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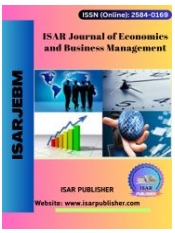

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Predicting Job Satisfaction and Employee Attrition in Cooperate Organizations Based on Hybrid Neural Networks

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Abstract: Every firm, regardless of its location, sector, or size, is susceptible to the issue of employee turnover, which is a problem that affects all enterprises. Accurately estimating employee turnover is one of the most important objectives of Human Resources (HR) in many firms. This is because it is a significant concern for an organization. Many firms are confronted with the challenge of employee turnover, which occurs daily and results in the departure of valued and experienced workers from the organization.

A great number of companies all around the world are working toward the elimination of this significant problem. The primary purpose of this study endeavour is to develop a model that can assist in determining whether or not an employee will quit the organization. Many businesses incur considerable expenditures due to employee turnover, which is a key problem that leads these businesses to spend considerable costs. Providing human resources departments with a beneficial decision support system and, consequently, preventing a significant amount of time and resources from being wasted may be accomplished by utilizing machine learning and artificial intelligence techniques to predict the possibility of an employee resigning and the reasons for their departure. This study aims to present a preliminary exploratory examination of the application of machine learning approaches for predicting employee turnover.

Organizations are confronted with enormous expenditures as a consequence of staff turnover. Implementing the Random Forest Classifier method will be utilized to make a prediction regarding employee turnover, which is now feasible thanks to developments in machine learning and data science.

Human resources are one of the most valuable assets that an organization possesses. The success of any company or organization is contingent on the people working for that company or organization accomplishing their goals, meeting their deadlines, preserving quality, and ensuring that their customers are satisfied. Employee turnover, often known as employee attrition, is one of the most significant challenges businesses must face in a highly competitive environment.

Attrition of employees is a predictable phenomenon under stable conditions, in which a predetermined pattern can be inferred from specific characteristics that influence both the individual and the business at all times. Some of these characteristics may be foreseen, such as the age at which one may retire. In contrast, others may be unforeseeable, such as the success of the firm, other sources of money, management shakeups, and so on.

To lower the employee turnover rate, it is vital to evaluate the efficiency of employee evaluations and the degree to which workers are satisfied with their jobs within the organization. Within the scope of this study, a novel strategy that centres on machine learning was utilized to improve various retention strategies for specifically targeted employees.

This report also tries to shed some insight into the many elements that influence the attrition

rate of workers and the potential remedies to these problems.

Many firms are confronted with the challenge of employee turnover, which occurs daily and results in the departure of valued and experienced workers from the organization. A great number of companies all around the world are working toward the elimination of this significant problem. The primary purpose of this study endeavour is to develop a model that can assist in determining whether or not an employee will quit the organization.

Having competent personnel is a rare commodity when it comes to having a great company. An issue that poses a danger to business owners is the difficulty of retaining skilled workers with years of expertise. Since it requires much money to reward employees for their experience and efficiency, the problem of employee turnover may be quite expensive for companies. Because of this, the purpose of this research is to propose an automated model capable of predicting employee turnover based on various predictive analytical methodologies. Various pipeline topologies have utilized these methodologies to determine which champion model is the most effective.

To recognize valuable employees leaving the firm, implementing this concept will assist management in employee evaluation and decision-making. We aim to create a general attrition prediction platform independent of the application domain and founded on the features of bipartite graphs and machine learning methods.

By utilizing this program, it is possible to discover the hidden causes behind the departure of employees, and management can take preventative measures concerning the departure of each employee on an individual basis.

Keywords: machine learning, data science, Correlation Analysis, human resources.

Introduction

The retention of knowledgeable employees has become an increasingly important factor in determining the overall performance of a company in the modern environment, particularly within the context of the service industry, which is characterized by the interaction of a large number of members of the population. In today's highly competitive business climate, employees' knowledge, skills, and capabilities have emerged as an essential competitive advantage.

Every business that professionals manage undertakes a concentrated effort to recruit, retain, and expand the pool of talent that they provide to their customers. First, there is a lack of human resources, and second, because there is a growing demand from a broad variety of commercial business devices looking for advanced technology, human resources have become an increasingly important resource. When these circumstances are present, an organization's capacity to maintain its core individuals and professional staff becomes paramount.

