**INTRODUCTION**

The human resources (HR) is tasked with evaluating employee performances in terms of their contributions to the company [1]. It gauges the commitment of every company employee, which is paramount to the companies success. It also maintains the employees aligned with their corresponding tasks within the organization. In an organization with a number of employees, completing manual performance evaluations can be challenging. In such cases, an employee might not be promoted based on merit, potentially damaging morale and the companys operations. Thus, there is a need for a more transparent employee evaluation and promotion process based on merit. Abdulaziz Almaleh College of Computer Science King Khalid University Abha, Saudi Arabia ajoyrulah@kku.edu.sa A. Employee Promotion Promotion is critical in any organization, as it has a significant effect on employees careers and performances and the companys productivity [2]. The HR department guide employees achieve their career goal within organizations. Consequently, an organization builds an experienced workforce by retaining efficient employees, who, in turn, become competent leaders in the future. Promotions raise workers spirits, boosting their loyalty and productivity. Additionally, promotions increase their overall engagement index. B. Promotion Effects Promotion in the workplace is the upward movement of an employee from one job group to another. It comes with additional benefits, such as increased salary, and status, and responsibilities [3]. Consequently, it elevates an employees power, status, and authority; hence, it acts as a key motivating factor for most employees. It is good organizational practice to fill vacancies in higher job positions through promotions. Doing so motivates others to work hard because their efforts are not going unnoticed. C. The human resource manager (HRM) Human resource managers (HRMs) are mainly tasked with handing promotions. They determine which employees have performed in an exemplary fashion and are ready for pro motion [4]. In most cases, the HRM relies on supervisors recommendations from various departments while making critical decisions. However, manual recommendations can be misleading. The supervisor might be biased or provide an erroneous report that adversely affects an employees chances of promotion. Therefore, the HRM faces a challenge in determining which employees should be promoted. Further, employees may raise questions about the process. Given that an employees promotion implies new responsibilities, higher pay, and a new leadership role, it is important that they be thoroughly evaluated in terms of various attributes. When processing an employee promotion, the HRM should consider factors such as experience, skills, appraisals, performance, and leadership qualities. Some employee promotions could be time-based, while others are based on different factors. How ever, it is often difficult to determine how well an individual meets the set criteria for promotion without bias creeping in. Artificial intelligence can fill this gap by identifying the employees for promotion without human intervention, thus ruling out any possible bias [5]. So the aim of this paper was to predict outstanding employees who are qualified for the promotion using machine learning, based on analyzing features in the dataset. Also, enabling employers and HR managers to improve their promotion processes and contribute to the higher quality of HR decision-making with using machine learning classification models. objectives of the paper are first to set appropriate evaluation parameters as criteria to assess the performance of a given employee, second to investigate the factors affecting the promotion of employees and third to build a practical and effective prediction model and finally to reduce the time and effort the management would require to identify the suitable candidate. The paper is organized as follows. Section II describes the related works that exist in the literature reviews. Section III describes the proposed solution that has been discussed in the research done. Section IV, the evaluation measures that employed in this paper. In Section V the results of the algorithms utilized in the paper are presented, along with comparisons between them. Finally, presents the conclusions and future work.