LITERATURE SURVEY
CORPORATE EMPLOYEE ATTRITION ANALYSIS

TEAM ID : PNT2022TMID34476

I. PAPER : Employee Attrition Analysis Using Predictive Techniques

AUTHORS : Devesh Kumar Srivastava & Priyanka Nair

YEAR : 2017

ABSTRACT : Employee churn is an unsolicited aftermath of our blooming economy. Attrition may be defined as voluntary or involuntary resignation of a serving employee from an organisation. Employee churn can incur a colossal cost to the firm. However, furtherance to prediction and control over attrition can give quality results. Earmarking the risk of attrition, the management can take required steps to retain the high valued talent. Workforce Analytics can be applied to reduce the overall business risk by predicting the employee churn. Predictive Analytics is the field of study that employs statistical analysis, data mining techniques and machine learning to predict the future events with accuracy based on past and current situations. The paper presents a framework for predicting the employee attrition with respect to voluntary termination employing predictive analytics.

II. PAPER : Early Prediction of Employee Attrition using Data Mining Techniques

AUTHORS : Sandeep Yadav; Aman Jain; Deepti Singh

YEAR : 2019

ABSTRACT : Bill Gates was once quoted as saying, "You take away our top 20 employees and we [Microsoft] become a mediocre company". This statement by Bill Gates took our attention to one of the major problems of employee attrition at workplaces. Employee attrition (turnover) causes a significant cost to any organisation which may later on affect its overall efficiency. As per CompData Surveys, over the past five years, total turnover has increased from 15.1 percent to 18.5 percent. For any organisation, finding a well trained and experienced employee is a complex task, but it's even more complex to replace such employees. This not only increases the significant Human Resource (HR) cost, but also impacts the market value of an organisation. Despite these facts and ground reality, there is little attention to the literature, which has been seeded to many misconceptions between HR and Employees. Therefore, the aim of this paper is to provide a framework for predicting the employee churn by analysing the employee's precise behaviours and attributes using classification techniques.

III. PAPER : Machine Learning Based Attrition Prediction

AUTHORS : Abhiroop Nandi Ray; Judhajit Sanyal

YEAR : 2019

ABSTRACT : The use of machine learning techniques and models has become widespread with diverse industries using them to glean greater insights from available data. Probabilistic estimation models are used in many cases, often in combination with other methods such as regression and decision trees. The current paper utilises probabilistic estimation to predict attrition from the human resource database of a company with close to 1500 employees. The initial model is adaptively refined to improve the prediction capability of the model.

IV. PAPER : Evaluating Machine Learning Algorithms to Detect Employees' Attrition

AUTHORS : Noor Khalifa; Maryam Alnasheet; Hasan Kadhem

YEAR : 2022

ABSTRACT : Employees' Attrition has become a well-known concept among organisations in recent years, and it is a problem that leads to many issues within organisations. Companies can use the enormous amount of data they have about their employees to help solve this problem. This paper focuses on examining the efficiency of different machine-learning techniques that can be used for predicting employees' attrition. The algorithms were chosen based on a detailed comparison between all Machine Learning algorithms provided in MATLAB which led to choosing the most suitable ones to later identify the top performing among them. The most suitable algorithms found are Logistic Regression, Support Vector Machine (Linear, Quadratic, and Kernel), and Boosted Trees. This paper's findings could make a notable impact on businesses' ability to prevent employee attrition.

V. PAPER : Predicting Employee Attrition along with Identifying High Risk Employees using Big Data and Machine Learning

AUTHORS : Apurva Mhatre; Avantika Mahalingam; Mahadevan Narayanan; Akash Nair; Suyash Jaju

ABSTRACT : It takes a lot of time and energy to build a great employee and only a second to lose one." Employee turnover is a perennial challenge faced by all the major companies across the globe, performance of a company is directly proportional to the quality of employees retained by them. Whenever a good employee quits the organisation it leads to financial losses, gaps in company's execution capability, re-recruiting costs and loss of productivity. The success of a company lies not only in impeding the attrition rate but also in retaining the right talent. According to NASSCOM, the global employee churn rate as of 2019 is 18-20 percent, which is what makes it necessary to alleviate the business risks

associated with the turnover using statistical analysis. This research aims to foresee potential attrition (specifically in the B.P.O. sector) by mining turnover trends amongst employees and use supervised classification techniques to cluster out vulnerable employees