Equilibrating AI and Humans across various HR dimensions

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Abstract

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In today's era, organizations are burdened with the pressure of outperforming competitors, improving efficiency and analyzing enormous data quickly and they now resort to AI. The department of human resource is undergoing a similar phenomenon. Artificial Intelligence, given its' prowess, has slowly overtaken the technical and analytical aspects of HR, and dependence on AI are anticipated to only increase in the future. Unlike finance and marketing, HR is a domain that is more human-centric and deals with multiple facets of employee management such as recruitment, learning and development, performance appraisals, employee retention, termination, and compensations. These demand organic traits in emotional intelligence, empathy, and ability to make decisions in an anomaly that are unique to humans. Current AI, with its' loopholes, cannot be trusted to demonstrate such complex abilities, and HR cannot be completely mechanized. There must be a symmetry between human and machine involvement. This documentary research attempted to establish a practical and simple layout that evenly distributes roles between AI and HR managers across three major HR dimensions i.e. recruitment, performance management, and training/learning and development. The framework demonstrated, that while AI can efficiently handle technical, time-consuming and copious tasks, humans reign the socio-behavioral, interpersonal, and people's skills. This balanced approach will ensure that human resource gets the best of both worlds of man and machine. Relevant recommendations have been made at the end of the research that can help organizations implement the framework and achieve the desired equilibrium.

Keywords: Equilibrating, Artificial Intelligence, Humans, Human Resource, AI

Approved By

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Introduction

Research Background

Artificial Intelligence is a domain of computer science in which machines can be trained and programmed to emulate human behavior (Joh & White, 2018). Generally, AI is perceived as an intelligent being which has the ability to 'solve cognitive problems' (George & Thomas, 2019). In addition, it can recommend humans to take appropriate actions based on antecedently gathered data (Bora & Borah, 2020). Thus, AI is a multifaceted technology that is very dynamical.

The continuous melioration of AI algorithms and augmentation of computational might has resulted in the adoption and application of AI across assorted fields (Lee et al., 2019). The field of Human Resource Management is no exception. The crux of Human Resource is nourishing humans and handling their attitudes in an establishment. It majorly superintends human-centric operations like recruitment, training, learning and development, payroll management as well as performance appraisal and is dedicated to bringing out the best in employees so that the organization's objectives can be achieved (Matsa & Gullamajji, 2019).

The HR sphere currently is undergoing parallel shifts towards mechanization as Artificial Intelligence augments people analytics and amends modes of dealing recruitment complexities and managing progressive manpower (Gulliford & Dixon, 2019). Giants like Google, Amazon, IBM are currently engaging in AI driven HR as they are aware of the untrammeled potential that AI has in addressing 'employee issues' and providing 'path-breaking solutions.' AI's popularity in the field of Human Resource has rooted from its' capacity to crunch enormous, redundant data and turn it into consequential information enabling HR managers to make informed decisions that leads to enhanced employee experience (Premnath & Chully, 2019). In another perspective, Artificial Intelligence is an 'intelligent agent' that can automate mundane, redundant administrative tasks so that line managers could solely concentrate on core management activities and decision-related tasks (Stroet, 2020). Thus, AI has transformed HR from merely being a substructure of a corporation to a full-fledged strategic function that can contribute significantly to the organization's success (Premnath & Chully, 2019).

Research Problems

The sway of AI on HR functions has magnified (Bora, Borah, 2020). However, this progression is not welcomed by everyone. There are line managers who aren't well clued-up on AI and its' possibilities hence they tend to refrain from implementing it. These not so savvy managers are under constant fear of being supplanted by AI (Stroet, 2020). However, this fear is not groundless. It is expected that in the forthcoming times, technology is capable of not just automating canonical HR roles but assuming more 'humane' rudiments of the field (Gikopoulos, 2019). Capgemini's chief technology officer (CTO) Lee Beardmore, trusts that just as computer automation has wiped away lots of manual, blue-collar roles, it is anticipated that AI based automation will have a likewise effect on white-collar jobs in fields varying from HR to Finance (Chelliah, 2017). But some argue this perspective saying, that although AI and HR may appear to be contradictory terms fueled by the perception of humans, that AI is meant to supersede them, the reality is different (Premnath & Chully, 2019). Many opine that excessive technological intrusion in an arena entailing incessant interaction and human judgement, is not viable (Stroet, 2020).