For any firm to continue to expand, its employees must continue to make contributions that propel the company forward into the future. Because more individuals are leaving their occupations in search of better opportunities elsewhere, there has been a considerable increase in the number of employees who have left their positions in recent decades. The rising employee turnover rate is becoming an increasingly pressing topic for organizations. When employees leave a company, it may significantly influence the business. This may lead to a decline in performance, increased expenditures, and difficulties in successfully hiring and training new staff. Having a comprehensive grasp of the factors that lead to employee turnover will allow management to make improvements that will improve the work culture of the business for future

employees by reducing employee turnover. The prediction of employee turnover was accomplished by applying five distinct machine-learning algorithms in this study. The Support Vector Machine and the Gaussian Naive Baye algorithms were the ones that attained the best level of accuracy among these methods. In addition, we utilized multivariable regression analysis to understand the relevance of each specific element and to determine whether or not hybrid work has any influence on the risk of employee turnover.

Data mining is analyzing data and identifying patterns and trends to create information that might be useful in making decisions or selecting the trend that will play out over the long term. Additionally, approaches from data mining have been utilized in classification, clustering, and prediction. Data mining is the most active research field that is currently being conducted.

There are a variety of companies, educational institutions, and research sectors that can benefit from the application of machine learning techniques. Machine learning techniques are already being utilized consistently by businesses operating in a wide variety of sectors at present. These include retail, health care, finance, software, insurance, and other similar industries.

In addition to utilizing machine learning, firms integrate it with data processing, pattern recognition, machine learning, computer science, statistics, and other essential technologies.

Data mining is becoming increasingly important in the field of human resource management in enterprises. This is because it enables businesses to acquire a clear understanding of their workers and customers, enabling them to make intelligent decisions that are advantageous to both.

When training employees, a company must devote a significant amount of time and resources to each worker to meet the business's requirements.

Not only does the firm suffer the loss of important personnel when an employee quits the organization, but it also suffers a loss in terms of the amount of money it has spent to recruit and choose those individuals and train them for their respective professions. On the other hand, to fill the now empty jobs, the organization has to increase the amount of money it invests in recruiting, training, and developing new employees. As a result of these factors, every corporation aims to reduce employee turnover and retain its workforce by implementing more gratifying employer policies and creating superior working conditions. The current study effort would benefit most businesses in terms of understanding the levels of satisfaction experienced by their employees and acquiring relevant information that would assist in managing the employee turnover rate.

Related work

The most significant impact has been seen in the past several months due to engagement with the company. Organizations worldwide were conducting experiments to reduce the distance involved in the process of growing much higher overhead throughout the various levels of the workplace and no longer being able to communicate with their ecosystem. Some exciting industrial developments are taking place in the market at present. At Britannia Industries Limited, Dipesh Lakhotia, the head of analytics, remarked that this can be seen not only for information technology but also for business responsibilities.

After conducting a study of papers associated with human resource management (HRM), it has been determined that machine learning strategies should be implemented to address challenges encountered in real-world HRM situations. The author of the chapter described how human resource management may be effective in a few different real-life settings. According to the author, there is a connection between human resource management and productivity.

The author defines the significance of human resource management (HRM) in management. To provide information on the efficiency of the significant industrial features on the performance working system. According to the findings of their investigation, the magnitude of those human resource systems' impact on productivity is impacted by the organization's capital intensity, growth, and distinctiveness.

