Chapter 7
A Neural Network Approach to Increase Project Team Effectiveness Through Emotional Intelligence

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ABSTRACT

Artificial neural networks (ANNs) and their applications have revolutionized several industries and functions, including HR, in a short span of time. These state-of-the-art AI solutions build together or independently a more efficient way for the human resource managers to predict the potential success of an employee in his or her work team. Extant research has established the positive effect of emotional intelligence on team effectiveness. Emotional intelligence is playing an increasingly bigger role in determining one's success as an effective team member. People with higher EQ are better able to work in teams, adjust to the change, and are flexible in workplace. This chapter attempts to design a model, deploying neural networks, to aid in increasing project team effectiveness.

INTRODUCTION

The traditional perspective of Human Resource Management being a support function is being overcome by appreciation of the fact that HR is a business-oriented or strategic function (Hope-Hailey et al., 1997). Emerging strategic HRM practices are comprised of aligning the processes of Human Resource Manage-

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ment with the objectives of the business in a company (Boxall et al., 2007). Traditional HR practices included collection of personal records of the workers as well as the information linked to them like the health benefits, review of performance, payroll, etc (Channi et al., 2022). In present scenario the functionality of HR has extended its edges and is playing a bigger role in a company. Human Resource has proven its ability of becoming a strategic partner by using the advantageous benefits of data analysis (Lawler et al, 2003). Such a growing potential and importance of Human Resource analysis is not just a theoretical matter, but also depends on the data of the people and needs a high level of expertise in data science (Njemanze, 2016).

In recent years, machine learning and artificial intelligence has taken a great leap forward. Analysis of data done on real time is made effective further by correctly using the tools of Artificial intelligence. Numerous companies such as UBS groups, Citigroup, Goldman Sachs, and other such companies use the software of AI for assessing traits such as Teamwork. These tools are helpful to predict the workers that can be highly successful in their job, or the best suitable employees for a specific profile. Such tools using Artificial Intelligence can be applied to analyze documents, resumes, video interviews, etc. to help in generating the important patterns linked to the employees (Oran, 2016).

AI uses technology of the brain of humans. Amazon used AI to make crucial decisions in its business in 2018. It employs algorithmic methods, which means that the collection, training and growth criteria are used based on various algorithms. Barbara (2018) found in his paper that AI technology is concerned with the cycle from sourcing to interviews. Wislow (2017) studied about the manner of using AI in HR, and it was made clear that AI reshapes the way companies handle their employees and create strategies that improve efficiency. AI can forecast the needs of workers and retention for employees in the organization because work can't be done manually, and that work can be done easily with the help of artificial intelligence. Today many businesses like such as Google, IBM, etc. use AI and have gained many benefits like easy access to information. AI can minimize the workload of HR managers and reduce time, as it helps in retrieve and picks, as well as granting leaves to workers in the company. Surve (2017) studied the problem for AI is Human-Robot Interaction (HRI). Yet Emotional Intelligence is not available for AI. It is the greatest downside of Human-Robot Interaction. Robots can only do the pre-instructing stuff.

Apart from the present scope of application of AI techniques in HR, there is a significant scope of use of these techniques in building and deploying agile teams. Today's complex business scenarios, with need for rapid and flexible response to change, require solutions through the collaborative efforts of agile teams. Standard methods used for the statistics like the Linear MDA (Multiple Discriminant Approaches), multivariate approaches, and univariate approaches etc. were based on assumptions made linearly along with the assumptions of normality that are complicated when applied to problems of real-time world. ANN and its peculiarity to resolve the complex issues as per its architecture, enables in identification of the combinations of the parameters involved, and also in case of large amount of data to select teams.

The chapter begins with exploring applications of AI in building effective teams. In subsequent sections it explores the convergence of the themes of EI and AI. It then deliberates on research methodology, data preparation and choice of intelligent models used. The results are discussed towards the end with conclusion and scope of future work.