

1. INTRODUCTION

1.1 Overview

- The objective of this project is to predict the attrition rate for each employee, to find out who's more likely to leave the organization.
- It will help organization to find ways to prevent attrition or to plan in advance the hiring of new candidate.

1.2 Purpose

- Attrition proves to be costly and time consuming problem for the organization and it also leads to loss of productivity.
- The scope of the project extends to companies in all industries.

2. LITERATURE SURVEY

2.1 Existing Problem

Bill Gates was once quoted as saying,

" You take away our top 20 employees and we [Microsoft] become a mediocre company".

His statement cuts to the core of a **major problem: employee attrition**. An organization is only as good as its employees, and these people are the true source of its competitive advantage. **Organizations face huge costs resulting from employee turnover**. Some costs are tangible such as training expenses and the time it takes from when an employee starts to when they become a productive member. However, the most important costs are intangible. Consider what's lost when a productive employee quits: new product ideas, great project management, or customer relationships.

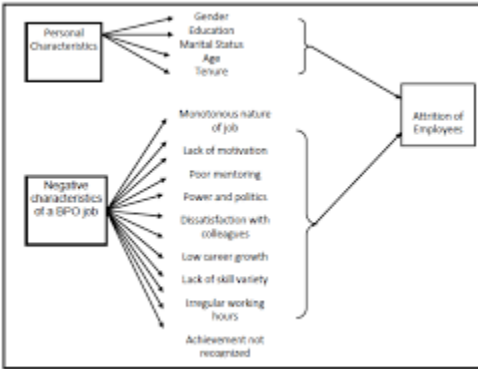
2.2 Proposed Solution

With advances in machine learning and data science, its possible to **not only predict employee attrition but to understand the key variables that influence turnover**.

3. THEORITICAL ANALYSIS

3.1 Block Diagram

The factors influencing the employee attrition in BPO can be illustrated as below:

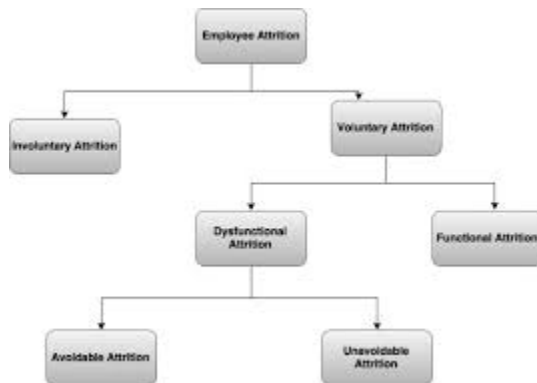


4. EXPERIMENTAL ANALYSIS

The dataset included various important features including average number of monthly hours, number of projects, years spent in the company and whether the employee received a promotion in the last five years. There were a total of nine features, out of which two were categorical and seven were numeric

- Data preprocessing
- Model Validation
- System Environment Specification

5. FLOWCHART



6. RESULT

- The dataset doesnot feature any missing values or any reductant features.
- The strongest positive correlations with the target features are Distance from home, Job Satisfaction, marital status ,overtime and business travel
- The strongest negative correlation with the target features are: Performance Rating and Training times last year.

7. ADVANTAGES AND DISADVANTAGES

Advantages

Not all turnovers are negative, we generally feel that an employee leaving the organization is detrimental to the organization, but there is a flip side to it.

Employees leaving an organization may lead to benefits. This type of job attrition is called 'healthy attrition' and is needed for growth and development of an organization

1. Higher manpower costs
2. Negative people effect
3. New Idea
4. Higher Performance
5. Setting the culture right

Disadvantages

When employees leave the organization it is a loss to the company, the team and the individuals.

Employees are the backbone of any organization and their departing may lead to lot of various losses to company on different aspects.

1. Decrease overall performance
2. Daily task management
3. Increased cost
4. Lack of knowledge employees
5. Create negative image
6. Employee development

8. CONCLUSION

Predictive Attrition Model helps in not only taking preventive measures but also into making better hiring decisions. Deriving trends in the candidate's performance out of past data is important in order to predict the future trends, as well as to board new employees. Moreover, HR can use the employee data to predict attrition, the possible reasons behind it and can take appropriate measures to prevent it.

9. FUTURE SCOPE

1. Transportation should be provided to employees living in the same area.
2. Plan and allocate project in such a way to avoid the overtime.
3. Employees which hit their two-year anniversary should be identified as potentially having a higher risk of leaving.

4. Gather information on industry benchmarks to determine if the company is providing competitive wages.

10. BIBLIOGRAPHY

The content for this project report has taken from following links

1. <https://www.slideshare.net/ShrutiMohan5/predicting-employee-attrition-149113703>
2. <https://medium.com/analytics-vidhya/predict-employee-attrition-a34e2c5a972d>
3. <https://www.kaggle.com/c/1056lab-employee-attrition-prediction/>