The above information boils down to three problems that need to be addressed. a. How to eliminate the resistance that managers have towards integrating technology in the HR functions. b. How to exterminate the presumptions regarding AI supplanting humans in HR. c. How to incorporate Artificial Intelligence in Human Resource without losing the 'human' element crucial to the field. A keen observation of the above three problems reveals that if we establish ways about how to efficiently balance the role of Artificial Intelligence and humans in various HR functions, we could collectively deal with all the aforesaid agendas. Pursuing this single problem would edify managers about the benefits of AI implementation in HR, also, it would clear the air regarding AI replacing humans in human resource. Lastly, it would establish that the concept of technological intrusion in a people-oriented environment is not bizarre but very much feasible and that it can be achieved without losing the 'human' essence.

We will approach this issue, by developing a conceptual framework, that would elucidate on how to distribute roles between AI and managers across various domains of Human Resource to strike a perfect balance between the two. The model would attempt to address the issue in a way so that it could be a practical solution to the problems concerning AI adoption in HR.

Objective of the study

The aim of this research is to demonstrate how to symmetrically split and balance the roles of Artificial Intelligence and humans i.e. HR managers across the various functions of human resource encompassing recruitment, training and development as well as performance management. It strives to foster the idea that AI should be welcomed to perform preliminary, tedious and technical tasks whereas the final decisions and more complex undertakings should rest with the humans. Thus, the research circuitously attempts to set boundaries where technological intervention should cease in an environment like HR, that orbits humans. The objective is to establish that both AI and HR when perfectly synchronized can yield better results and that neither excessive 'machine domination' nor 'traditional HR approach' is the solution. 'Balance' is the key.

Scope of the study

In this emulous era, corporations rivet on automating human tasks in order to improve efficiency. Finance, Marketing, Healthcare and now Human Resource all are paradigms of this transformation. But, complete automation of HR in the present scenario is not feasible because a. HR needs human expertise despite all the technical aid and b. AI still has loopholes that makes it a bit unreliable. Thus, an equal input of both is required for lubricating processes. Unfortunately, so far, not many works have addressed this issue. So, this study focusses on how the two can be amalgamated to catalyze an organization's success.

In order to conduct this study, I have reviewed about 30 research articles from databases like 'Google Scholar', 'Emerald Insight' as well as 6 relevant websites that helped me garner past information as well as current

developments on AI implementation in HR, globally. My research conforms to the documentary research format and is based on resources that have been recently documented, precisely, in the past three to five years particularly because, although AI technology is quite old and dates back to 1956 when the term was first coined, its' implementation in Human Resource is relatively a new concept. The referenced articles have been enlisted at the end of my work.

Elicited from the latest occurrences, I have constructed my research arguments, derived conclusion, contrived a conceptual template and finally proposed pointers that are feasible and consistent with today's corporate environment. This work leaves enough scope for other researchers as AI adoption in HR is still in the preliminary stage and a lot remains unexplored.

Research Significance

While there is a hype of artificial intelligence in the offices, only a handful actually contemplate whether it is an impediment, a threat or an answer to productivity issues. Like any novel and predominately unseasoned technology, AI is both a challenge and an opportunity (Hogg, 2019). Much of the HR grind is being automated through AI as it helps accelerate processes, curtails resource outlay and provides accuracy (Altemeyer, 2019). Yet, there have been fallouts like the case of Amazon that junked its AI recruitment tool that demonstrated bias against females. This incident impels employees to have second thoughts when it comes to being managed by algorithms and also question the credibility of AI (Hogg, 2019). But, one thing is clear, that the contemporary AI technology is critically restricted and confronts scientific, technical as well as conceptual constraints to what it can execute (Tuomi, 2018). Thus, the current trends allude that for optimal results, humans and machines need to tread the path shoulder to shoulder. AI is at the pinnacle of its abilities only, when it is firmly merged with humane, ethical fabric of rules and inspection. Humans should assume the role of gatekeepers who have the definitive word on decision-making (Gulliford & Dixon, 2019). My research is significant because it highlights this important observation. It not just blindly propagates the usage of AI in HR but also elucidates its loopholes and gives an insight into when and why HR managers should intervene. Since, HR is directly associated with managing people, my work becomes all the more important because the life, career and overall welfare of an employee is involved. If there is a discrepancy in the human workforce, no amount of counter measures can save an organization from a disastrous epilogue.