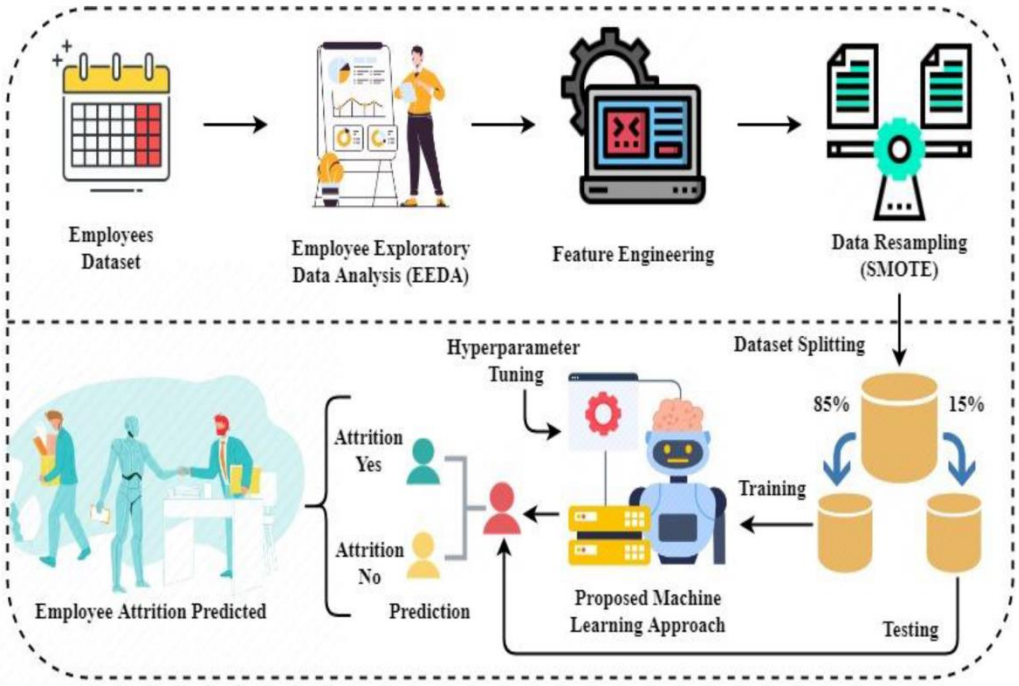
Proposed Model

In a real-world setting, constructing a machine learning (ML) model involves three distinct phases: the data, discovery, and deployment. The data phase is involved with the following activities: gathering the data, investigating the data, splitting the data, dealing the rare event difficulties if the dataset is not balanced, managing the missing values, handling extreme or uncommon values, and concluding the selection of critical characteristics that the model will utilize. The activities included in the discovery phase are the selection of an algorithm, an improvement of the model, an optimization of the complexity of the model, and the regularization and tuning of the model's hyperparameters.

During the deployment phase, activities include evaluating the models, contrasting the machine learning models, and assigning a score to the best machine learning model. Within the framework of the suggested model, Figure 1 illustrates the major phases involved in anticipating the staff attrition problem. After the data collection phase is completed, the data is transferred to the preprocessing step, which is the most crucial stage of the prediction models. Different procedures, including imputation to fill in the missing values of the dataset and feature modifications for skewed and high kurtosis variables, are carried out during this stage of the process. Although we are in the process of scoring the model, feature transformation will assist in generalizing the model to the fresh data coming in.

Background

Employee retention is a procedure in which employees are urged to remain with the business for as long as feasible or until the project is finished. This can be done to boost employee retention rates. Retention is an essential part of an organization's overall talent management strategy, which is defined as "the implementation of integrated strategies or systems designed to increase workplace productivity by developing improved processes for attracting, developing, retaining, and utilizing people with the required skills and aptitude to meet current and future business needs." Retention is an important component of an organization's overall talent management strategy.



Problem Statement

An investigation is being carried out to determine the many factors contributing to employee turnover in India's information technology industry. Attrition in the information technology sector is growing rapidly, and it is essential to find a solution to this problem and identify its underlying causes.

Objectives of the Study

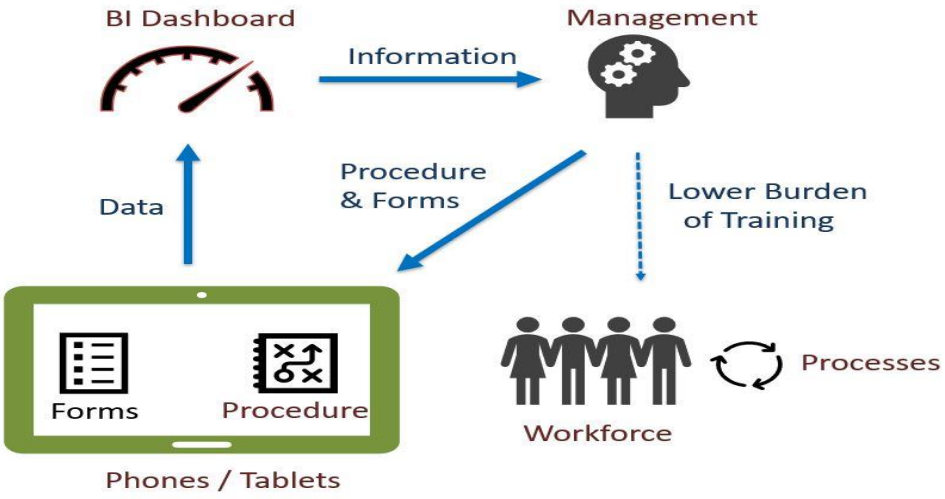
- To analyze the primary elements that contribute to employee turnover in the information technology industry
- To determine the impact that each component (independent variables) has on the turnover rate in the information technology industry
- to make recommendations about employee retention strategies for the information technology industry
- to gain an understanding of the link between the independent factors and attrition via the study of regression and correlation analysis.

Need of the Study

This study's findings can help determine why employees wish to leave and the factors leading to unhappiness. Attrition rates in India's information technology sector are at an all-time high. During the quarter that ended in December 2021, TCS had an employee turnover rate of 15.30 per cent, while Infosys and Wipro had rates of 25.50 percent and 22.70 percent, respectively. Since the information technology sector is the most significant contributor to the Indian economy, it is essential to investigate the factors contributing to employee retention and provide strategies for doing so.

