

Chapter 12

Artificial Intelligence Applications in Human Resource Management: A Bibliometric Content Analysis and Future Research Agenda

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ABSTRACT

Human resource is facing a transformation challenge with artificial intelligence(AI). AI's position is larger in various human resource (HR) functions where robotics companies are able to handle recruiting, employing, analyzing data, collecting data, reducing workplace workload, and improving workplace performance. To report this gap, the current study purposes to head to the digital revolution by means of various methods to streamline resources through usage of big data analytics, AI, and cloud computing. The prime role of this research is to address the ensuing research on significant journals, keywords, and affiliations, authors, countries, elevating the literature on AI in human resource management (HRM) using bibliometric content analysis approach. Four prominent themes emerged in the literature which give directions on the role of information systems in building the framework for AI, machine learning applications, decision making, and handling the recruitment process with neural networks. Further, the current research recommends several suggestions for the part of future direction AI in HRM.

DOI: 10.4018/979-8-3693-0418-1.ch012

1. INTRODUCTION

Artificial Intelligence (AI) mimics the intelligence of human brain. In other words, it is the technique to make machines work and behave like humans (Tayarani N., 2021). It is the primary source of innovation and efficient working in organizations. AI is the umbrella term comprising of machine learning and deep learning (Di Vaio et al., 2020). Therefore, it can be apprehended that AI is the constellation of different technologies working in synergy to produce human-like output for complex problems with multiple inputs. There is a misconception that robots solely use AI; however, AI technology has been embedded in our daily lives.

AI is being extensively used by the social media platforms like Facebook to give customized feed to their users. Google used AI to optimize the query results on their search engine. AI combined with information systems, analytics, and intelligence helps business organizations in achieving solutions to complex tasks such as understanding the perceptions of the customers or automating monotonous tasks requiring less human intervention (Berezina et al., 2019). Currently, artificial intelligence has accelerated an organization's overall structure and in the human resource department where human beings are replaced by AI.

Human resources (HR) research with artificial intelligence, such as recruitment inferences, performance assessments, preparation and orientation procedures, career management, and coaching is handled in an effective manner both financially and in terms of time (Votto et al., 2021). AI technologies provide extensive opportunities for enhancing HR processes such as self-service transactions, recruitment and talent creation, payroll, tracking, policies, and procedures regarding access (Johnson et al., 2021). A company's performance depends on how well it intelligently integrates assets, processes, and technology to deliver the benefit of change at an optimized cost. AI will help to automate various back-office activities in a better way for productive HR transactions. The application for several different HRM activities has developed including compensation, financial advantages, job recruitment, and human resource planning (Ahmed O., 2018). It is presenting new opportunities and at the same time bringing new challenges never encountered before. On one hand, Artificial Intelligence can help the HR manager in helping and retaining their employees by employing work related flexibility, job enrichment, etc. It can help in finding the candidates for skill shortage areas and also help in bringing positive changes in the way they work.

Artificial Intelligence is a novel and revolutionizing technology that is modifying every facet of the system we work. A report by Alsop Thomas (2022) depicted that corporate and HR leaders graphed wide-reaching use AI to support employees in their organizations, fifty percent of these appealed that the fundamental use of AI in this framework was to improve consistency and quality. Furthermore, twenty six percent stated that AI is used to support employees by improving efficiency up to sixteen percent to expand insights.

Management of human resources is a strategic practice within organizations. HRM cultivated by cultural, political, economic, legal, social, and mainly technological change as well as demand for competitiveness and operational excellence.

Previous researchers highlighted the importance of conducting bibliometric analysis (Alsharif et al., 2021; Kumar et al., 2023). Recently, researchers have explored the literature on AI applications in the HRM process (Liu & Duffy, 2008; Votto & Liu, 2023; Qamar et al., 2021; Votto et al., 2021). However, we could find some prominent gaps that need to be addressed to have a profound understanding of the topic. For instance, recently, Liu & Duffy (2023) did research typically on the role of chatbots in HRM

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