

ENHANCING EMPLOYEE ENGAGEMENT: LEVERAGING AI - SENTIMENTAL ANALYSIS AND INSIGHTS

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Abstract

In today's rapidly evolving hybrid workplace, employee engagement has emerged as a critical factor for organizational success. Engaged employees are more productive, go the extra mile of work, and get infused into their task accomplishments. Not Every employee remains consistently engaged and the Organization cannot constantly monitor each individual to assess their level of engagement in hybrid work mode. It is a quite challenging task. According to Gallup 2022, only 15 % of employees are engaged at work and the remaining are not engaged and disengaged. The gap is large when it comes to engaging employees in hybrid work mode. To comprehend this, Organizations are employing AI technology which has proven beneficial in gaining deeper insights into their employees, thereby enhancing their understanding of their workforce. The main aim of the paper is to understand how AI technology sentimental analysis advocates employee engagement and track employees towards better performance, productivity, and retention. The second aim is to comprehend the role of AI-sentimental analysis in engagements. A qualitative approach using data from linkden, feedback survey and deep interview method of 30 IT working employees. Primary data is collected with the help of a structured questionnaire and reports are recorded and transformed into sentimental labels. The study showed that employers could easily identify employee opinions; and perception feelings towards the job and proactively take action towards engaging employees by providing feedback and skill development programs.

Keywords: Employee Engagement, Artificial Intelligence, Sentimental analysis, Hybrid work mode and Retention.

INTRODUCTION

An organization may stagnate or fail to flourish if its executives are unable to identify and address the emotions of their staff in the fast-paced business world of today. Employee sentiment analysis is the process of automatically analysing employee feedback and other unstructured data to quantify and characterize how employees feel about their employer using natural language processing (NLP) and other artificial intelligence (AI) techniques. An NLP technique called sentiment analysis is used specifically to determine the emotional tone of a body of text. One example of this technique is employee sentiment analysis. Opinion mining and sentiment analysis are two terms that are frequently used to identify consumer attitudes toward goods, services, and brands. Finding positive or negative sentiment in text is the process of sentiment analysis. By evaluating its workforce, employee sentiment analysis can help a company identify its advantages and disadvantages. This can give companies insight into the attitudes that employees have, both favourable and unfavourable, toward the company, its rules, and the culture of the workplace. Standardized or open-ended employee surveys are commonly employed by

organizations to gather feedback and track changes in employee satisfaction and other perceptions over time. HR directors can use the data from these surveys to address employee concerns and enhance the overall employee experience.

Sentiment analysis is the process used to measure or examine the emotions that the reviews portray. In sentimental analysis, fundamental methods such as machine learning, natural language processing (NLP), and statistics are employed to extract the emotions and the ideas that people express. By routinely tracking employee sentiment regarding job security in Indian IT firms, companies can spot patterns, worries, and opportunities for development. Companies should, for example, improve employee engagement, offer upskilling chances to keep up with industry changes, and be open and honest about their strategic plans to address these concerns if they notice unfavourable attitude.

The majority of businesses still use traditional survey methods to measure and track employee engagement, often doing so once a year or more. Even though these practices have yielded a wealth of information about the characteristics and implications of engagement, it is time to reconsider how engagement is measured and, more significantly, how the same digital tools can be used to increase worker satisfaction, productivity, and retention. Hence the study focus in determining the employee engagement with the help of sentimental analysis to reduce attrition. It make an attempt to provide a valuable contribution in understanding the positive sentiments and negative sentiments which signifies the HR and organisation.