Scope of the Study

- It is important to identify the underlying reasons for employee turnover to protect the business from potential future damage in terms of its talent pool.
- According to the survey findings, the employees' choice of job move and the areas of unhappiness are revealed.
- The scope of this study is limited to the information technology sector.
- The research offers recommendations and methods to enhance the recruitment and retention of staff members.



LITERATURE REVIEW

In a single study, Hom and Griffeth (1995) stated that "worker retention" refers to a strategy that encourages employees to remain in their positions for a longer time or until they are entirely satisfied with their jobs. Wysocki, B. (1997) said that the Society of Human Resource Management believes employee retention is the most often discussed issue in contemporary situations. According to Drucker (1999), capacity retention issues are caused by employees deliberately giving up their hobbies instead of working.

At the same time, Trip, R. remarked that when it comes to money, the volunteer income of huge groups typically comes from major initiatives. I could bring in some money. It may be beneficial or inoperable, and it may be spontaneous or involuntary. There is a correlation between spontaneous oscillations and the voluntary turnover of employees from the corporate company. It is up to the employees to decide whether or not they want to leave the company or leave the company altogether. If variations are not desired, the company will terminate employees. In other words, departing employees do so with reluctance from the company. A few possible explanations exist, including poor conventional general performance, conflict, or random employment. It is possible that the miles travelled might be considered valuable sales if you decide to leave a firm that is not performing well. As a result of the erroneous artist's departure, the miles they have travelled are considered dysfunctional sales and extremely expensive for commercial enterprises.

2016 publication by Duby, S.K. The use of the method of the essential problem is something that we recommend considering the completed evaluation of exploratory additives. The components

that make up the detected profits are the primary reason for the earnings that have been identified.

- Fines for administrative practices
- Low earnings
- Lack of guidance from my cherished ones, bosses, circles,
- Coping functionality is low
- Poor execution environment
- Communication
- Fear of interest.

Compensation and deduction:

There have been a great number of research that have been carried out to study the connection between deductions and reimbursements. However, there are studies that have not had such an impact on salaries, despite the fact that there are studies that have had a major influence on incomes. It was written by Tremblay and others. During the course of an examination that was carried out by a group of researchers in the year 2006, it was found that the salaries were comparable to the average.

Working Environment and Coupling:

Based on this idea, Horwitz (2003) established that the guffawing running environment is a favourable aspect of the group's cohesiveness. Ellet et al. (2007) acknowledged that flexibility has a significant role in the retention of workers. According to Abrams et al. (2008), a higher focus was given to portraying to create an environment where employers may analyze and paint. According to Tiwari (2012), organizations operating in highly competitive environments should consider implementing some of the tactics that are systematically tied to human resource practices to advance their work environments above their competitors.

Leadership and Retention Rate:

According to several studies, the regulated technique has been shown to provide additional benefits. According to Deery (2008), one of the ways that may be utilized to improve employee retention and determination is to provide employees with an opportunity to participate in training that is of interest to them. The findings of this study, which was conducted by Sarah Leidner and colleagues (2013), demonstrated that human resource practices have an important role in fostering employee loyalty to the organization. According to the findings of this study, there is a correlation between offering greater training to individuals and increased employee loyalty.

Job Satisfaction and Retention:

Davy et al. (1991) underlined the link between interest protection, interest pride, and retention. They also highlighted that the repercussions of loss of self-assurance among employees result in interest discontent from those individuals. According to Abraham (1994), while comparing the efficacy of teaching, it has been demonstrated that teachers with a moderate to high level of pride have been more effective than those with a low level of interest pride.

Work-life Stability and Retention:

One factor contributing to employee retention is the steady balance between the many aspects of professional and personal life. Based on this study, Hyman and Summers (2004) stated that art that seeks to intervene in the personal lives of personnel must be able to emotionally tire them and prevent the result from being excessively stressful for the various individuals. The findings of this study, which was conducted by Noor and Maad (2008), determined that enjoyment along the route of artwork-life stability is associated with low turnover intentions.

Employee Commitment and Retention:

Allen and Mayor (1990) concluded that during group settings, employees with strong or excessive worker attachment or devotion have low turnover intentions at the same time as those with weak or dreadful worker attachment or dedication. During his research, Fitz-enz (1990) concluded that employee commitment and retention cannot be defined by a single factor but rather by a combination of factors.

