ADAM- Anxiety Detection and Management: a Solution to Manage Anxiety at Workplaces and Improve Productivity

Dilara Mannapperuma
Department of Business School,
Informatics Institute of Technology
Colombo, Sri Lanka
dilaramannapperuma@gmail.com

Abarnah Kirupananada
Department of Business School,
Informatics Institute of Technology
Colombo, Sri Lanka
abarnah.k@iit.ac.lk

Abstract— **This paper documents the research conducted for an application aiming to help employees from the IT industry in Sri Lanka to manage their anxiety. Anxiety in workplaces burdens a significant number of employees around the world, making it challenging to reach their goals and increase their productivity. In Sri Lanka where mental illnesses are considered a social stigma, there is a lack of mental health applications. The application, ADAM (Anxiety Detection and Management), will help employees facing anxiety to realise the severity of their condition and encourage them to seek professional help, while also providing a few self-managing activities they can follow. The Hamilton Anxiety Rating Scale (HAM - A) was utilised with questions modified to help employees understand their triggers at work. A Rule-based machine learning model is used to allocate appropriate anxiety-management activities according to the employees' gender, age and severity. This model was implemented for the scale to help collect data and identify patterns of the severity. The application helps achieve sustainability in terms of increased productivity amongst employees, as a result of better managed anxiety and falls under the Sustainable Development Goal (SDG) of 'Good Health and Well-being".**

Keywords— Anxiety, Anxiety Disorder, Self-assessment, Self-management, Workplace intervention, Anxiety management activities.

I. INTRODUCTION

Anxiety is no stranger to us as humans. It is a natural feeling embedded in us that sparks during fearful or uncomfortable situations. However, when this feeling is constant and disrupts day to day activity, it can be diagnosed as an Anxiety Disorder (AD) [1].

One obstacle faced with anxiety is its link to social stigma. Even in Sri Lanka (SL), it is a prevalent condition and such mental health disorders are often associated as a social stigma according to Dr Ratnaweera [2], which makes people reluctant to inquire about their problems with mental health professionals. Much like other mental disorders, a person's self-assessment of AD is of crucial importance for diagnosis and management of treatment [3].

AD amongst employees is said to result in lower overall productivity in workplaces [4]. Reason being anxious employees are famous for avoiding responsibilities and tasks assigned to them due to the fear of being unable to complete it, turning down opportunities offered to them such as promotions due to lack of confidence, fearing decision-making, being unable to work in teams, and fearing taking

risks All of these lead to problems such as spending too much time on tasks, showing no progress in tasks, lacking

meeting deadlines, lacking communication and would limit their job scope.

In context of the information communication technology (ICT) industry, the tight deadlines, impractical prospects of clients, rapid change in technology and the reduction in job safety, drove clinical psychologists to conclude that this field leads to a lot of anxiety, depression and loneliness [5].As reported by the World Health Organisation (WHO), approximately 12 billion working days will be lost as a result of untreated anxiety and depression by the year 2023. Organisations that recognize and support those with mental disorders such as AD would better benefit from improved productivity, low absenteeism rates and favor from related economic gains [6]. Here are some problems to consider regarding AD in Sri Lanka,

Lack of knowledge on severity of anxiety – Victims of anxiety are mostly unaware of exactly how severe their condition is and hence would avoid taking the necessary actions to manage it.

Anxiety being a social stigma in Sri Lanka – It is well known that mental health issues such as anxiety is a social stigma in some countries. Sri Lanka, although improving does have this social stigma in place. Thus, people would not accept and would hide their condition.

Lack of mental health application in Sri Lanka – There is a lack of mental health applications in Sri Lanka hence it would be benefitable to introduce one and break the existing stigma and help employees facing anxiety improve their productivity.

Considering these problems, the author decided to undertake research into finding a solution and develop a prototype..

II. BACKGROUND AND RELATED WORK

A. Anxiety and its effects

There are approximately 284 million people globally who are victims to AD. In Sri Lanka, the estimated cases of AD come up to 3.4% of the total population [8]. Some treatments for anxiety include psychological therapy, cognitive behavioral therapy or pharmacotherapy. Pregabalin, antidepressants, buspirone, moclobemide, are a few other treatment options that could be suggested by a medical professional [6].