EXECUTION OF ARTIFICIAL INTELLIGENCE APPROACH IN HUMAN RESOURCE MANAGEMENT FUNCTIONS: BENEFITS AND CHALLENGES IN PAKISTAN

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Abstract. *Businesses Artificial intelligence has a theatrical effect on management of the workforce in the future. This paper has highlighted the benefits and challenges to adoption of artificial intelligence approach in human resource management functions in Pakistan. Artificial intelligence-based human resource applications have robust potential to increase employee performance, engagement and retention while it also helps to reduce turnover, errors, time and biases in HR decision making. Artificial Intelligence needs to be incorporated by the organization in Pakistan for effective people management and HR decisions. Reluctance to the adoption of artificial intelligence in human resource management functions can demonstrate the devastating effect on the overall growth of the organization; thus, human resource leaders should prepare and train the human resource for the adoption of artificial intelligence and also address the concerns regarding man and machine interactions at the workplace. Yet, artificial intelligence cannot substitute the human element in human resource management, although if artificial intelligence united with capabilities of a human, would fetch on more intelligent solutions for HR. Hence, in today's world, artificial intelligence is a formula for the success of HR.*

Keywords: Artificial Intelligence, Human Resource Management Functions, Technology, Pakistan.

Introduction

Now-a-days, the use of artificial intelligence technology will not put HR managers and staff out of labor. Just as steam machines and computers did not send us into premature dystopias. As some job loss is expected because smart machines and technologies take over certain responsibilities usually done by a human resource. Although, these technologies perform certain tasks, not the whole work (Davenport & Ronanki, 2018). Field of human resource management has been experiencing significant changes due to the evolution in information technologies in the last two decades as Donkor, Slobodjanjuk,

Cremer, and Weisshaar (2017) asserted that twenty to thirty percent of jobs will become obsolete over the next five to ten years due to digitization and automation. Nonetheless, only 16% of the organizations think they are prepared for that change. In addition, today organizations are no longer solely contingent on the people input due to the emergence of big data and artificial intelligence because it can learn, adapt and engender algorithms on its own, which is recognized as deep or machine learning. Besides, it also creates a huge influence on how an individual communicates, collaborates and works within the organization. On the other hand, Ropani (2018) asserted that use of artificial intelligence will eventually upsurge the talent war instead of reducing it as organizational battle to hire the competent individuals while organizations look to deploy the technology now a day. For this purpose human resource functions will have a more strategic role in the coming times to get the talent on board as opposed to paperwork at the administrative level. Moreover, it led towards focusing on human rather than on processes in the organization (Stone, Deadrick, Lukaszewski, & Johnson, 2015).

Consequently, artificial intelligence is transforming the workplace by incorporating technologies to work closely together in neural networks to handle an excessive amount of data in the cloud. And the use of artificial intelligence to analyze and direct them involves a massive shift about how to execute and operate it within organizations. It is not a small wonder to revolutionize key responsibilities of human resource management using artificial intelligence, such as recruiting, training, performance evaluation and engagement (Jain, 2018). Realizing the critical nature of AI, numerous global companies, such as Amazon, Tesla Motors, Microsoft, Baidu, Google, IBM, Facebook, and Nvidia have been making investment in artificial intelligence. Thus, artificial intelligence is ubiquitously embedded deeply in our lives (Freund, 2017; Nisar, 2018). In addition, all developing countries including Pakistan need to comprehend this new reality i.e., artificial intelligence (Alvi, 2019). Though limited literature exists regarding artificial intelligence benefits & challenges in the HRM field in Pakistan. Thus, this paper attempted to exemplify the next stage in human resource management functions through an artificial intelligence approach. Therefore, the objective of this paper is to explain the role of artificial intelligence in human resource management functions as well as to determine the benefits & challenges to the execution of artificial intelligence in HRM functions for organizations in Pakistan.