After researching organizational dedication in the public, non-income, and income sectors, Goulet and Frank (2002) concluded

that individuals from the income sector are the most committed to their employer. Subsequently, individuals from the non-income sector and eventually the general public sector personnel were found to be the most committed to their employer. Because of both extrinsic and intrinsic motivation, it was anticipated that employees working in the public and non-profit sectors would have a high level of organizational devotion; nevertheless, the study results showed that they did not live up to the expectations set for them.

Rashmi (2016) stated that in an aggressive environment, it becomes extremely difficult for an employer to survive since there is a possibility of an increase in the poaching of employees. As a result, it is of utmost importance to keep employees dedicated to the organization in groups.

Discussions:

Finding the right person for the right interest is not the most difficult task. Yet, it is also one of the most challenging tasks for human resource professionals to keep them. For retaining and, in addition, having dedicated workers, there are no effective human resource procedures that have been decided in agencies. Based on the evaluations presented earlier, it was found that some of the studies had been focused on internal factors. In contrast, others have been focused on external factors that influence retention.

In addition, organizations have a variety of take a look at procedures that vary according to the individual of the business and the key aspect that needs to be done by the HR department. Based on this study, Singh S. et al. (2010) concluded that exit interviews are particularly high quality when determining why an employee is leaving an organization. This, in turn, may also be beneficial in reducing the rate of employee turnover and fostering an increase in employee retention. Numerous studies have demonstrated numerous strategies and recommendations that may be utilized to maintain the skilled workforce to maintain the informed art job pressure.

RESEARCH METHODOLOGY

1. Research Design

When choosing a study design, it is important to consider the experiment's objectives, the variables that will be manipulated, and the circumstances that will be used to experiment. Based on the different types of objective studies, the present research study that has been selected is both descriptive and exploratory in character. To meet the basic objectives of the study, we need to evaluate the existing literature and grasp the available information.

2. Data Collection

We have gathered Primary Data for the study topic we are working on. The term "primary data" refers to information that a researcher gathers from first-hand sources via processes such as surveys. Information comes straight from sources and is gathered with the study goal in mind before information is obtained. We disseminated the form to various individuals within the information technology industry. The replies to our questionnaire were obtained through Google Forms, which were used to collect the data.

3. Sampling Technique

i) Method of Sampling: The attrition rate among employees in the information technology industry was investigated using probability sampling as the sampling technique.

ii) Sampling Unit: persons working in the information technology sector who are persons between the ages of 20 and 60 years old

iii) Data Collection: 201 individuals participated in the survey.

iv) time: Two Months

4. Data Analysis Tool

We used Excel and SPSS to conduct the research and analysis, including Linear Regression and Correlation Analysis.

Data Collection and Preprocessing

Dataset description

You may get the data set on human resource management utilized in this study effort by going to kaggle.com, which is available online and free of charge. The dataset in question includes ten characteristics and more than fourteen thousand entries. Each of the ten characteristics is connected to the issues that arise with employee turnover. Selected characteristics, along with an in-depth explanation of each one.

Data Exploration

Among the several procedures involved in data analysis, the most important one is data exploration. Statistical and graphical methods are utilized to describe the data. We must first investigate the data to have a deeper understanding of it and highlight the most significant features. During the data exploration phase, the HRM dataset has been subjected to variable identification, univariate analysis, and bivariate analysis sequentially.