Literature Review

Artificial Intelligence

The Artificial Intelligence technology mimics various facets of human intelligence like reasoning, assimilating, critical thinking and comprehending using logic driven algorithms (Premnath & Chully, 2019). It can be categorized as analytical, human-inspired and humanized AI contingent on whether it displays cognitive, empathetic or societal intellect (Haenlein & Kaplan, 2019). As far as its role in human life is concerned, AI has a deep impact in terms of automating wearisome tasks, augmenting human potentiality and amplifying human functions (Sen, 2018).

Issac Asimov's story 'Runaround' published in 1942 that spoke about Robots, then Alan Turing's code breaking machine, 'The Bombe' that decrypted the Enigma code of German army during the Second World War and later the 'Dartmouth conference' of 1956 where the term 'Artificial Intelligence' was officially coined, are considered as the antecedents of today's AI (Haenlein & Kaplan, 2019). And now, after so many years we can find AI's practical implementation in our everyday life with inventions like Nest, Alexa, Siri, Cortana, Waymo, Spotify, Hemingway app, Clarke ai, Olivia, VCV, Glider, Amy, Capitan etc. (Sen, 2018).

Various factors have attributed to popularize AI especially in HR, like its' ability to save manual efforts and time of the workforce, eradicate human biases, implement complete lucidness, automate self-regulated tasks and predict employee performance (Merlin & Jayam, 2018). Moreover, it can scrunch, analyze, identify patterns in data and provide incessant feedback to HR Managers (Stroet, 2020). Other factors that have made AI a game-changer in Human Resource include its capability to conduct processes like resume screening, chatbot recruitment, staff servicing, booking conference rooms, streamlining employees onboarding, calendar and schedule maintenance and boosting retention (Bhagat, 2020). Today we are surrounded by AI and now it is anticipated by tech evangelists that within a couple of decades AI will be able to clone practically all capabilities of humans (Birkinshaw, 2018).

Human Resource

Human Resource Management (HRM) is a pile of organizational activities such as planning, developing, maintaining, procuring, compensating and directing human workforce that intend to accomplish individual, organizational and societal targets (Sekhri & Cheema, 2019). It has been described as the management of employment (Ahammad, 2017).

In the 20th century, Frederick Taylor in his work, documented the theory of 'scientific management' with labor as key to improve economic efficiency of manufacturing jobs, triggering inquisitiveness about workforce productivity. This led to a human relations movement, later formalized by the work of Elton Mayo who explored how stimuli like attention and engagement rendered productive workers; this movement was the harbinger of human resource (Obedgiu, 2017). However, the official term 'human resource management' originated from the United States in mid 1980s. Prior to this, the domain was addressed as 'personnel administration' (Ahammad, 2017).

There are two approaches to HRM practices a. low cost b. high commitment. The low cost HRM is all about operational efficacy and cost attenuation wherein a formal control system like providing the employees with job descriptions, monitoring them and eventually paying them as per their deftness is adopted, whereas high-commitment HRM tends to be expensive, flexible as well as less efficient and advocates procuring talent, discourages micro inspection and propels employees to achieve goals by investing long term in them (Matoskova & Smesna, 2017).

Various factors make human resource management an integral part of any organization a. HRM monitors processes such as recruitment, orientation, training, skill-development, performance appraisal, compensation, employee relations b. HRM is accountable for maintaining employee safety, wellness and welfare by observing labor laws (Ahammad, 2017) c. This department is embroiled in employee terminations, resignations, performance-based dismissals and layoffs. d. It supervises organizational leadership and culture and also governs most mergers and acquisitions (Obedgiu, 2017).