LITERATURE REVIEW

Employee Attrition

Attri (2018). Why Employee Leaves The purpose of this study is to determine how much machine learning (ML) can be used to predict which employees are likely to depart. Specifically, the models' true positive accuracy is of interest. Study concludes that in order to produce trustworthy results, the management expert should employ technical approaches for their study going forward. This will enable the HR system to respond appropriately to situations as they arise, accurately forecast prospective employee departures, and determine the reasons behind them. Dhanalakshmi and Devi (2020). Adaptive cognitive intelligence in analyzing employee feedback using LSTM. Low pay, excessive workloads, a lack of opportunity and recognition, a work-life imbalance, poor work culture, and other factors can all cause employees to leave a company. Recognizing and meeting employees' needs is a better strategy for keeping them on board. Employee review comments are categorized as Positive or Negative based on sentiment analysis. The suggested model successfully satisfies its goal function, which is to do sentiment analysis on employee feedback evaluation comments.

Thanrani and Raj (2020). Predicting employee turnover intention in IT & ITES Industry using machine learning algorithm this study examines the key factors influencing an employee's intention to leave the company and employs machine learning algorithms to forecast an employee's intention to do so in the near future. Knowing the elements that influence an employee's intention to leave the company, management can take proactive

measures with strategic policies and choices to significantly minimize that intention and increase an employee's engagement at work. Using machine learning algorithm the study examined factors leaving companies Kumar and Jain (2015). Sentimental analysis and feedback evaluation the study concluded that sentimental analysis could detect a number of qualities that had not previously been mentioned in their control questionnaire. Juyal, Vij and Virmani (2023). An Employee Feedback Model Based on Sentimental Analysis and words clouds Positive feedback helps identify what an employee values about the organization, as well as its strengths and areas for improvement. It raises the company's total profit.

Negative comments ought to be interpreted as constructive criticism, meaning that the company should improve in the areas where it isn't meeting the requirements and desires of its workers. This study suggests creating word clouds as a means of employing sentiment analysis to analyze employee feedback. TCS Employee Review data, which included both Indian and international reviews, was taken into consideration to test this feedback mechanism. The findings indicate that individuals have a positive attitude toward the business and that they are generally content and happy with it. The article from economics time's device can understand human emotions. YES! With the help of AI we can analyse employee emotions and their feelings this provides HR an overall view towards employee well-being. Due to large extension of business technology and different work patterns attrition rate are increasing thus it is required to focus on comprehending to engage employees. Uses the Lexicon Sentiment Method to examine the tone of online reviews. Businesses may learn a lot from the study and use it to enhance their products and services by better understanding the opinions and feelings of their customers as stated in these evaluations. S. Rao, J. Chitranshi and N. Punjabi (2020). In addition to rewards and incentives, well-being, and management behavior, the most often mentioned criteria were career progression and work-life balance—or lack thereof. R. E. Sari, S. Min, H. Purwoko, A. Furinto and D. Tamara (2020) Using AI-based software can greatly assist management in anticipating employees' attitudes and behaviors through predictive indications, in addition to determining each employee's level of involvement. As a result, the business may actively retain important personnel. N. S. Shami, M. Muller, A. Pal, M. Masli and W. Geyer (2015). Social media text has a much more predictive value than demographic data alone, as shown by the ability to predict survey engagement ratings by combining social media text with demographic data. And discover that engagement might be a condition rather than a constant feature because the most predictive social media posts were those made closer to the survey's administration. Thus the study finds the gap that there should other factors which can impact employee engagement

Objective

To understand sentimental analysis towards increasing employee engagement.

To analyse sentiments positive and negative factors impacting employee engagement.

