhil", "SSLC"

**Procedures**

* Descriptive analysis
* Logistic Regression

**Assumptions**

* Considered Work related attributes only
* Considered attributes (where missing data/Not Applicable was less than 20%) with imputation
* Location attributes will not be significant to tell about attrition as dynamics of business is changed significantly within last 2 years (Chennai to Hyderabad)

**Findings**

* Last 30 days leave count is the best predictor which contribute highest to the analysis (average for Current employee is 2.16 days while for employee left is 10.18 days)
* People are leaving in early in their career (Average AGS experience of past employee is 7.91 months while current employee is 16.10 months)
* Employee age of people are not significantly different (Average age for past employee 24.61 years while current employee is 24.95 years)
* Bachelor have more probabilities of leaving as (46% of Unmarried people left while 37.5% of Married people left)
* Gender is not a major contributor as almost equal percentage of people left from both gender (45.89% Male left while 47.44% female left)
* When other conditions are same compared to Chennai Hyderabad employees have higher odds of leaving, while Vellore employee have lower odds

|  |  |  |  |
| --- | --- | --- | --- |
| Important Factors | Level | Effect on Attrition | Importance |
| Last30DaysLeaveCount |  | + | \*\*\* |
| Experience in AGS |  | - | \*\*\* |
| Engagement Index | Red | + | \*\*\* |
| Shift | 05:30PM-02:30AM | + | \*\*\* |
| Shift | 06:00PM-03:00AM | - | \*\* |
| Marital Status | Unmarried | + | \*\* |
| Transport Mode | Cab | - | \* |
| Shift | 04:00PM-01:00AM | + | \* |
| Function | Voice | + | \* |
| Work Location | Hyderabad | - | \* |
| Work Location | Vellore | + | \* |
| Transport Mode | Two Wheeler | - | \* |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Current Employee probabilities | Employee Leaving probabilities | Accuracy % |
| Train | 0.1709 | 0.8028 | 87.74 |
| Test | 0.1514 | 0.8330 | 90.23 |
| All | 0.1717 | 0.8042 | 87.85 |