Literature Review

Artificial Intelligence

The term artificial intelligence was first defined by John McCarthy in 1956. It is a sort of potential of performing a task by machine or program that is primarily the characteristic of human intelligence. It characteristically contains at least some of the behaviors related with human intelligence such as planning, reasoning, problem solving, representation of knowledge, motion, and manipulation and also display creativity and social intelligence to a lesser extent (McCarthy & Hayes, 1969; McClelland, 2017). According to McClelland (2017), if a machine is capable to learn and solve problems on its own is said to have artificial intelligence while an advanced level of artificial intelligence is machine learning which can learn without being programmed explicitly to do so. Similarly, according to Nisar (2018) it is the science that connects all fields in the world, such as science, engineering, technology, education, or even business by governing, controlling and regulating these areas. Deep learning is demarcated as multi-layered algorithms that allows machines to imitate human skills inspired through the structure of the brain by utilizing artificial neural networks. In addition, Zhang et al. (2015) also specified that technological use to do a task entails some level of intelligence to achieve the designated job or a tool proficient to do what a human can do is demarcated as artificial intelligence. Moreover, now a day artificial intelligence in the form of software or programs that are implanted into robots, computers, or other systems has the proficiencies to imitate the intelligence of a human while performing numerous tasks that need thinking, learning, ability to solve problems and make various decisions (Alvi, 2019).

There are two categories of artificial intelligence i.e., general and narrow. General artificial intelligence has all the features of human intelligence, including the above-mentioned capabilities. On the other hand, narrow artificial intelligence displays some facet of human intelligence for instance machine recognizing and interpreting images, but nothing otherwise (Heath, 2018). Artificial intelligence is widely used in the developed world to run businesses and to perform other functions across many fields, like health transport, education, agriculture, scientific research, military, finance & banking, media, marketing and online customer service (Amir, 2018).

Consistent with the above-mentioned views that the use of artificial intelligence in different areas play a vital role, important changes have been experienced in the last decade regarding the management of human resource due to the technological evolution in the field of HR. Nowadays, organizations are recruiting, managing as well as engaging their workforce and are reforming

through artificial intelligence (Ramani, 2018). It is because the use of artificial intelligence offers varied important prospects to enhance HR functions in terms of self-service transactions, recruitment and talent acquisition, payroll, performance appraisal, reporting and access procedures (Javaid, 2018; Nunn, 2018). For instance, recruitment of individuals is no more a tedious method which involves numerous activities including screening the resumes of the potential candidates by hand, making phone calls or replying via emails to candidates. It is artificial intelligence that is helpful in simplifying these processes and has been sending automated messages and helping reference checks (Veena & Sharma, 2018).

Rakyan (2017) asserted that artificial intelligence is helping to bring fundamental changes to the compensation and benefits structure of an organization from traditional schemes towards variable pay and flexible benefits. Now-a-day traditional salary programmes are mostly outdated and are being replaced with a personalized package to meet workers' personal needs to meet organizational goals. So, artificial intelligence will help HR professionals to administer flexible compensation efficiently by leveraging the company analytics to forecast employee trends and recognize the challenges of the workforce that could have not been addressed properly. In this sense, it eventually addresses the employee needs as well as optimize the critical talent groups pay and benefits, consequently leads to reduce turnover rate and increase employee engagement (Miller, 2018).

Today, artificial intelligence can help organizations regarding the management of human resource through performing numerous tasks such as scheduling interviews, performance appraisals, group meetings, analytics and reporting on relevant data which eventually enhance recruitment procedures, personalize training, rewards as well as reducing staff-turnover and manage engagement. In addition, it also helps employees to improve their performance by reducing stress, accidents, and errors (Pimenta, 2018). Moreover, artificial intelligence-driven assessment of employee performance can happen in real-time with systems monitoring the targets, quotas along with how these are affected by connections of people and it led to specify the incentives and praise for good performance immediately. Besides, if performance standards or targets are not being met, then it indicates interventions before the problem raises and turn out to be unmanageable (Marr, 2017). Consistent with this argument, artificial intelligence-driven technology can help HR through leveraging data to reduce biases which eventually enhance the efficacy of performance reviews (Castro & New, 2016). For instance, it can help managers to identify changes in performance immediately, in real time. Thus, the real-time response can support supervisors to immediately recognize, assess, and correct the operational inefficiencies by utilizing artificial

intelligence tools (Shaw, Becker, Bailey, & Scroggins, 2018). Today, numerous human resource functions are managed by smart technologies in terms of artificial intelligence designed to imitate conversation of human by allowing the human resource practitioners to anticipate the holistic picture. Thus, artificial intelligence plays an important role in organizations particularly for HRM functions than ever before (Mittal, 2017).

