BIBLIOMETRIC ANALYSIS OF DIGITAL HRM PRACTICES

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Abstract: Specialized literature constantly contributes to the examination of practices in a given field and in specific areas such as human resource management it is more than relevant; it also plays an essential role in reflecting changes and novelties regarding customs and procedures. Based on these considerations, this paper aims to present the novelties in the HRM field through a bibliometric analysis of the digital practices of this process. The focus on the digital element is largely due to its current relevance and the implications that digital change has on traditional management. Through the research technique selected for this study, an interactive perspective on the literature is provided. The use of network maps will significantly contribute to understanding not only the connections between elements found in the analysed contexts but also the impact they have on organizations in general. The results of the paper aim to make a significant contribution to the scientific field and that is due to their relevance to the research area; they could influence future directions in HRM, both at a theoretical and practical level. Furthermore, given the rapid pace of digital technology change, the research may also play an important role in the future for comparative studies. **Key words**: HRM, practices, digital, recruitment, bibliometric

JEL: M0, O0, O3

1. Introduction

The rapid evolution of technology in recent years has been strongly felt not only in people's social lives but also in their professional lives. The nature of work, how we work, and how we access work have all changed radically. Practice has served as a "witness" to these transformations that have reshaped the business landscape; today, there is a clear orientation toward digitalization and a shift away from the traditional way of managing an organization, moving instead toward a digital technology-based approach. As a result, the digital space has become present in all processes that take place and operate within an organization. Whereas in the past, digital tools were primarily used in customer relations, today, digital technologies are becoming standard even in the interactions between the company, candidates, and employees. In light of these considerations, it can be said that one of the most affected areas in terms of adopting digital changes is human resource management. From the recruitment and selection of personnel to the management of employee relations, HRM had to adapt to the technological changes brought about by the digital age. With change also come uncertainties, leaving a very fine line between classical and modern practices, between their usefulness and performance, as well as between what remains and what is no longer applied. This is precisely why the present paper arises from the need to stabilize the research area, to identify these practices and to classify them. Therefore, the main objective of this paper is to offer a current overview of these practices through bibliometric analysis; thus to be able to determine and define them. In order to achieve this objective, the study will employ a quantitative method for analyzing data from the field of specialized literature. A thorough examination of the literature will be conducted in order to identify the most relevant practices of digitalized human resource management, and the findings of the study are expected to make a significant contribution to the field.

2. Basic content.

The changes that occur over the years inevitably extend into business practices as well; they represent a necessity that companies must embrace in order to remain relevant and maintain their competitiveness. Therefore, in the field of management as well, there is a need for the adoption of new technological trends and in the context of human resource management (HRM), this gives rise to the concept of "e-

HRM" (Foster, 2009). This idea is viewed in the literature as something that supports the practices of this department, being useful both to employees and to managers (Berber et al., 2018).

In relation to the impact that digital practices have on HRM, there are authors who believe that the positive or negative value largely depends on the maturity of the capabilities that this department holds within organizations (Wang et al., 2022). There are also opinions that suggest that the use of artificial intelligence (an integral part of digitalization) in human resource management can lead to sustainable company performance (Mollah et al., 2024). When it comes to digital practices themselves, the areas where the concept of e-HRM is most commonly found are: recruitment and personnel selection (Čirčová et al., 2025), which are also the most relevant for this study; digital labor platforms (Waldkirch et al., 2021); and training and development (Bilušić and Vokić, 2025). In the area of recruitment and personnel selection, digitalized HRM practices can bring both advantages and disadvantages (Ahmed Ali and Ahmed Siddiqui, 2024).

It is worth noting that in the case of recruitment, concerns may arise regarding fraudulent job postings (Akram et al., 2024), which can lead to a significant decline in candidates' trust in online hiring platforms. Moreover, other authors also highlight the lack of fairness in recruitment conducted through digital technologies (Rigotti and Fosch-Villaronga, 2024), as bias can be present in modern recruitment methods as well. While in traditional methods, bias was linked to the characteristics of the human element, in digital methods it is associated with the data on which these systems operate. In the case of personnel selection, although this stage is greatly facilitated by the existence of these new technologies, the issue of extending the checks made by recruiters arises. More specifically, recruiters may extend their background check of a candidate beyond the professional context (Berkelaar and Buzzanell, 2014), examining their life on social media, which could influence the recruitment decision due to the image candidates present.

