NOVATEUR PUBLICATIONS
JournalNX- A Multidisciplinary Peer Reviewed Journal
ISSN No: 2581 - 4230
VOLUME 10, ISSUE 7, July - 2024

"FROM AUTOMATION TO AUGMENTATION: AI'S JOURNEY IN HR"

Ms. Swati Rawat
Assistant Professor Department of Management
IMS Ghaziabad (University Courses Campus)

Dr. Indira Priyadarsani Pradhan
Assistant Professor Department of Management
IMS Ghaziabad (University Courses Campus)

Abstract

"Evolution of Industries": From Mechanization to Digital Revolution

Enterprises form the cornerstone of a nation's economy, and history reveals three distinct waves of industrial transformation that have shaped the modern world over the past two centuries. The advent of mechanical machinery marked the beginning of Industry 1.0 in the 18th century, followed by the steam-powered Industry 2.0 in the 19th century. The 20th century ushered in Industry 3.0 with the proliferation of computers and the internet (PWC Report, 2017). Now, in the 21st century, Industry 4.0 has emerged, characterized by revolutionary technologies like the Internet of Things (IoT), big data analytics, artificial intelligence (AI), and high-speed data networks such as 4G and 5G.

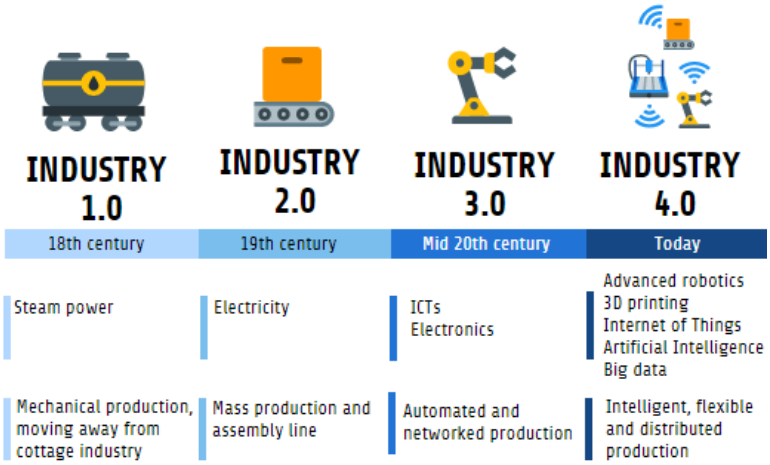

Figure 1: Industry Revolutions from 1.0 to 4.0
Source: https://www.linkedin.com/pulse/difference-between-industry-30-40-ahmed/

AI's Role in HR Transformation: Embracing Change

In this era of the Fourth Industrial Revolution, the landscape of human resources (HR) is undergoing transformation driven by technological disruption. As innovative technologies reshape industries, the HR sector is not immune to these changes Umasankar et al (2023). The introduction of AI and advanced technologies has redefined HR functions, promising a more comprehensive and sophisticated approach to fulfilling various HR capacities (Rykun, 2019). With AI's efficacy in HRM functions, the question arises whether AI will eventually replace human involvement across various HR roles. However, this notion

holds both positive and negative consequences, reflecting the dual nature of technological advancement.

The effective implementation of AI within HR requires organizations to adapt, retrain, and recalibrate their processes to integrate human and machine components seamlessly. By imparting appropriate training to employees, organizations can establish highly productive synergies between human expertise and AI capabilities. As AI rapidly evolves, it is inevitable that it will supplant a significant number of manual jobs, both blue-collar and white-collar. Yet, the displacement of jobs by robots often leads to the creation of new roles. For instance, if a surgeon's job is automated, a new demand arises for roles maintaining and programming these surgical robots Qamar et al (2021). This illustrates the job transition phenomenon, where positions evolve rather than disappear.

The emergence of AI fosters the creation of novel industries. While AI may replace routine tasks, it streamlines HR responsibilities, providing HR professionals with the bandwidth to tackle strategic tasks such as devising organizational strategies to achieve goals.