Equilibrating AI and Humans in HR

It is no longer a secret that AI is vying with humans in a multitude of cognitive chores (Chelliah, 2017). But, the actual enigma is which roles should be discharged by AI, how humans and AI can coexist, which decisions should fall under the realms of AI and humans separately and which ones in coaction (Haenlein & Kaplan, 2019). These questions are especially significant for the HR managers because AI is a logical mechanism and managing humans requires more than just 'logic'. Various paradigms can vouch for this such as team-building, conflict management, promotions etc. all claim emotions and intuition that are 'unique' to humans and expecting AI to don emotions, is sappy at the moment (Yabanci, 2020). In fact, there is an onset of 'Feeling Economy' wherein AI takes over the 'analytical' and 'brooding' functions and humans are concerned with 'interpersonal' and 'emotional' undertakings (Huang, Rust & Maksimovic, 2019). On similar lines, this article attempts to give an insight into how fundamental dimensions of HR like recruitment, training, performance management etc. are undergoing metamorphosis. It further discusses how these functions should be appropriately segregated between man and machine based on past researches. Let us elaborate on these HR roles one by one.

a. Recruitment

As per statistics, more than 50% recruiters swear by the opinion that screening candidates from a vast talent pool, is the most arduous part of recruitment. In this scenario, AI can automate the process by giving recommendations that may be insightful for the recruiter and enlighten him/her about the employees' skills and experience, eventually helping in decision-making (Wilfred, 2018). The recruiter chatbot Mya, once a candidate is done with filling a traditional application, can screen their qualifications, update them with their status in the hire process, clarify information and also grade them on the grounds of metrics, qualifications and several such parameters (Roy, 2017).

AI communicates the prospective candidates about their selection or rejection status within 24 hours, unlike human recruiters who might consume more than a week for the process, thus enabling rejected candidates to continue with their job hunting, without wasting time; the rejected candidates are also informed about the inadequacy in their qualifications or skills so they can improve. In addition, AI systems can be programmed to eliminate biases based on names, educational institutions attended, age, gender and race. Also, NLP (Natural Language Processing)

based AI can smoothly interact with candidates (Upadhyay & Khandelwal, 2018). Thus, to summarize real-time processing, constructive feedback to rejected candidates, reduced biasness and ability to interact and engage have made AI a powerful tool in the recruitment process.

But, mere accumulation of resumes and confabulation with the candidates, cannot aid a machine to infer whether an individual is slothful or diligent, smuggish or efficient and honest or dishonest. Moreover, machines cannot distinguish between right or wrong and given an unfamiliar situation, machines either break down or make faulty judgements which in recruitment can cost both the organization and the candidate (Wilfred, 2018). Thus, we still need human recruiters as they can comprehend and test the candidates as well as evaluate if they exhibit the correct blend of empathy and emotions (Upadhyay & Khandelwal, 2018).

Thus, AI chatbots and virtual interfaces can conduct preliminary screening procedures before the candidates appear for final interviews with human HR representatives. Since, the fundamental tasks are taken care of by AI, humans can deal with more personal and complex areas of talent acquisition (Caswell, 2020). These arguments help us to conclude that while AI should engage with time-consuming, voluminous and tedious screening tasks, the final interview, decision and closure of deal should rest with a human HR manager.

b. Training and Development

HR managers design various training modules to instill desirable expertise, knowledge and abilities amongst employees, so that they can discharge their duties effectively (Halawi, 2018). In today's corporate scenario, skills training has been categorized into a. hard skills and b. soft skills. Hard skills revolve more around techniques or administrative processes (Ibrahim, Boerhannoeddin & Bakare, 2017). 'Soft skills' is a term used to address interpersonal, social and transferable skills. Some examples include empathy, communication, teamwork, integrity, optimism, responsibility, time management and professional ethics (Vasanthakumari, 2019).

Nowadays, AI can analyze and monitor skills of employees at various levels. Moreover, since each individual learns differently, AI can help customize training modules (Matsa & Gullamajji, 2019). With emerging e-learning programs, firms can offer personalized training with pliability on time and location (Premnath & Chully, 2019). Thus, HRs are no longer required to physically coordinate the tedious training processes (George & Thomas, 2019). AI powered training sessions can assist in tracking employee's progression. In addition, simulation-based training modules can recommend video clips, illustrative images and tutorials to employees for improvement when they commit operational mistakes (Premnath & Chully, 2019). Relevant training programs can be suggested through services like Lynda or Udemy (Joh & White, 2018).

