THE ROLE OF ARTIFICIAL INTELLIGENCE IN TRANSFORMING HRM FUNCTIONS. A LITERATURE REVIEW

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ABSTRACT: Artificial intelligence (AI) has revolutionized the way employees and managers work. This paper investigates how literature analysis AI transforming in Human Resource Management (HRM) functions: Staffing, Learning & Development and, Motivation. Using recent advances in science mapping, this article analyses 30 journals and proceedings using three main keywords: "Artificial intelligence"; "Human Resource Management"; and "Transformation". All the consulted papers have been published in Scopus databases between 1998 to 2021 in order to explore and understand topic content and intellectual structure of how AI is transforming HRM functions. The results reveal a gap in literature to build a complete framework for the transforming role of AI in HRM functions. Particularly, Strategic HR Planning, Job Design and Compensation. This study gives insights and foundations for researchers to expand their study on the role of AI in HRM.

KEY WORDS: Artificial intelligence (AI); Human Resource Management (HRM); Staffing; Learning & Development; Motivation.

1. PURPOSE OF THE PAPER

AI offers advantages that may transform practices of HRM (Ore & Sposato, 2021) and the way people is managed (Xiong, Xia, & Wang, 2020). Despite, there are several studies on the applications of AI on HR, such as the use of AI in recruitment (Upadhyay & Khandelwal, 2018; Dennis, 2018) or how it is applied in performance management (Buck & Morrow, 2018; Zehir, Karaboğa, & Başar, 2020), there is still a perceptible gap in the in-depth comprehension of the transforming role of AI in the overall HRM functions. Taking this into account, the purpose of this piece of paper is to shed light on the understanding of how AI can be implemented in HRM functions adding value. The main goal is to help in improving attitudes and perspectives of

both, HR practitioners and scholars on the evolution and successful implementation of AI within this context.

2. RELATED WORK

According to a digital HR Survey conducted in 2020 by PWC covering 608 executives and HR professionals, 55% of respondents believe HR's biggest contribution to digital transformation is digitalizing HR processes (PWC, 2020). Along similar line, Mercer's Global Talent Trends 2019 reported that 60% of companies plan to boost their use of workplace automation in 2020, including 59% in the United States and 55% in China (Mercer, 2019). This explain why organizations around the world are increasing their HR investments in AI and related technology trying to catch up with the transformational role made by AI on HRM functions.

Several scholars studied and proposed models that have linked the role of AI and HRM functions transformations. Pillai & Sivathanu (2020) investigate the transforming role of AI technology when adopted on talent acquisition. They provide vital insights to the HR managers to benchmark AI technology required for talent acquisition. Similarly, Merlin & Jayam (2018) addressing possibilities of how AI is transforming and supporting the HRM functions like recruitment, training, talent management and retention through analyzing secondary research data.

Likewise, Geetha & Reddy (2018) study how AI influences the recruitment process, through highlight the adoption techniques of AI in recruitment based on secondary sources of information. In the same way, Jain (2017) discusses how AI could be result of the entire digital transformation when the organization adopt this technology in diverse departments such as human resource, marketing, finance and manufacturing.

3. DESIGN/METHODOLOGY/APPROACH

The methodology used in this paper is a literature review (LR) to analysis topic content and intellectual structure between 1998 to 2021. LR employs a specific methodology of collecting and analyzing data from the existing literature (Mackenzie, et al., 2012) by associating data to conclusions in order to clarify what is known and unknown (Denyer & Tranfield, 2009). Data source was Scopus database, based on three keywords generated from VOSviewer software ("Artificial intelligence"; "Human Resources Management"; "Transformation"), (See Figure 1).

