WISE

(Workplace Investigation of Stress and Elimination)

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ABSTRACT

Stress isn't always bad. A little stress can help you meet the new challenges and stay focused at your workplace. But in today's hectic world, tight deadlines and long work hours can leave you feeling exhausted. When stress exceeds your ability to cope, it stops being helpful and causes damage to your mind and body and your job satisfaction.

In a recent global survey by The Regus Group it was found that 6 (six) in every 10 workers in significant global economies experienced increased workplace stress. The paper aims at establishing an analytical process using sentiment, text and voice analysis that will help an organization understand the mental wellbeing of their employees and develop a healthy work-life balance by recommending company-based stress reduction programs according to their stress levels.

Keywords: workplace stress management, text analytics, sentiment analysis, acoustic analysis, recommendations.

CONTEXT SETTING

About 89% of the population in India are suffering from stress, with workplace stress being the key reason. While, in today's rapid-paced life everyone at some point in time feels stressful/depressed but is hesitant to discuss his/her mental health issues directly with others and especially at their workplace thereby affecting the efficiency in work. This paper aims at studying the workplace stress with a wholistic view as well as at a micro level by analyzing the employees working patterns. Once identified it suggests ways a company can sooth their employees with certain stress reduction programs to improve the employees work performance for a win-win situation for both

PROBLEM SCOPING

To get an integrated view of the employees' mental wellbeing a short survey was conducted with 50 respondents. The respondents were from an age group of 21-55 years (both males and females). General questions about their working schedule, sleep time, leaves cycle, do they spend enough time with their family/friends were asked. It was observed that the females in age group 36-50 years could be more prone to workplace stress observing their general habits /working patterns (critical values marked with   in the graphs):

The respondents were also finally asked if they would prefer a complete work from home or a partial work from home enablement or not and a reason for the same. This was further utilized while designing a stress management program for them.

To further better understand these findings at a micro level we picked up a case from the 50 respondents who is a 39-year old working female, Sneha, living in a metro city India. Sneha has been working with the company for last 10 years and resides with her husband and two school going children. According to her responses, Sneha works for 13-14hrs in a day, sleeps for 6 hours, has taken her last vacation 1 year back and only gets to spend quality time with her family and friends on the weekends.

Aim was to study her working pattern to identify if she is experiencing stress during her worktime. This study was done by monitoring her work activities for 10 days.

SOLUTION OUTLINE
### General Solution Architecture
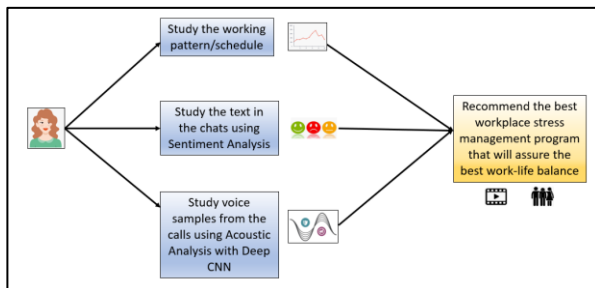
Sneha was seen to be online and working continuously crossing the advisable 9 working hours mark for most of the days with minimal breaks.


Also, her chats with some of her colleagues indicated that she was a little stressed about her work. The text in the chats was studied using sentiment analysis to understand her mental though the span of 10 days, which showcased she had difficulty in coping with the work pressure and a word cloud in R of the words in her text indicated that the words late, deadline, work, tired were used mostly.

Sentiment Analysis in R used over the same text helped identify her emotions and in turn her stress levels were classified into a red/yellow/green flag for further steps towards her stress management.
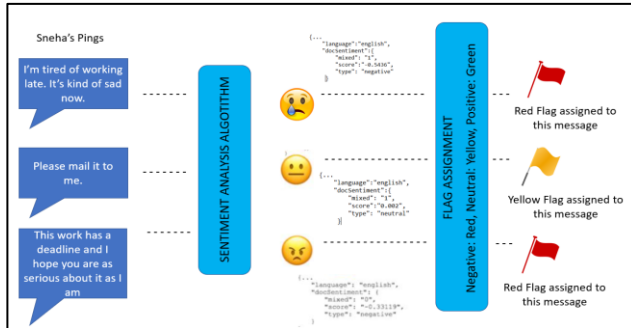
Finally, some voice samples from her calls were analyzed to understand her mood while she was working. We aimed to use a model with Convolutional Neural Network in Python for emotion detection and classification and that too indicated that she was facing a little anxiety issue as she was red flagged for her voice notes for quite a few times from the pitch analysis.
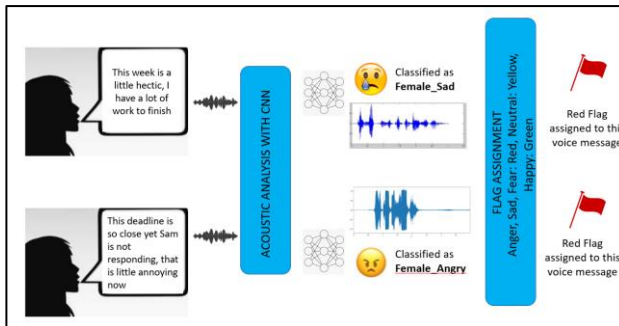
Keeping all the above results in mind we finally concluded that Sneha needed some workplace stress management program for her mental well being and performance improvement as well.

Stress Management Program Suggested to Sneha:

Sneha was given enablement to partial work from home facility where she could come to office on alternate days and save some of her travel time to spend time with her family on the rest of the days.

She was also suggested a personalized action calendar under the company's Mental Wellness Program for every month with one activity per day where she could engage in her favorite hobby, talk to her friend, spend time with her kids, focus on fitness, etc. Also, biweekly call with her supervisor was scheduled for better communication.

BENEFITS

This idea caters to a work-life balance maintenance to improve mental health conditions of the employees who hesitate to share their feelings/at their workplace .Also, this analysis is helpful for the company as it will help its employees improve their work performance, creating a healthy working environment for them. Another advantage is a low analysis cost since we have used the open source technology (R/Python) for the analysis.

CHALLENGES

A major challenge is the employees' reaction. Most of the times people do not accept that they might be susceptible to mental health issues. So how will they react to such a mechanism where they are given recommendations, or someone reaches out to them for assistance. Challenges related to data privacy and security standards may also arise when it comes to web scraping an individual's data.

CONCLUSION

With an increasing fear of unemployment people tend to overburden themselves to prove their working efficiency which in turn leads to an imbalance in their personal and professional lives. Using this analysis, it would be great to reach out and provide on time mental help to employees' like Sneha who are sub-consciously a victim of stress due to work and can perform even better if a best working condition is created for them to bring back their balance in life.

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