Furthermore, the specialized literature has highlighted that digital selection practices may also raise legal and ethical issues (Tippins et al., 2021).

The research methodology used for this study is bibliometric analysis, a method aimed at presenting the situation regarding the digital practices of human resource management. Through this analysis, a map of the most frequently encountered terms or topics related to HRM practices is presented. For this reason, three data sets were extracted from the Web of Science Core Collection. The first set reflects articles that fall within the general scope of the e-HRM concept; the second set more explicitly reflects the context of automated personnel selection, while the third pertains to e-recruitment. The selection of categories for the bibliometric analysis was based on the specialized literature and its predominant elements; thus, there is a significant connection between the specialized literature presented in the paper and the practical part of the data analysis derived from the Web of Science Core Collection (WOS). As for the data, no filters were applied to them, meaning they are not limited to a specific period or area; rather, they encompass the entire database subject to the research.

The first category of data consisted of a total of 311 WOS-indexed papers. In order to process them in the VOSviewer software, co-occurrence and full counting filters were applied (see Figure 1).



Figure 1. Network map e-HRM Source: Own processing

A VOSviewer

From the connections presented in the network, the strong connection of the term e-HRM with other elements of the data group can be seen. The content of this analysis identifies some of the strongest terms as: technology, user acceptance, adoption, impact, information technology, human resource management; while some of the least relevant terms are: job satisfaction, perception, acceptance. Therefore, comparing these considerations with the hypotheses mentioned in the specialized literature, a conclusion can be formed and according to which, regarding the digital practices conditioned by the e-HRM framework, the focus is on the impact they have on this process, rather than on how they are perceived and accepted. Also, from this data set, it can be observed that there is very little interest in the literature regarding human resource management practices, with the term "practices" being absent from the analysis, even though the adoption of digital technologies implies a change in these practices for this process. This indicates the existence of certain limitations in the scientific literature on the chosen research topic, but these limitations may be largely due to the novelty brought by the digitalization of this process and may indirectly highlight gaps in the practical field.

For the second data category, a total of 195 papers were extracted, which is much fewer compared to the first category. The difference is largely due to the fact that e-HRM is a general term that encompasses digital practices in human resource management, while automated personnel selection is much more specific and is limited to personnel selection. The same filters as in the first data group were applied for the analysis (see Figure 2).

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Figure 2. Network map of automated personnel selection Source: Own processing

This network map is much more limited and focuses on a very small number of elements; specifically, in the area of automated personnel selection, the key components are primarily the terms artificial intelligence and machine learning, as these are the digital technologies frequently used in practice for performing automated personnel selection. As for the other elements, it can be observed that this digital practice of personnel selection is also found in a performance context, implying that the goal is to achieve performance. The third data category consisted of a total of 382 papers, making it the largest of the three. The existence of more papers in this area highlights where the focus of interest lies in terms of digital human resource management practices; more specifically, it can be observed that although e-HRM encompasses both e-recruitment practices and automated personnel selection practices, literature studies give more attention to digital recruitment than to digital practices as a whole (see Figure 3).



A VOSviewer

Figure 3. Network map of e-recruitment Source: Own processing

This map has a structure very similar to that of a star network, with the term "ontology" as its central node and its position in the network suggests that the integration of ontologies in e-recruitment is still an emerging research area. As for the other terms, it can be highlighted that there is a strong emphasis on perception/image and the online environment, which is not at all coincidental, as digital recruitment involves so-called recruitment platforms that generate both employer and candidate images. Comparing the three groups, it can be observed that the last group best represents its specific features.

3. Conclusions.

From the specialized literature mentioned at the beginning of the paper and by associating it with the results of the bibliometric analysis, several conclusions can be drawn. The first is that this area is still a new one, not extensively explored in the literature, which in itself leads to a lack in practice. The second is that, with regard to digital human resource management practices, the focus is more on recruitment than on selection. The third consideration is that the adoption of digital practices is still in its early stages.

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