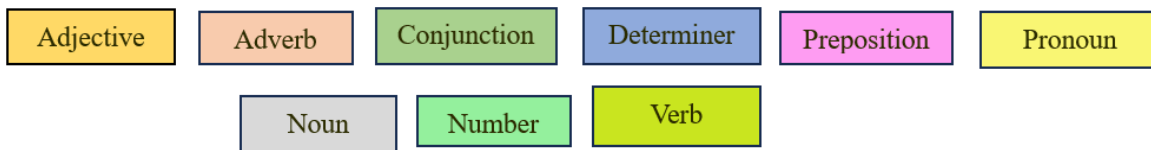
METHODOLOGY

Qualitative analysis with convenience sampling method used to collect data. Data from Glassdoor survey, website, LinkedIn, feedback survey employee reviews working in IT companies were used for the analysis the employee sentiments and structured questionnaire was also used to get direct statements. The data from feedback were arranged in a meaning full order. The completion of data the repeated multiple times reviews are collected and sorted. POS tagging is used to separate the adjective, noun, and verb were presented. IBM Watson text analytics using natural language understanding is used for analysing the positive, negative and neutral factors as well as emotional score of each statement. With the help of world cloud tool the prominence of word frequency was identified. The sentimental analysis tells us which sentiments trends are keeping employee happy and which sentiments are not. This clue act as a great swift in analysing the employee emotions towards work.

Analysis and Interpretation

Sentimental Analysis

POS Tagging: The data collected from feedback survey, social media and deep interview method are put forward to Rule based POS tagging it is used to remove the word ambiguity or word sense it conveys the meaning of the word. Thus, POS tagging supported the study to remove the bias.



- It's possible to balance everything when it come hybrid work environment
Communication is very important. Clear communication helps prevent misunderstandings and misinformation leading to a smooth work flow
- Reward and Recognition
Arranging well being calls for the employee and organizing events for the same on a monthly or fortnightly basis
- Hybrid work culture should be a choice
- Ask for learn from feedback
- To have periodical team outing
- Work life balance
- To conduct more engagement activities
- Company should take interest in knowing employee's strength better and give them opportunity to their work by giving space.

Very few statements are depicted here to show the POS tagging. Thus the study concludes that there is no ambiguity of the statement and put forward in understanding the sentiments.

Sentiments Score

Using IBM Watson Natural Language understanding Text Analysis . Th study identified sentimental score , keyworded and cocepts

Identified keywords extraction are : Meaning ful work , Inclusive work environment , Positive feedback , new employees , Strong induction program , rewrad amangement , work environment , financila rewards , development programs , effective employee feedback , caring cultture ,employee activites , collaborative porductivity , trnafomrational leadership , work life balance ,recognition program , open dialogue