The keywords search has been selected without any filter such as "SU - Subject Terms" or period, in English language, from academic and scientific journals and materials presented at conferences.
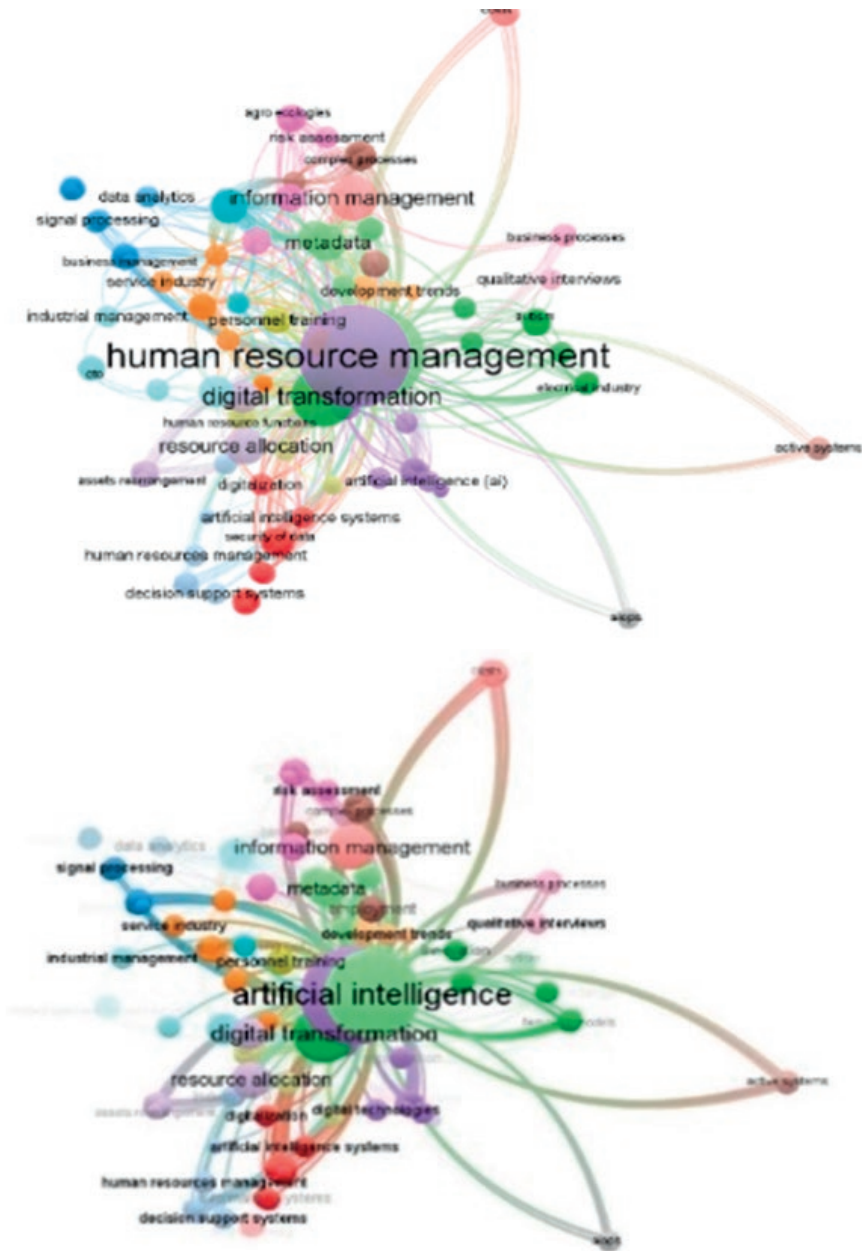
Figure 1. Images of the VOSviewer Network Visualization of the AI, HRM and Transformation Maps.

4. FINDINGS

As a result of the research, 30 publications were found. Of the total, 8 of them (weight 26.7%) are articles and 22 conference papers (weight 73.3%). Noteworthy that most studies (95.3%) published between 2017 and 2021.

In detail, in 2020 there is a sudden increase in interest on the topic. This "Growth Period" is verified by the number of publications (15 out of 30), representing 50% of the total research. It is also important to understand how transforming and the advancement of AI has influenced this shift in the landscape of interest in HR research. Specifically, in this last 3 years (2019, 2020 and 2021), 77.4% of the research were specifically focused on recruitment & selection, onboarding and performance management. As an example, Malini & Srinivas (2020) describe the transformation role of AI on various HRM functions like recruitment, onboarding, learning and development, Performance management, social sharing and compensation and benefits. The rest of publications (represented 22.6%) are related to the advancement of AI in minimizing the administrative work of HR to take up with strategic role. Tewari & Review (2020) reinforce the understanding of how AI is enabling machines to make decisions more accurately than humans based on existing data sets and behavioral patterns. This transformation pushes machines to take over all work susceptible to be automatized leading HR professionals to take up more strategic and intellectual roles.

In terms of the area of knowledge where the papers are published, it is worth highlighting the fact that, Business, Management and Accounting subject area is covering only 12.7% from whole subject areas in Scopus database.

In this sample, the transforming role of AI in HRM functions is distributed with different objectives in the area of HR. In this period, AI is found that influences specifically in Work-related flexibility and autonomy, Creativity and innovation, AI-enabled HRM systems, Employee emotions wellbeing at AI-powered workplace, Recruiting and selecting the most suitable employees, the impact of the Internet of Things (IoT) and Machine learning (ML) on onboarding, learning & development, performance management, social sharing and compensation and benefits.

As a conclusion, it could be said that daily advances in AI constitutes a new approach in managing employees and enhancing firm performance, thus offering several opportunities for HRM but also considerable challenges at managerial and ethical level.

Finally, the literature fails to build a complete framework for the transforming role of AI in HRM functions. Particularly, strategic HR Planning &staffing, job design, motivation and compensation.

5. RESEARCH LIMITATIONS/IMPLICATIONS

The scope of databases is limited to Scopus. However, due to the scarcity of papers found, this analysis could be expanded to other databases to cover ISI, Emerald insight and Google Scholar.

Building on this piece of research, new lines for future research could be opened, such as building comprehensive framework based on qualitative or quantitative analysis covering staffing, motivation and learning & development in order to deep understanding the transforming role of AI in HRM functions.

6. PRACTICAL IMPLICATIONS

The papers and proceedings analyzed in the present study show variations in the interest in researching the theme, methods and vulnerability of AI on HRM functions. As far as academic implications concerns, this study highlights the need for empirically expanding the analysis of the role of AI in HRM.

Regarding practical implications this paper set the foundations for practitioners to efficiently plan the implementation of AI in HRM in order to get the most out of it.

ORIGINALITY/VALUE OF THE PAPER

This article advances in research on the transforming role of AI in the HRM functions through analyzing topics content and intellectual structure of business and management scholarship.

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