Figure 2: AI in HR
Source: https://www.collidu.com/presentation-artificial-intelligence-ai-in-hr

Consequently, organizations must proactively embrace AI in HR functions as the digital landscape continues to evolve. With the influx of millennials into the workforce, internal processes and systems are becoming increasingly tech-driven and data-centric. However, what does the future hold for HR roles in light of emerging technologies? Anand S suggests that HR will witness the rise of strategic and analytical positions (Michailidis & M.P, 2018). He highlights the emergence of 'talent scientists,' individuals who utilize data science to identify talent and predict hiring outcomes. Although AI can automate mundane HR tasks, this automation creates space for HR professionals to specialize in strategic roles.

The symbiotic relationship between humans and machines is expected to give rise to the platforms and frame works necessary to achieve HR objectives in this new era of technological advancement.

Benefits of using AI

The evolution of technology has consistently reshaped industries, redefining the way we work, communicate, and interact. The Fourth Industrial Revolution, characterized by breakthrough innovations like artificial intelligence (AI), has sparked a wave of curiosity and concern, particularly in the field of Human Resources (HR). The concept of AI taking over HR functions may conjure images of a future where human decision-makers are sidelined by algorithms and automation (Popkova

&. Sergi. 2020). However, like any complex issue, the reality is nuanced and multifaceted. Artificial intelligence has already demonstrated its potential to revolutionize HR processes. Tasks such as resume screening, candidate sourcing, and even initial interviews are being automated with AI-driven tools Tambe et al (2019). This not only accelerates the hiring process but also reduces human biases that can inadvertently creep into decision-making. AI-powered analytics can analyze large datasets to identify patterns and trends, offering insights that inform strategic HR decisions Poba-Nzaou et al (2020). Predictive analytics can forecast turnover rates, enabling proactive retention strategies. In the realm of learning and development, AI-driven personalization tailors training programs to individual employee needs, enhancing skill development.

Applications of Artificial Intelligence in Human Resources

In the ever-evolving landscape of technological innovation, Artificial Intelligence (AI) has emerged as a game-changer across industries, and Human Resources (HR) is no exception. The expanding capabilities of AI are causing ripples of transformation within HR, redefining traditional practices, elevating decision-making processes, and even reimagining the employee experience (Minbaeva 2021). This article aims to delve into the latest strides made in AI within the HR domain and to analyze the profound ramifications of these advancements.

1. Revolutionizing Recruitment and Talent Acquisition:

The conventional process of recruitment has long been known for its resource-intensive nature. AI, however, is altering this paradigm by automating several aspects of recruitment. Utilizing sophisticated algorithms, AI is capable of sifting through voluminous resumes, pinpointing candidates best aligned with predefined criteria Gupta et al (2018). Moreover, AI-powered chatbots are now engaging candidates, responding to queries and even conducting preliminary evaluations. Advancing further, AI-driven predictive analytics are transforming the very essence of recruitment. By analyzing extensive datasets, AI can predict a candidate's suitability and potential success within the organization (Stanley &Aggarwal. 2019). This data-driven approach not only expedites the hiring process but also enhances the probability of identifying the ideal talent.

2. Confronting Bias and Embracing Fairness:

Inherent biases have long posed a challenge in HR practices. Here, AI holds immense promise in mitigating bias during decision-making processes. Through the use of algorithms focused exclusively on skills and qualifications, AI has the potential to eliminate gender, ethnic, and other biases that may inadvertently influence human evaluations Lind et al. (2002). It is important to note, however, that AI systems can inherit biases from their training data. Balancing AI's efficiency with ethical considerations remains an ongoing concern in achieving unbiased decision-making.

3. Enriching Employee Engagement and Experience:

Employee engagement stands as a cornerstone of organizational success. AI's advent brings forth sentiment analysis tools, which delve into employee feedback from diverse sources, including surveys and communication platforms Netessine et al. (2021). These insights empower HR to proactively address concerns and elevate the overall employee experience. Additionally, the integration of chatbots

into HR operations is streamlining employee interactions. From addressing queries about leave policies to explaining benefits, chatbots are enhancing employee satisfaction by providing instant access to information.

4. A New Era of Learning and Development:

AI-driven learning platforms are redefining how employees develop their skills. By analyzing an employee's performance data and preferences, AI tailors training programs to individual needs. This personalized approach not only accelerates skill acquisition but also fosters a culture of continuous learning within organizations Zhang et al. (2021). Moreover, AI's predictive capabilities extend to identifying skill gaps within the workforce. Armed with this information, HR can devise targeted training initiatives to bridge these gaps, ensuring the organization remains adaptable in a rapidly evolving job landscape.