Keyword Sentiment Scores

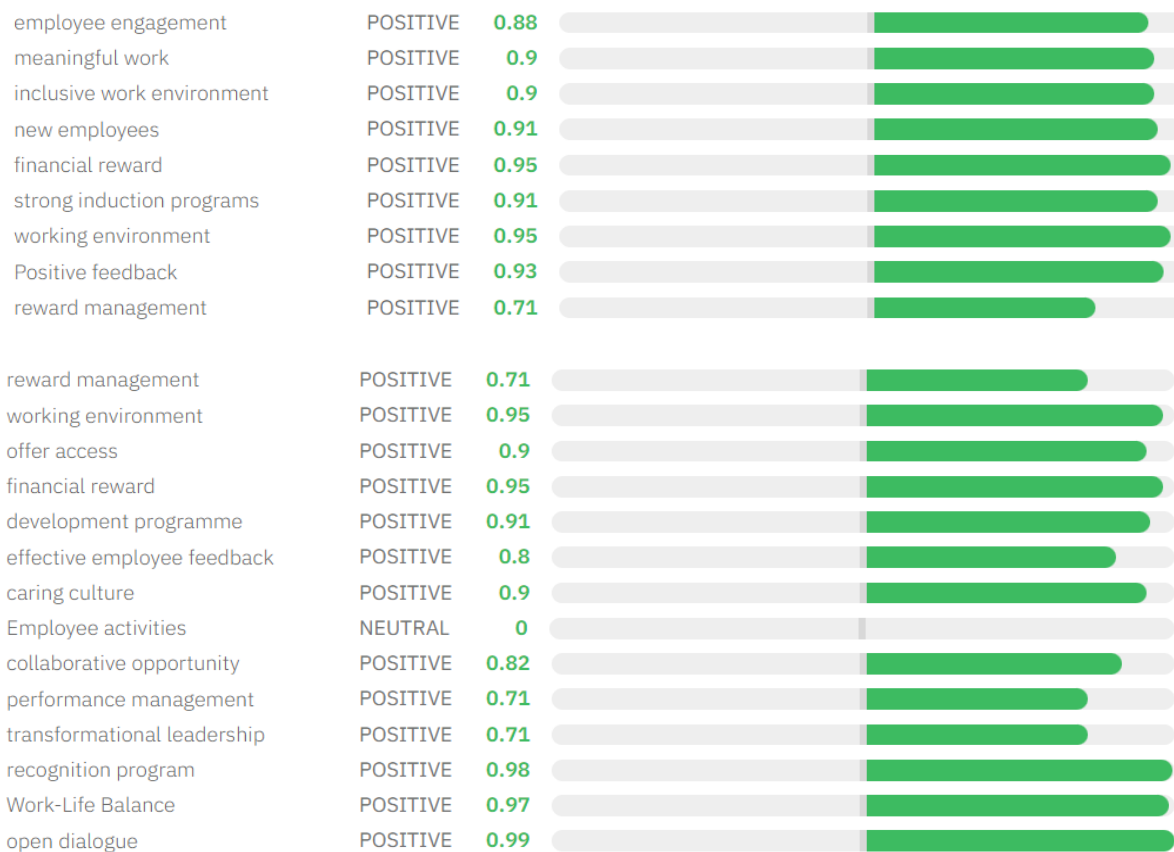




Figure 1 : Shows Sentimental Score

The green in bars indicate employees are positive sentimental for the factors towards engagement and the red indicates the negative sentimental. The major sentiments identified through employee feedback and survey in linkedin showing positive are 99% shows open dialogue between employee, leader and top management an import factor for engagements. 98 % of the sentiments are clear career growth it clear say if career growth is identities and given there is a less chances of attrition rate and thus increase engagements. 98% have given their opinion as good recognition program gives a positiveness. 97% indicate having a good work life balance can enhances engagements. 95% say financial rewards are expected positively along with work environments. There few new positive driving sentimental which are identified are 91 % new employees, 91 % says development programmes, 91 % strong induction program ,90% meaning full work,90 % caring culture, 82 % collaborative opportunities , 71 % transformational leadership , 71 % indicates performance management are showing positive towards engagements .

The real times shows negative -51% and also recognition shows -51%. The maximum confidence indicating negative is monotony of work -96%, -84 % shows inappropriate meeting times is inclined towards negative engagement factor. -72% work load assigned to an employee appears negative sentiments. -51 % proper appraisal exhibit negative too. Thus, the study concludes that by seeing the statements both positive and negative helps HR and organization to frame retention strategies.