Variable identification

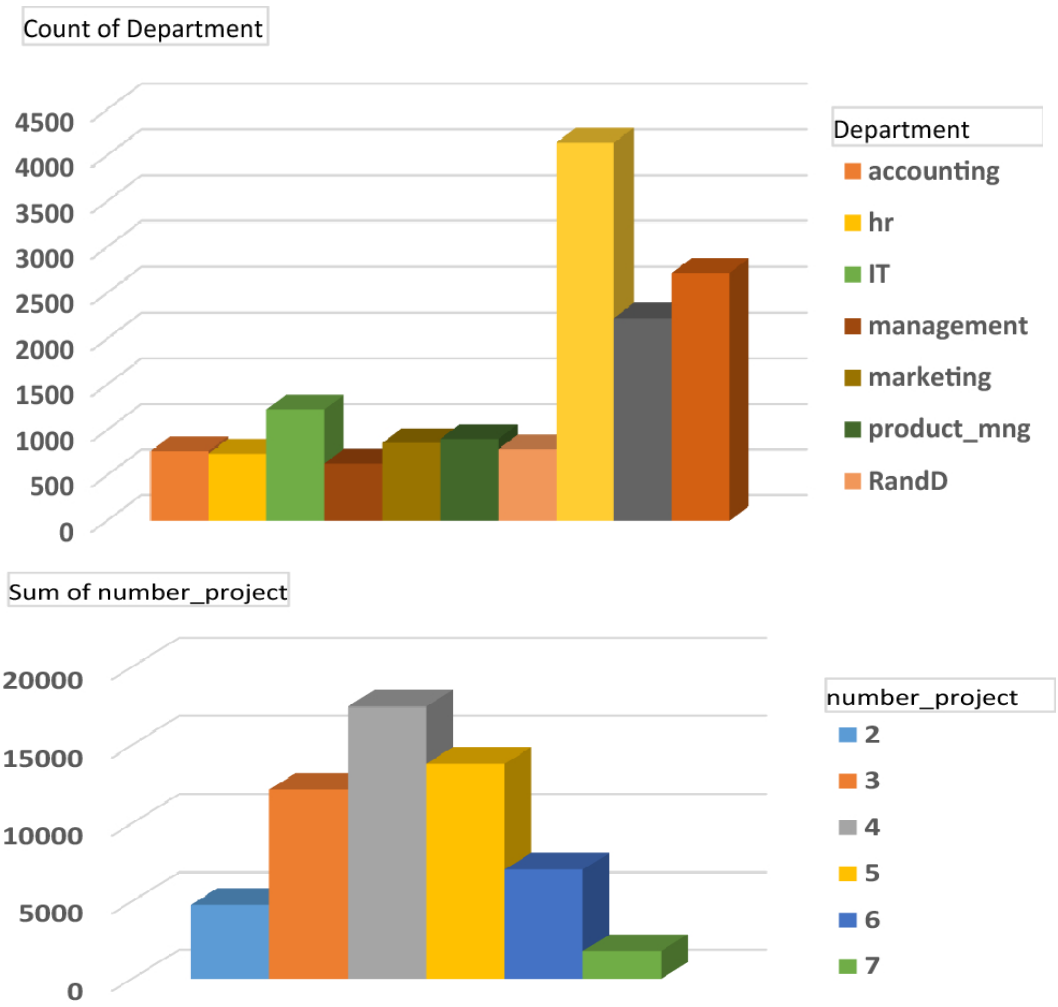
The initial phase in the process of data exploration is recognized as the identification of the variables. The completion of this procedure was accomplished in two stages. The first thing done is to determine which variables are input variables and which are output variables. The predictor variables are the input variables. The following stage involves determining the data type and category of the used variables.

Uni-variate analysis

Within the univariate analysis framework, continuous and categorical variables are investigated. The method used to carry out the univariate analysis is evaluated based on the kind of variable being considered (categorical or continuous). Each of these methods and statistical measures for categorical and continuous variables has been investigated by us independently.

Continuous Variables The mean, the standard deviation, and the spread of the variable have been the primary focuses of this section. The explanations for these are provided utilizing a variety of statistical metrics display techniques. We obtained a summary of the continuous variables.

Variables that are categorized when it comes to understanding the spread of each category variable, the most effective method is to use a frequency distribution. One way to interpret it is a proportion of the numbers that fall within each category. The count and the count percentage against each category are two metrics that may be used to measure it. One kind of visualization that may be utilized is the bar chart.



I discovered a research article with the title "Explaining and predicting employees' attrition: a machine learning approach" as a result of my search. This study was eventually published in SN Applied Sciences. This research aims to provide a new strategy centred on machine learning to improve various retention strategies for targeted employees. To lower the rate of employee turnover, monitoring the efficacy of employee appraisals and satisfaction ratings inside the firm is vital. This can assist in reducing the number of employees that leave the organization. A novel machine learning technique is utilized in this study to predict whether or not an employee will depart the organization. In addition to other machine learning techniques, such as Random Forest and XG Boost 2, the strategy uses a hybrid neural network. The research uses the IBM HR Analytics Employee Attrition and Performance dataset that Kaggle provided. This dataset contains information on 1470 different employees. The variable that needed to be forecasted was whether or not employees left the firm, and 35 factors, including academic background and environment satisfaction, were considered 2. In terms of sensitivity and F1-score, the hybrid neural network technique was found to have the highest level of performance, according to the study's findings.

There is a possibility that deep neural networks might be utilized to forecast employee turnover. Some research publications have presented various machine-learning algorithms to predict employee turnover. An article titled "Employee Attrition Prediction Using Deep Neural Networks" was published in MDPI 1 and is an example of this type of paper. Through the utilization of the IBM Watson dataset, the study presents a deep learning approach that is proposed to forecast staff turnover. The technique developed to increase the accuracy of the prediction of employee turnover uses contextual embeddings and preprocessing processes.