5. Shifting Dynamics of Performance Management:

The traditional annual performance review is undergoing a transformation thanks to AI. AI-powered tools continuously monitor employee performance, analyzing data from various sources to provide comprehensive insights Kaur et al. (2023). Managers are then equipped to offer timely feedback and support, nurturing improved performance and individual growth. Furthermore, AI-powered systems can discern patterns within high-performing teams, offering strategies to replicate success across the organization.

6. Forecasting Retention through Predictive Analytics:

One of HR's ongoing challenges revolves around employee retention Malik et al. (2021). Here, AI's predictive analytics capabilities shine. By analyzing factors such as engagement, performance, and historical data, AI forecasts potential attrition. HR professionals can then design precise strategies to retain valuable talent within the organization.

7. Enhanced Onboarding and Training Experiences:

AI simplifies the onboarding process by providing new employees with essential information and resources. Chatbots guide newcomers through paperwork, company policies, and common questions, ensuring a seamless transition (Pillai & Sivanthu, 2020). Moreover, AI-powered Virtual Reality (VR) and Augmented Reality (AR) technologies are enabling immersive training scenarios. These technologies, often infused with AI capabilities, are highly effective in training for roles that require hands-on skills.

Balancing Potential and Challenges for a Human-Centric Approach

While AI holds immense potential, its integration into HR is not without its hurdles. Privacy concerns, addressing algorithmic biases, and maintaining a human touch in employee interactions are all vital considerations. Ultimately, HR professionals should view AI as an augmentation of their capabilities rather than a complete replacement. Human traits such as strategic decision-making, empathy, and relationship-building remain indispensable Caputo et al. (2019). In conclusion, AI's recent strides in HR are reshaping the way talent is managed, employee engagement is fostered, and organizational success is achieved. By embracing the power of AI, HR professionals can streamline processes, make informed

decisions based on data, and cultivate workplaces that inspire innovation and growth. As AI continues to evolve, HR remains at the forefront of shaping the future of work, harnessing technology to drive transformations centered on human well-being and progress. To address the challenges, several effective approaches can be employed:

1. The Synergy of Humans and Machines

Rather than focusing on an either-or scenario, a more productive perspective is to view AI as a tool that enhances HR capabilities. The synergy between human judgment and AI-powered insights can lead to more informed and effective decision-making. AI can handle repetitive, data-intensive tasks, freeing HR professionals to invest time in strategic endeavors that require creativity and critical thinking. Crafting a company's culture, devising talent development strategies, and fostering meaningful employee experiences are domains where human ingenuity is indispensable Cappelli et al. (2019).

2. Reskilling and Upskilling

As technology advances, reskilling and upskilling become imperative. HR professionals need to understand AI's potential and limitations, allowing them to leverage its benefits. A knowledge of data analysis, understanding AI algorithms, and interpreting AI-driven insights can empower HR professionals to harness technology effectively (Cappelli & Peter, 2017). Moreover, HR can play a pivotal role in guiding the workforce through technological transitions. With AI automating routine tasks, employees can be upskilled to take on more strategic roles. HR's role evolves from administration to facilitating skill development and cultivating a learning culture

Experts Opinion:

Leslie Joseph, a Principal Analyst at Forrester, contends that AI is unlikely to fully replace the 'human' element in decision-making. AI and automation enhance HR specialists' effectiveness by optimizing their time and efforts, augmenting their capabilities with data-driven insights that facilitate better decision-making. AI empowers HR to play a pivotal role in achieving organizational objectives related to employee experience, culture, and individual strategies.
Sonali Misra, Head of HR at Bain and Company (India), asserts that AI will augment, not replace, human talent in the realm of HR Tech. The ongoing discourse on the pros and cons of AI underscores that HR cannot remain impervious to digital transformation. Misra emphasizes that AI's role will be to enhance routine tasks, enabling HR professionals to focus on value-added work. Research and consultancy firms worldwide predict a surge in AI adoption to enhance HR practices.
Anand S, VP - TechVision at Frost and Sullivan, reveals that their research shows a projected doubling of HR Tech adoption rates from 20-25% in developed markets over the next five years. A study by IBM found that 66% of CEOs and half of HR personnel acknowledge the value that cognitive technologies bring to HR functions.
Sudhakar Balakrishnan, Group CEO, FirstMeridian Business Services- AI has a positive impact on decision making, given its ability to deeply analyse data. However, AI is only as effective as the information it is fed. The technology is still undergoing continuous improvement and cannot entirely replace humans. With time and enough input data, AI can help make better and more impactful decisions.