Table 1: Shows Sentimental Score

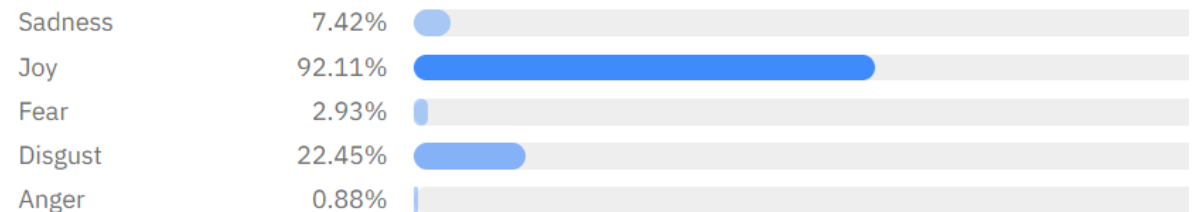
Leaders



development programme



Growth and Development: Employees



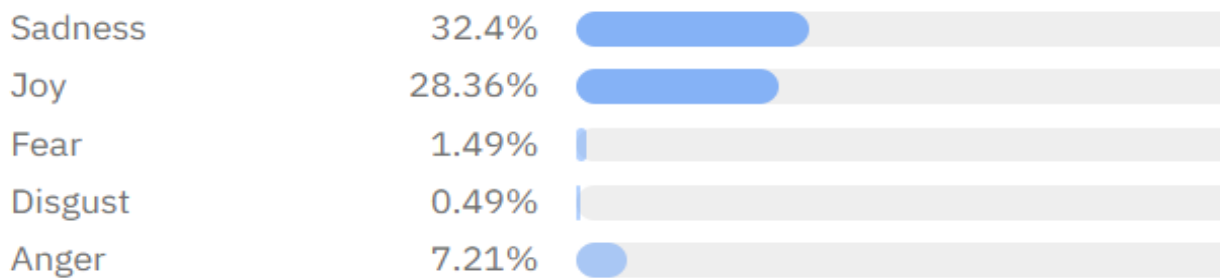
clear career growth policy



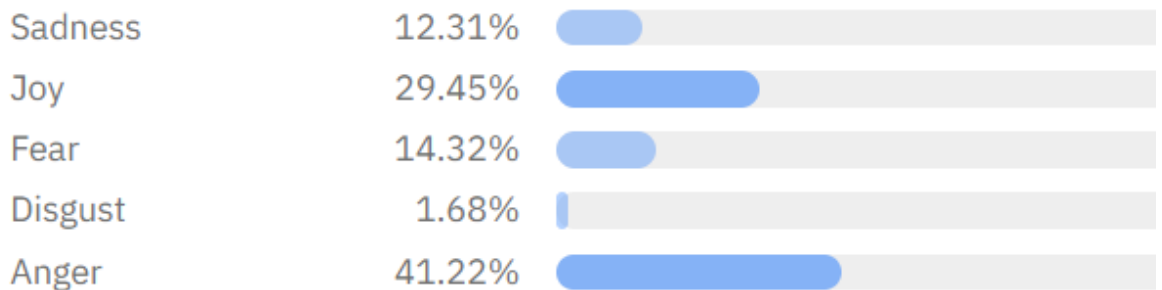
financial reward



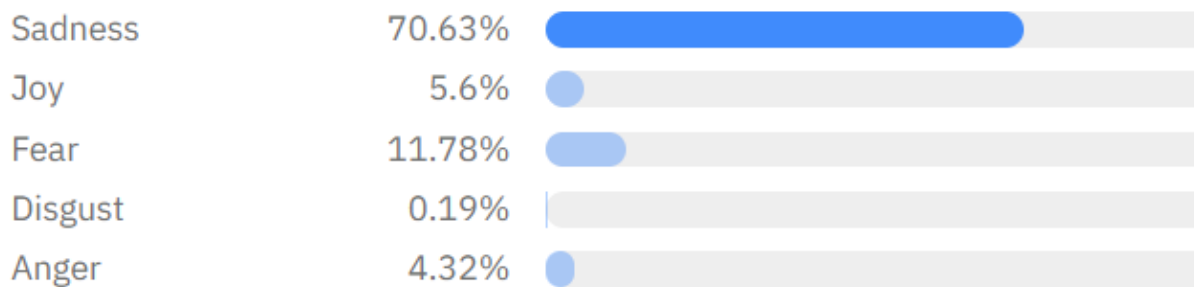
effective employee feedback



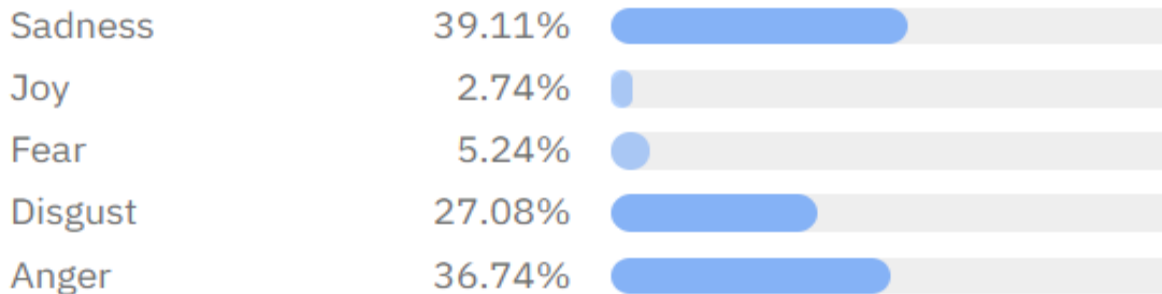
Monotony



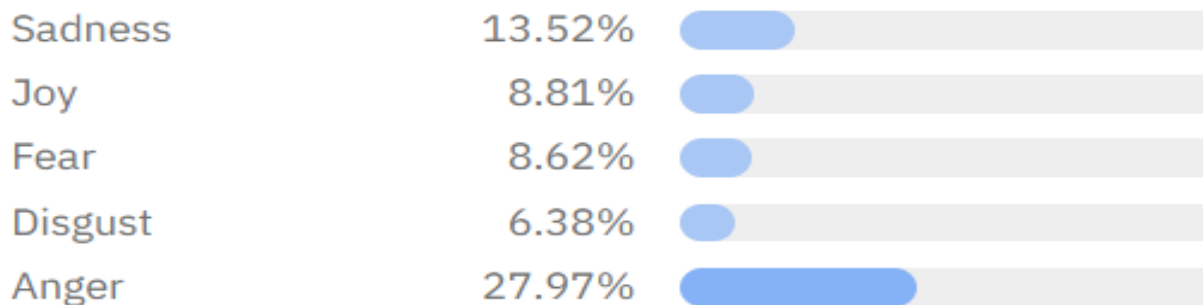
work load



inappropriate meeting times



leadership



There were many sentimental score given for each factor and depicted three. It states the joy factor which makes employee happy. The sadness talks about their disinterest or factors having negative impact on employee. Majority of the feedback indicates joy but effective employee feedback factors show 32.4 % sadness thus employees are not happy with the feedback provided by the organization. 32 % of employee feedback for some employees feel sad so company has to change the feedback pattern. 41.22 % show anger towards monotony of work.70% are sad to work load. Very interesting part is inappropriate meeting times is showing 36.74% anger and 39% sadness. Where this sentiment should be considered paramount. Leadership also depicts anger 27.97 %. Thus, keeping in view, the sentimental scores of each individual elements or statements the organization has to deepen their interest and work on that.

The statements extracted from feedback are dropped in Word Cloud to assess the prominent words derived from the text data. The figure provides the graphical representation of word frequency having highest to the lowest prominence words in the text.