Proposed Model Technologies

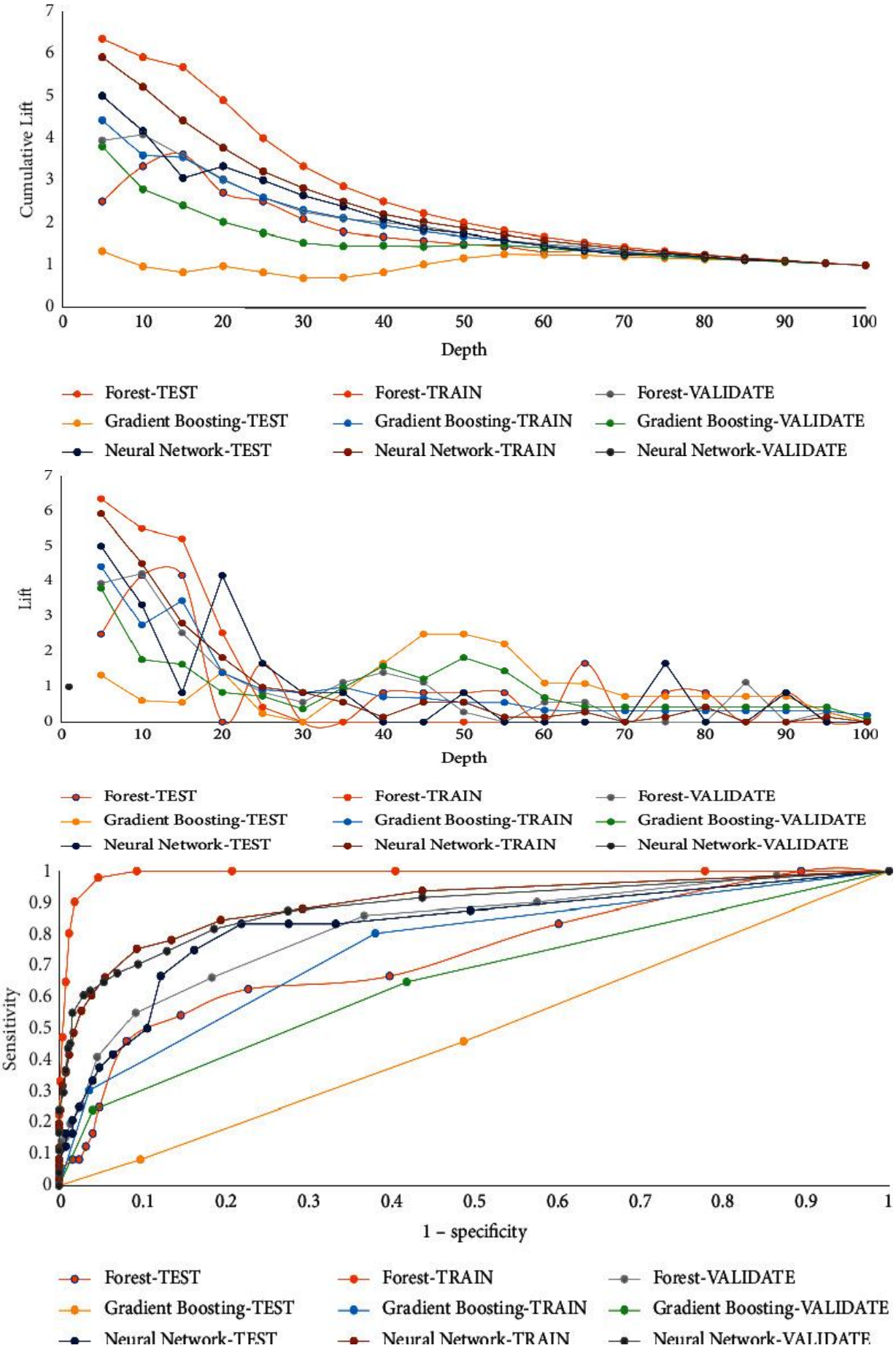
Several machine learning algorithms were created to learn from the data that is specifically referred to as training samples. The trained model analyses and predicts the intended class when fresh data are obtained. The machine learning algorithms that are utilized in prediction are discussed in this section.

(MLP) stands for the Multilayer Perceptron Classifier. In 1943, Warren McCulloch and Walter Pitts, a mathematician, published the first paper that introduced the functioning of neurons.

Results Discussion

Various machine learning strategies, including gradient boosting, artificial neural networks, random forest, and ensemble models, have been put into practice in accordance with the projected model. In addition, several other performance measurements, such as cumulative lift, lift, accuracy, and F1 score, have been adopted to determine which machine learning algorithms are the most effective.

To determine the cumulative lift, all partitions are ranked in descending order according to the probability that the desired event will occur. Attrition, or PIn the case of target attrition, the answer is "Yes," which indicates the likelihood of the event occurring.