Future of AI in HR

The future of HR lies in its adaptability and agility. AI will continue to refine and redefine the landscape, and HR must evolve alongside it. The essence of HR – the human connection – remains paramount. Embracing technology doesn't diminish this connection; rather, it amplifies HR's potential impact. AI's emergence invites organizations to reconsider the role of HR. As mundane tasks are automated, HR's value proposition shifts towards strategic partnership and fostering a culture of continuous learning (Black &Esch, 2020). Collaboration between HR professionals and AI algorithms has the potential to revolutionize the workplace, creating an environment where employees thrive and organizations excel. In conclusion, the apprehension of AI replacing HR is rooted in a partial understanding of both AI's capabilities and the essence of HR. While AI augments certain aspects of HR, the core functions that require emotional intelligence, empathy, and a deep understanding of human behavior remain intrinsically human Dietvorst et al. (2016). The future of HR isn't about replacement but evolution – a journey where AI amplifies HR's impact, and HR, in turn, guides the responsible and empathetic integration of AI to create a workplace of innovation, growth, and humanity. While AI's capabilities are impressive, HR is inherently about people – their motivations, emotions, and aspirations (Bolander, 2018). The human touch that HR professionals bring is irreplaceable. Effective employee engagement, conflict resolution, and understanding complex interpersonal dynamics require emotional intelligence, empathy, and nuanced judgment – qualities that machines lack. Consider a scenario where an employee is facing personal challenges that impact their performance (Bloomberg, 2018). An AI system might analyze data and prescribe solutions, but it's the HR professional who can offer genuine support, understanding, and flexibility – attributes that can't be replicated by algorithms.

References:

1. Black, J. S., and P. van Esch. 2021. AI-enabled recruiting in the war for talent. Business Horizons 64 (4):513–24. doi:10.1016/j.bushor.2021.02.015.
2. Bloomberg, J. 2018. Don’t Trust Artificial Intelligence? Time to Open the AI Black
3. Bloomberg, J. 2018. Don’t Trust Artificial Intelligence? Time to Open the AI Black

4. Bloomberg, J. 2018. Don't Trust Artificial Intelligence? Time to Open the AI Black
5. Bloomberg, J. 2018. Don't Trust Artificial Intelligence? Time to Open the AI Black
6. Bloomberg, J. 2018. Don't Trust Artificial Intelligence? Time to Open the AI Black Box. Forbes. Last accessed at https://www.forbes.com/sites/jasonbloomberg/2018/09/16/dont-trust-artificialintelligence-time-to-open-the-ai-black-box/#577a14153b4a on Nov 27, 2018.
7. Bolander, T. 2019. What do we loose when machines take the decisions? Journal of Management and Governance 23 (4):849–67. doi:10.1007/s10997-019-09493-x.
8. Box. Forbes. Last accessed at
9. Box. Forbes. Last accessed at
10. Box. Forbes. Last accessed at
11. Box. Forbes. Last accessed at
12. Cappelli, Peter. 2017. "There's No Such Thing as Big Data in HR." Harvard Business Review. June.
13. Cappelli, P., P. Tambe, and V. Yakubovich. 2019. Artificial Intelligence in human resources management: Challenges and a path forward. California Management Review 61 (4):15–42. doi:10.1177/0008125619867910.
14. Caputo, F., V. Cillo, E. Candelo, and Y. Liu. 2019. Innovating through digital revolution. Management Decision 57 (8):2032–51. doi:10.1108/MD-07-2018-0833.
15. Dietvorst, B. J., Simmons, J. P., & Massey, C. (2016). Overcoming algorithm aversion: People will use imperfect algorithms if they can (even slightly) modify them. Management Science, 64(3), 1155-1170.
16. Gupta, P., S. Fernandes, and M. Jain. 2018. Automation in recruitment: A new frontier. Journal of Information Technology Teaching Cases 8 (2):118–25. doi:10.1057/s41266-018-0042-x.
17. https://www.forbes.com/sites/jasonbloomberg/2018/09/16/dont-trust-artificial-
18. https://www.forbes.com/sites/jasonbloomberg/2018/09/16/dont-trust-artificial-
19. https://www.forbes.com/sites/jasonbloomberg/2018/09/16/dont-trust-artificial-
20. https://www.forbes.com/sites/jasonbloomberg/2018/09/16/dont-trust-artificial-
21. intelligence-time-to-open-the-ai-black-box/#577a14153b4a on Nov 27, 2018.
22. intelligence-time-to-open-the-ai-black-box/#577a14153b4a on Nov 27, 2018.
23. intelligence-time-to-open-the-ai-black-box/#577a14153b4a on Nov 27, 2018.
24. intelligence-time-to-open-the-ai-black-box/#577a14153b4a on Nov 27, 2018.
25. Kaur, Mandeep & Gandolfi, Franco. (2023). Artificial Intelligence in Human Resource Management - Challenges and Future Research Recommendations. 24. 382-393. 10.24818/RMCI.2023.3.382.
26. Lind, E. Allan and Kees Van den Bos. 2002. "When Fairness Works: Toward a General Theory of Uncertainty Management." Research in Organizational Behavior 24: 181-223.
27. LinkedIn. 2018. The Rise of HR Analytics.
28. Malik, N., S. N. Tripathi, A. K. Kar, and S. Gupta. 2021. Impact of Artificial Intelligence on employees working in industry 4.0 led organizations. International Journal of Manpower. doi:10.1108/IJM-03-2021-0173.
29. Michailidis, M. P. 2018. The challenges of AI and blockchain on HR recruiting practices. Cyprus Review 30 (2):169–80.
30. Minbaeva, D. 2021. Disrupted HR? Human Resource Management Review 31 (4):100820. doi:10.1016/j.hrmr.2020.100820.