The highest modes of word used by the respondent in the feedback survey, deep interview, Reviews are Recognition, Rewards, Feedback, Communication, developments programs, Work environments, Leaders, meaningful work, well-being and leadership. The lowest modes of words are technology, appreciation, collaborative opportunity, learning programs, bonus, motivation, pay & benefits.

FINDINGS

The study finds sentimental analysis of NLP technique determines the text data is positive or negative. Majority of the statement were positively identified and positive emotional score JOY like career growth, recognition, rewards, leaders, feedback, transformational leadership, work environment, development programs. Negative statements or emotional score Sadness or anger are work load, monotony, inappropriate meeting times, appraisal, politics. The study identifies neutral statements are personal development programs, employee activities, leaders and recognition.

CONCLUSION

The study concludes employees express their emotion in different forms. Emotion should be understood in all form of data. It should not only consider formal survey taken by HR where sometimes employees can give their fake outputs. Human can manipulate words, action but their inner emotional tone cannot be changed. With the help of sentimental analysis, the data provides emotions such as anger, sadness, joy, fear and disgust organization should not only focus on exit interview or survey taken formally. The

feedback in the social media or any other form of feedback should also be focused in order to understand employees' interest towards working their organization. Knowing their emotions can reduce attrition rate and increase their engagements.

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