Automation can provide learners just hard or tangible skills but it cannot impart intangible or soft skills such as emotional intelligence, critical thinking, creativity etc. Engaged training is the key where technology should be wedded with human trainers (Rao, 2018). Moreover, e-learning programs that lack an instructor, result in reduced learner engagement, thus in-person interactive training sessions are also required and a 'blended' approach must be followed (Yahaya, 2019). Also, post online training sessions, human instructors must get feedbacks from employees about their experience so that improvisations can be made for future sessions (George & Thomas, 2019).

c. Performance Management

A successful performance management includes appraisal and feedback of performance, rewarding the employees, making improvement plans, setting goals and directing how to achieve them (Stroet, 2020).

AI systems are capable of assessing individual performance targets, gauging punch card data, resignation data, scores from department heads, self, peers and customers and eventually analyzing and evaluating the data (Jia et al., 2018). Most of the employees complain that traditional performance management practices are erroneous and that managers show bias in appraisals (Matsa & Gullamajji, 2019). Since, AI works on data and patterns and is not opinionated, it lacks feelings of biasness (Stroet, 2020). However, a recent Amazon incident shatters this view (Hogg, 2019). Moreover, AI can enable decision- makers to set objectives by predicting future trends (Jia et al., 2018).

Thus, instead of performing mundane, time-consuming, labor-intensive tasks and supervisory roles like ensuring that people are complying with company policies, the managers can turn into 'coaches' who can dedicate their precious time in motivating employees to reach their full potential, assessing their future scope and guiding them. Employee retention is also a part of this coaching role; when AI displays indicators of a potential employee resignation, the managers can resolve the causative factors that might be provoking him/her for the decision (Stroet, 2020). HR managers should invest more in coaching, enhancing employee experience and focusing on strategic ventures and this can happen when time consuming tasks are automated (Bridgwater, 2018).

Past Researches

Various yester year researches have alluded that for smooth functioning of HR machinery, both AI and human input are essential. **John Gikopoulos (2019)** opines that there exists a very delicate balance betwixt man and machine and while AI can add value to HR operations, the human element will eternally remain the key to success. Further, he states that technology is still decades away from replacing human HR managers and that it is not wise to even pursue this. **Fred Gulliford and Amy Park Dixon (2019)** in their paper have stated that AI is reshaping today's HR as the workplace now demands a different skill set for managers like advanced cognitive and socio-behavioral skills instead of the usual job-specific skills. Further, they mention that AI must be securely combined with HR and that the power to make critical decisions must rest with the humans. **Dennis Wilfred (2018),** stresses the fact that

emotional intelligence of humans and artificial intelligence are equally precious. In the field of recruitment AI can outperform humans in voluminous, time-taking tasks but when it comes to decisions, judgements and persuasions machines lag humans.

Finding and Conclusion

From the above documentary research, we deduce that there should be a balance of AI and human participation across various dimensions of Human Resource. These have been summed up below:

1. In the field of recruitment, while Artificial Intelligence should perform the voluminous, time-consuming hectic task of 'screening' candidates, assessing their qualifications and skills, the humans should conduct the 'final interview' to assess the character of the candidate and make the final decision.
2. In training and development, while Artificial Intelligence can be utilized to impart 'hard skills' to employees, human instructors should be responsible for 'soft skills' training.
3. In performance management, where Artificial Intelligence can perform mundane 'supervisory' tasks, HR managers should adopt 'coaching' roles.

Established Framework

Figure 1 illustrates a schematic framework established based on the findings of the research.