31. Netessine, Serguei and Valery Yakubovich. 2012. "The Darwinian Workplace." Harvard Business Review, 90(5): 25-28.
32. Pillai, R., and B. Sivathanu. 2020. Adoption of Artificial Intelligence (AI) for talent acquisition in IT/ITeS organizations. Benchmarking: An International Journal 27 (9):2599–629. doi:10.1108/BIJ-04-2020-0186.
33. Poba-Nzaou, P., M. Galani, and A. Tchibozo. 2020. Transforming Human Resources Management in the age of Industry 4.0: A matter of survival for HR professionals. Strategic HR Review 19 (6):273–78. doi:10.1108/SHR-06-2020-0055.
34. Popkova, E. G., and B. Sergi. 2020. Human capital and AI in industry 4.0. convergence and divergence in social entrepreneurship in Russia. Journal of Intellectual Capital 21 (4):565–81. doi:10.1108/JIC-09-2019-0224.
35. PwC Annual Report 2017. Accessed:https://www.pwc.com/my/en/publications/pwc-annual-report-2017.html.
36. Qamar, Y., R. K. Agrawal, T. A. Samad, and C. J. Chiappetta Jabbour. 2021. When technology meets people: The interplay of artificial intelligence and human resource management. Journal of Enterprise Information Management 34 (5):1339–70. doi:10.1108/JEIM-11-2020-0436.
37. Rykun, E. 2019 Artificial Intelligence in HR Management–What Can We Expect? The Boss Magazine. https://thebossmagazine.com/ai-hr-management/
38. Stanley, D. S., and V. Aggarwal. 2019. Impact of disruptive technology on human resource management practices. International Journal of Business Continuity and Risk Management 9 (4):350. doi:10.1504/ijbcrm.2019.10021173.
39. Tambe, P., P. Cappelli, and V. Yakubovich. 2019. Artificial Intelligence in Human Resources Management: Challenges and a Path Forward. California Management Review 61 (4):15–42. doi:10.1177/0008125619867910
40. Umasankar Murugesan, Padmavathy Subramanian, Shefali Srivastava, Ashish Dwivedi, A study of Artificial Intelligence impacts on Human Resource Digitalization in Industry 4.0. 2023, Decision Analytics Journal, Volume 7, ISSN 2772-6622, https://doi.org/10.1016/j.dajour.2023.100249
41. Zhang, Y., S. Xu, L. Zhang, and M. Yang. 2021. Big data and human resource management research: An integrative review and new directions for future research. Journal of Business Research 133 (April):34–50. doi:10.1016/j.jbusres.2021.04.019.