In the human resource industry, advanced data-driven technology is swiftly making its way. In an era of technological innovation in which the capabilities of artificial intelligence are reaching new heights and it has the most important effect on business operations. In addition, these innovations can change the way organizations operate as well as changing the association between employers, managers, and employees (West, 2018). Human resources executives have faith that the execution of artificial intelligence into HR functions will lead to enhance organizational competitiveness (Donkor et al., 2017). Realizing the critical nature of AI, almost all organizations, small and large alike, in Pakistan need to endure a dramatic shift to train the leaders and workforce regarding the use of artificial intelligence as it can enhance the organizational performance (Javaid, 2018).

Benefits and Challenges to Adoption of Artificial Intelligence in HRM

Artificial Intelligence offers numerous benefits for human resource managers to implement this tech-savvy approach to adopt modern methods of training to handle a multi-generational workforce as well as millennial that expect solutions to the diverse queries instantaneously (Jauhari, 2017). Additionally, as individuals are characterized by different styles of learning, human resource managers can employ artificial intelligence to personalize the corporate training for each job incumbents as it detains valuable data of potential employees regarding their learning and development needs and type of training needed. In addition, algorithms in artificial intelligence bid suggestions pertaining to employee training, learning and development to make the outcome more effective for the workforce (Lamson & Redwitz, 2018).

Moreover, artificial intelligence simplifies the process of recruitment through an applicant tracking software and chatbots which help in reducing the human resource practitioner trouble in terms of going through countless resumes during recruitment (Pickup, 2018). An applicant tracking system can scrutinize the countless resumes based on qualification, expertise, keywords, and location. By simply putting the job position in the applicant tracking system and it will promptly recommend the right person for the position as well as aiding HR experts to interview the personnel while also decrease the errors and vagueness in recruitment and selection process through

an inbuilt specialist tool in applicant tracking system (Shalfrooshan, 2018). Likewise, it also helps human resource managers with tailored tools of research to select the finest talent for the organization. As Mittal (2017) specified that organizations using artificial intelligence for recruitment have realized positive fallouts such as seventy-one percent decrease in cost per hire with an increase in efficiency of recruiters. Besides, artificial intelligence can help human resource departments to retain their top talent through in quest of cost-efficient ways (Ramani, 2018).

Furthermore, artificial Intelligence can simplify the payroll system through HR bots to manage the payroll proficiently by notifying the bots to get your bills (payroll & expenses) approved by your manager and lesson the time spent filling out forms for documenting the expenses. On the other hand, artificial intelligence can help in predicting the organizational ROI, increased or reduced levels of employee engagement, complications relating to project completion and other unanticipated problems that would take years to come into view (Jauhari, 2017). Through the accumulated data via employing technologies can help organizations to develop better engagement with their personnel as well as identify their true potential through apprehending the derived insights relating to their employee empowerment in terms of increasing the knowledge, skills, and capabilities of workers (Stone et al., 2015). Additionally, artificial intelligence is an important aspect for human resource industry as this form of technology is adept at recognizing the performance patterns over time to estimate the morale of employees at the workplace. These robotic technologies can help human resource manager to measure the psycho-emotional traits of employees on a scale ranging from sad to euphoric regarding the engagement level of personnel at the workplace (Power, 2018).

Similarly, artificial intelligence can help human resource manager to remain unbiased during performance appraisal of employees as it goes beyond spreadsheet analysis. Here evaluation of performance is done with the help of software or database which automatically screen employees who are good performers and who are not good performers. In this way, it leads managers towards making decisions concerning promotion, demotions or transfer of employees (Team, 2018). Likewise, through utilizing these technologies human resource managers can assess the employee's career path to prepare them for career advancement to fulfill the future needs of the organization (Nunn, 2018). Thus, organizations in Pakistan should consider the above-mentioned benefits of artificial intelligence to make their HR department more proficient to compete as well as adopt the technological aspect within the organization to perform more effectually and efficiently. As Nisar (2018) asserted that in Pakistan artificial intelligence is going to transform our lives better as machines learn, reason, act, adapt and lead to change industries by intensifying

capabilities of a human through systematizing tedious tasks as well as solve some of the societal problems.

