CORPORATE EMPLOYEE ATTRITION ANALYTICS
LITERATURE SURVEY

AUTHOR: Kishori Singh, Reetu Singh

YEAR: August - 2019

ABSTRACT:

Employees are the most valuable assets of an organization. It is they who add value to the organization in terms of quantity and quality as well. Therefore, it is indispensable to maintain a permanent and promising workforce; which over the years has become a tough task for employers and thereby increased attrition in the organizations. This research paper is an attempt to find out the causes of attrition from different dimensions. It undertakes the effect of the same on employer and employee both. Following this, some strange reasons for attrition have been discussed in this regard. The positive side of attrition has also been discussed upon. Role of leadership styles in controlling attrition has been undertaken in the paper. Further, the remedial measures have been discussed herein.

AUTHOR: Sarah S. Alduayj; Kashif Rajpoot

YEAR: November 2018

ABSTRACT:

The growing interest in machine learning among business leaders and decision makers demands that researchers explore its use within business organisations. One of the major issues facing business leaders within companies is the loss of talented employees. This research studies employee attrition using machine learning models. Using a synthetic data created by IBM Watson, three main experiments were conducted to predict employee attrition. The first experiment involved training the original class-imbalanced dataset with the following machine learning models: support vector machine (SVM) with several kernel functions, random forest and K-nearest neighbour (KNN). The second experiment focused on using adaptive synthetic (ADASYN) approach to overcome class imbalance, then retraining on the new dataset using the abovementioned machine learning models. The third experiment involved using manual undersampling of the data to balance between classes. As a result, training an ADASYN-balanced dataset with KNN (K = 3) achieved the highest performance, with 0.93 F1-score. Finally, by using feature selection and random forest, F1-score of 0.909 was achieved using 12 features out of a total of 29 features.

AUTHOR: R. Shiva Shankar; J. Rajanikanth; V.V. Sivaramaraju; K.V.S.S.R. Murthy

YEAR: July 2018

ABSTRACT:

Now a day's Employee Attrition prediction become a major problem in the organizations. Employee Attrition is a big issue for the organizations specially when trained, technical and key employees leave for a better opportunity from the organization. This results in financial loss to replace a trained employee. Therefore, we use the current and past employee data to analyze the common reasons for employee attrition or attrition. For the prevention of employee attrition, we applied a well known classification methods, that is, Decision tree, Logistic Regression, SVM, KNN, Random Forest, Naive bayes methods on the human resource data. For this we implement feature selection method on the data and analysis the results to prevent employee attrition. This is helpful to companies to predict employee attrition, and also helpful to their economic growth by reducing their human resource cost.

AUTHOR: Abhay Charan Patro; Saad Aziz Zaidi; Aaradhya Dixit; Manish Dixit

YEAR : June 2021

ABSTRACT:

Employee attrition is one of the biggest challenges faced within business organizations. With the advancement in machine learning, various research papers brought into light the numerous reasons why an employee leaves, this paper puts forward a machine learning pipeline that not only predicts employee attrition but also suggests a minimum cost approach for the company so that the employee does not leave.

AUTHOR: Amine Habous; El Habib Nfaoui; Youness Oubenaalla

YEAR: October 2021

ABSTRACT:

Employee attrition phenomenon is one of the most well-known problems in the field of human resources management. This happens when an employee decides to leave his post due to many personal and professional reasons. When a well trained and adapted human resource leaves the company, it becomes very difficult to fill the gap instantly. Therefore, it impacts directly the efficiency of the group. Many researches in the HR management have been carried out to deal with the employee attrition problem by reducing the its rate within companies. The aim of this paper, is to provide a model that can predict whether an employee might voluntarily make the decision to leave its position using the supervised classification and the machine learning algorithms. We also described some professional and personal factors that could influence the employee attrition rate. Experimental results on a real data provided by IBM demonstrates the efficiency of the proposed models.

AUTHOR : V. Vijay Anand; R. Saravanasudhan; R. Vijesh

YEAR: March 2012

ABSTRACT:

Employee attrition reveals a company's internal power and weaknesses. New employee need to be constantly added, further costs in training them, getting them aligned to the company environment. Organizations also face difficulties in retaining the employees as well as attracting potential employees. In this competitive business era, high attrition rates lead to many issues in the boundary of HR people. All this has a significant impact on the strength of a company in managing their business in a competitive environment. This study is conducted to find out the main reasons which increase the employee turnover in BPO companies and to find out the way to predict and control them. The research is purely based on the descriptive in nature. This research was carried out in BPO companies. In this study, the opinions of 120 respondents (Both ex-employee and current employee) were taken for the analysis purpose. In this research, structured questionnaire has been incorporated for collecting data and chi-square test, percentage analysis and ANOVA were used for analysis.

AUTHOR: Richard Joseph; Shreyas Udupa; Sanket Jangale; Kunal Kotkar; Parthesh Pawar

YEAR: May 2021

ABSTRACT:

Amongst the significant issues that corporate leaders have to deal with within an organization is the decline in proficient employees. This decline is primarily attributed to extreme work pressure, dissatisfaction at work, and ignored mental health issues such as depression, anxiety, etc. This is known as Employee Attrition or Churn Rate. Given the amount of stress employed people go through, focus on the state of mind has gained much-needed traction. Our model aims to predict the employee attrition rate and the employees' emotional assessment in an organization. A survey containing attrition-related questions helped us gather the required data for analysis. Our model will predict the attrition and give the depression analysis with the help of this data. Algorithms such as Decision Tree Classifier (DTC), Support Vector Machine (SVM) and Random Forest Classifier (RFC) were applied to this dataset after performing preprocessing steps, which helped us achieve an accuracy of 86.0% in predicting attrition rate. The results have been expressed using the primary classification metrics, including F1-score and accuracy.

AUTHOR : Shobhanam Krishna; Sumati Sidharth

YEAR : April 2022

ABSTRACT:

Employee attrition has indeed been recognized as a critical concern for organizations due to the adverse effects, it has on workplace productivity as well as long-term growth plans. Organizations are using machine learning (a subset of AI) techniques to predict employee turnover to address this issue. In this paper, an attempt is made to develop a model that can predict employee turnover rates by utilizing HR analytics data provided by the Kaggle website. Random Forest and the AdaBoost classifier are used to make predictions. This paper also introduces the factors that influence employee attrition inside any organization and will provide a clear perspective to top management in making key decisions regarding the retention of most of the workforce in the organization. In future research, the analysis can be improved by considering other factors like no feedback and recognition, bad hiring procedures, toxic culture, etc which impacts employee attrition rate positively.