Cumulative Lift
Depth
Forest-TEST
Forest-TRAIN
Forest-VALIDATE
Gradient Boosting-TEST
Gradient Boosting-TRAIN
Gradient Boosting-VALIDATE
Neural Network-TEST
Neural Network-TRAIN
Neural Network-VALIDATE
Lift
Depth
Forest-TEST
Forest-TRAIN
Forest-VALIDATE
Gradient Boosting-TEST
Gradient Boosting-TRAIN
Gradient Boosting-VALIDATE
Neural Network-TEST
Neural Network-TRAIN
Neural Network-VALIDATE
Sensitivity
1 – specificity
Forest-TEST
Forest-TRAIN
Forest-VALIDATE
Gradient Boosting-TEST
Gradient Boosting-TRAIN
Gradient Boosting-VALIDATE
Neural Network-TEST
Neural Network-TRAIN
Neural Network-VALIDATE

Findings and Recommendations

By examining a wide range of research publications, we identified seven characteristics responsible for causing attrition in the information technology sector. We then proceeded to analyze these factors by employing regression and correlation techniques. The organization's culture, remuneration, and present job are the three most responsible for the regression of the seven components.

It was determined that the variables Support from Seniors and Culture, Recognition and Compensation, and Work-life balance and Hours spent at work are statistically significant, with a significance level of less than 0.05. The use of correlation determined this.

To reduce employee turnover in the information technology sector, we must develop retention strategies that revolve around these characteristics.

Conclusion and Future Work

Based on the study's findings, it can be concluded that Culture and Compensation Current Role are key elements contributing to employee turnover. Additionally, the reasons workers give are dynamic, presenting a substantial problem to human resource experts. This is because the reasons vary based on the various demographic variables. The higher the rate of employee turnover, the less effective the company is in accomplishing its objectives, which in turn has an effect, either directly or indirectly, on the amount of money it makes.

The management team needs to develop a plan that considers all the many elements that affect the employee turnover rate. When designing a strategy for crabbing attrition, it is important to consider the viewpoints of various employees. This will result in cost savings, enhanced productivity, improved talent acquisition, and stronger talent retention, all of which affect the business's profitability.

One of the strategies that may be implemented to retain employees is to provide them with opportunities to switch tasks quickly and increase their salaries annually with a small percentage change. Additionally, it is important to establish a long-term connection with the employee. A. To keep the tremendous talent that you already have, it is vital to provide a healthy raise for your current staff.

It is of equal importance to cultivate a pleasant working environment. Human resources must examine its culture and devise strategies to establish and sustain a healthy work environment for all employees inside the firm.

Including performance-based incentives as a significant component of an employee's salary is highly recommended. To establish a healthy work-life balance for the employee, it is vital to provide a good raise and improved working hours.

To facilitate the opening of any communication channels that may be closed, the company's culture must incorporate the adoption of good work, hierarchical connections and openness.

The importance of skilling employees via consistent training and development sessions and acknowledging their accomplishments cannot be overstated.

In addition to this, a variety of mathematical models and statistical measurements were suggested. Some examples of such indicators are the Gini coefficient, the misclassification rate, and the average square error. These metrics will be the foundation for selecting the best or most effective model for production scenarios.

Based on the results, it was determined that the lower number accurately reflected the flawlessness of the model. The findings, on the other hand, demonstrated that no model has been able to be called optimum and perfect for every single business scenario up until now. On the other hand, the model we selected was ideal in terms of our needs and fully achieved the purpose we had in mind.

In conclusion, it has been proposed that more research should be carried out on the subject to make a contribution to a better knowledge of the subject matter and to offer fresh findings that either support or oppose the findings of the current study as well as other literature that is accessible on this specific area.

Data Availability

The data used to support this article's conclusions are freely accessible through the SAS library, which may be found at www.sas.com.

References

1. employee attrition pdf - Search (bing.com)
2. Brijesh Kishore Goswami, Sushmita Jha (April 2012), "Attrition Issues and Retention Challenges of Employees", *International Journal of Scientific & Engineering Research* Volume 3, Issue 4, April-2012 1 ISSN 2229-5518
3. Naukarihub, Employee Retention, http://retention.naukrihub.com/retention.html.
4. Perrin T, To stay or leave: Job satisfaction and turnover, http://www.charityvillage.com/cv/research/ rhr6html.
5. Phillips J J and Connell A O (2008), Managing Employee Retention, *Elsevier*, New Delhi.
6. Achoui M and Mourad M (2007), "Employee turnover and retention strategies: Evidence from Saudi companies", *International Review of Business Research Papers.*
7. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9251085/.