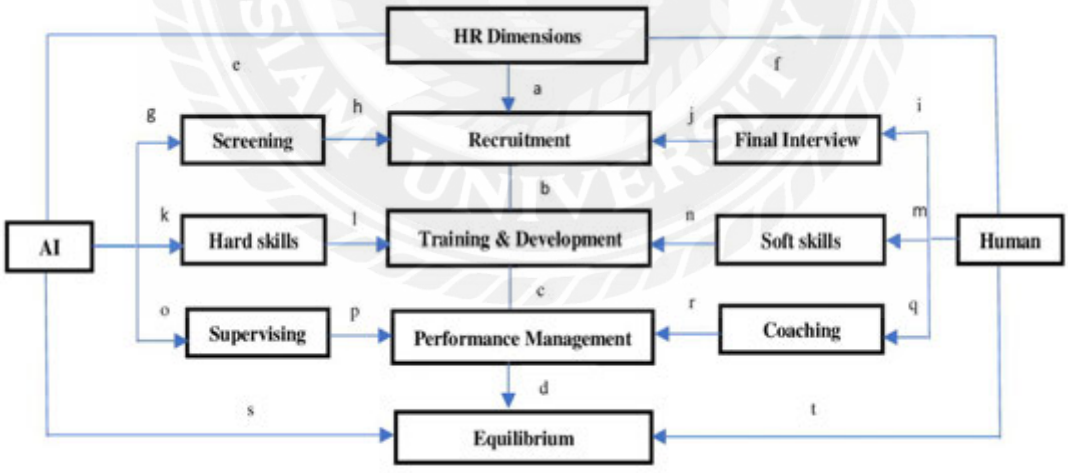

Figure1: Equilibrating AI and Humans across various HR functions

Explanation of Figure 1

a. HR dimensions include recruitment (Ahammad, 2017). b. HR dimension includes training and development (Ahammad, 2017.) c. HR dimension includes performance management (Matsa & Gullamajji, 2019.) d. There is a need to equilibrate the role of AI and Humans across various HR dimensions. e. AI is being widely used in HR functions (Bora, Borah, 2020). f. Humans means HR managers who manage HR activities g. AI can screen the candidates

efficiently (Caswell, 2020 & Roy, 2017). h. Screening is part of recruitment process (Wilfred, 2018). i. After AI screens candidates, humans can conduct final interviews (Caswell, 2020). j. Final interview is a part of recruitment process (Caswell, 2020). k. AI or Robots can provide training in hard skills (Rao, 2018). l. Hard skill learning is a part of training and development (Ibrahim, Boerhannoeddin & Bakare, 2017). m. Human trainers are still needed to provide training in intangible or soft skills as automation cannot do it (Rao, 2018). n. Soft skill learning is a part of training and development (Ibrahim, Boerhannoeddin & Bakare, 2017). o. Supervisory roles like analyzing performance data can be executed by AI (Stroet, 2020 & Jia et al., 2018). p. Supervisory roles are a part of performance management (Stroet, 2020). q. Human managers should indulge in coaching roles (Bridgwater, 2018 & Stroet, 2020). r. Coaching roles are a part of performance management (Stroet, 2020). s,t. By dividing functions between AI and Humans as mentioned, their input can be equilibrated.

Recommendation

Based on the above research, it is recommended for organizations, that in order to brace the HR department for the upcoming era, where AI will dominate most of the operational tasks, the skill sets required for HR managers should be upgraded. They should be expected to handle more humane, complex tasks requiring emotional intelligence and socio-behavioral skills. The organizations should prepare managers for the 'Feeling Economy' where AI is surmounting not just mechanical, repetitive tasks but analytical tasks too, so the HR managers must highlight on empathetic and emotional arena at work (Huang, Rust & Maksimovic, 2019). This will help eliminate any preconceived notions about AI replacing human managers in HR and managers will embrace AI without hesitation. Secondly, the researcher suggests organizations, to limit AI implementation to mere technical and elementary aspects of HR and refrain from promoting it in human-centric operations requiring emotional intelligence as AI is nonetheless a technology and is imperfect. The Amazon incident of AI bias against women in recruitment is a lucid example of how flawed AI can be (Hogg, 2019). Finally, it is recommended for research organizations to not be vested in developing emotionally intelligent AI as emotions cannot be organic to a technical DNA. It is nearly anticipating a cat to bark. In addition, it is not wise to aim for a technology that replaces humans (Gikopoulos, 2019). The whole idea of AI in HR should be to assist the 'human' and not replace the 'human' in human resource. Technology and humans must be allies, not competitors hence a blended and most importantly 'balanced' approach is the key.

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