Several significances of artificial intelligence for HRM practitioners such as it breaks down and transforms data into a format that is easy to interpret. Artificial intelligence could be employed as the ultimate employee satisfaction tool by recording the emotions of an employee in a way that can aid organizations to measure real-time engagement with each facet of the workplace (Bosshart, Frick, Kwiatkowski, & Thalmann, 2018). Moreover, it classifies the patterns and adjusts programme actions congruently by engendering appropriate data to help human resource practitioners to retain and encourage the current employees and recruit new ones (Geetha & Bhanu, 2018). Besides, artificial intelligence provides recommendations to exploit the historical records to propose the best solutions to resolve the anticipated problems which can help HR leaders in the organization to develop human resource management programmes based on smart data. Nevertheless, the cost of using artificial intelligence can be justified for the following functions of human resource such as reduce the time HR professionals employ on administrative tasks, decrease the burden of shared service centers by performing HR transactions while also enhance the HR procedures i.e. recruitment, training, performance appraisal, compensation, and also enhance engagement and retention of employees and lead to make the workforce more productive (Eubanks, 2018). On the other hand, it also helps in determining the return on investments and reduces biases in HR decision-making. In addition, the blend of human capabilities organized with artificial intelligence analytical and predictive capabilities is a formula for HR success in today's world (Pickup, 2018). Also, organizational leaders need to focus on integrating human capital and machines to make a technology-enabled workplace by providing education and training to workers (Manyika, 2017).

The speed of digital transformation in management moved from big data to machine learning towards artificial intelligence is astounding on one side. On the other side, it also presents some challenges in implementing the artificial intelligence in human resource management functions such as complexity of human resource phenomena, small data sets, fairness and legal constraints, unemployment fear and reaction of the employee to artificial intelligence among other countries including Pakistan (Altaf, 2018; Cappelli, Tambe, & Yakubovich, 2018). HR leaders must develop the expertise to expedite into the field of artificial intelligence so that they can help organization to overcome several confronted challenges such as an absence of proficiency and expertise to adopt automation, lack of support for change management, and lack of

infrastructure to the adoption of artificial intelligence in the field of human resource management (Ramani, 2018; Sultan, 2018).

Conclusion

Artificial intelligence is definite to have a theatrical effect on management of the workforce in the future. In the boom of the digital age, artificial intelligence plays a substantial role in redesigning the organizational as well as human resource functions through remodeling its plans accordingly in Pakistan. Artificial intelligence needs to be incorporated by the organization for effective people management and HR decision making. Artificial intelligence-based human resource applications have robust potential to increase employee performance, engagement and retention. In addition, it has the capability to analyze, predict, and diagnose the anticipated problems confronted by organizations. To tackle the challenges to adoption of artificial intelligence in HRM, organizations in Pakistan should train their leaders and human resource to work in combination with advanced technologies to understand the power of robotics in the field of HR. At the same time, teams with different functional proficiencies such as human resource and information technology should have an agreed vision for personal experience and outline the concrete goals for technology to turn the vision into reality. Moreover, human resource management functions are progressively becoming liable to boost the growth of the organization. Organizations should keep an eye on possibilities regarding artificial intelligence to boost the chances of staking out as a first-mover or early-adopter of these technologies (Chui, Manyika, & Miremadi, 2018). Unwillingness to the adoption of artificial intelligence in human resource management functions can demonstrate a devastating effect on the overall growth of the organization; thus, the human resource practitioners should prepare and train themselves for the adoption of technology i.e., artificial intelligence (Alvi, 2019). Moreover, human resource department can play an important role in recognizing jobs, which will be vanished or partly lost due to execution of artificial intelligence and HR leaders also help their employees to address the concerns regarding man and machine interactions at workplace by start inculcating and developing a culture in which this interaction between man and machine can be successful. Saying all this, it cannot be concluded that AI could be a substitute for the human element in organizations. It is suggested that the policymakers must provide viable support to the organizations to make Pakistan the center of artificial intelligence in the field of HR through overcoming several confronted challenges.

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