Title:-**A STUDY ON EMPLOYEE ATTRITION WITH REFERENCE TO LANSON TOYOTA, CHENNAI., V Krishna Priya Vels Institute of Science Technology and Advanced Studies., Article in Man in India · January 2017.**

The present study is bound to assess the causes of attrition and to find the expectation of employees to retain them in the organization. The primary data is collected through the structured questionnaire from 100 stakeholders, through stratified random sampling. It includes various levels of employees in the automobile industry. Chi-square, Anova, comparision and correlation are used for the analysis. The result shows that employees with experience are not promoted due to which they are dissatisfied. Employees receiving low income, no promotion or no career growth ,developing stress may look for better opportunities. Employees except job security to retain themselves in the organization. Due to lack of growth opportunities they prefer to change job. So, the organization has to provide atleast required benefits and rewards to employees to make them retain and explore their career.

Title:- **HR analytics: Employee attrition analysis using logistic regression.,
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Employee attrition can become a serious issue because of the impacts on the organization's competitive advantage. It can become costly for an organization. The cost ofemployee attrition would be the cost related to the human resources life cycle, lost knowledge,employee morale, and organizational culture. This study aimed to analyze employee attritionusing logistic regression. The result obtained can be used by the management to understand what modifications they should perform to the workplace to get most of their workers to stay. Thedata for the study were around four thousand employees, covering 261 days (one year workingdays) during 2015 — the data period between January and December. We use R for data ntegration, exploratory data analysis, data preparation, logistic regression, model evaluation,and visualization. The study has five steps: (1) data collection and business understanding, (2)data pre-processing, (3) exploratory data analysis, (4) model selection and training, and (5) test and evaluation of the model. The result of the study found eleven variables as key driving factors for employee attrition. It also showed that the

model has 75 percent accuracy with 73 percent sensitivity and 75 percent specificity.

Title:- A STUDY ON EMPLOYEE ATTRITION WITH REFERENCE TO LANSON TOYOTA, CHENNAI .,V. Krishna Priya* and H. Hari Harasudha**

The present study is bound to assess the causes of attrition and to find the expectation of employees to retain them in the organization. The primary data is collected through the structured questionnaire from 100 stakeholders, through stratified random sampling. It includes various levels of employees in the automobile industry. Chi-square, Anova, comparision and correlation are used for the analysis. The result shows that employees with experience are not promoted due to which they are dissatisfied. Employees receiving low income, no promotion or no career growth ,developing stress may look for better opportunities. Employees except job security to retain themselves in the organization. Due to lack of growth opportunities they prefer to change job. So, the organization has to provide atleast required benefits and rewards to employees to make them retain and explore their career

Employee attrition refers to the natural reduction in the employees in an organization due to many unavoidable factors. Employee attrition results in a massive loss for an organization. The Society for Human Resource Management (SHRM) determines that USD 4129 is the average cost-per-hire for a new employee. According to recent stats, 57.3% is the attrition rate in the year 2021. A research study needs to be implemented to find the causes of employee attrition and a learning framework to predict employee attrition. This research study aimed to analyze the organizational factors that caused employee attrition and the prediction of employee attrition using machine learning techniques. The four machine learning techniques were applied in comparison. The proposed optimized Extra Trees Classifier (ETC) approach achieved an accuracy score of 93% for employee attrition prediction. The proposed approach outperformed recent state-of-the-art studies. The Employee Exploratory Data Analysis (EEDA) was applied to determine the factors that caused employee attrition. Our study revealed that the monthly income, hourly rate, job level, and age are the key factors that cause employee attrition. Our proposed approach and research findings help organizations overcome employee attrition by improving the factors that cause attrition.

Title:- ANALYZING EMPLOYEE ATTRITION USING DECISION TREE ALGORITHMS.,
Alao D. & Adeyemo A. B. Department of Computer Science University of Ibadan Ibadan, Nigeria

Employee turnover is a serious concern in knowledge based organizations. When employees leave an organization, they carry with them invaluable tacit knowledge which is often the source of competitive advantage for the business. In order for an organization to continually have a higher competitive advantage over its competition, it should make it a duty to minimize employee attrition. This study identifies employee related attributes that contribute to the prediction of employees' attrition in organizations. Three hundred and nine (309) complete records of employees of one of the Higher Institutions in Nigeria who worked in and left the institution between 1978 and 2006 were used for the study. The demographic and job related records of the employee were the main data which were used to classify the employee into some predefined attrition classes. Waikato Environment for Knowledge Analysis (WEKA) and See5 for Windows were used to generate decision tree models and rule-sets. The results of the decision tree models and rule-sets generated were then used for developing a a predictive model that was used to predict new cases of employee attrition. A framework for a software tool that can implement the rules generated in this study was also proposed.

Title:- Early Prediction of Employee Attrition in Software Companies-Application of Data Mining Techniques[1]., Vishnuprasad Nagadevara, Vasanthi Srinivasan, Indian Institute of Management Bangalore, India

Employee retention is one of the biggest challenges in IT companies all over the world. Different companies adopt different strategies to retain the employees. These strategies include large increases in compensation, liberal perks, frequent job rotations, as well as travel and stay abroad. However, literature on turnover indicates that a person's intention to quit is a function of demographic characteristics, job characteristics and organizational characteristics. Individual who have an intention to quit are also likely to engage in other withdrawal behaviors like absenteeism and late-coming. This paper uses data on demographics and the withdrawal

behaviors like absenteeism and late-coming to predict turnover. It applies various data mining techniques to identify turnover in organizations. This exploratory study identifies four variables which could enhance the accuracy of prediction of turnover. Further research on the variables needs to be done to contribute to prediction and also identify the possible reasons for attrition

- **Title:- Market-aware Heterogeneous Graph Neural Network for Employee Turnover Prediction.**, **WSDM '22: Proceedings of the Fifteenth ACM International Conference on Web Search and Data MiningFebruary 2022 Pages 353–362**

As an emerging initiative of proactive human resource management, employee turnover prediction is critically important for employers to retain talents and avoid the loss of intellectual capital. While considerable research efforts have been made in this direction, most of them only focus on modeling the within-company career trajectories of employees where the influence of external job market has been largely neglected. To this end, in this paper, we propose an enhanced framework of employee turnover prediction by jointly modeling the turnover clues from both internal and external views. Specifically, from the external-market view, we construct a heterogeneous graph which connects the employees with external job markets through shared skills. In this way, we can capture the potential popularity of employees in external markets specific to skills. Meanwhile, from the internal-company view, we design a graph convolutional network with hierarchical attention mechanism to capture the influence of organizational structure (e.g., superiors, subordinates, and peers) and colleagues with similar skills. Furthermore, both modules are modeled with Bidirectional LSTM and survival analysis to learn effective and dynamic representations of employee turnover prediction. Finally, we conduct extensive experiments on a large-scale real-world talent dataset with state-of-the-art methods, which clearly demonstrate the effectiveness of our approach as well as some interesting findings that could help us understand the employee turnover patterns, such as different impacts of external systems and collaborators from different groups.