PROSPECTS REGARDING THE DEVELOPMENT OF HUMAN RESOURCE MANAGEMENT AT EUROPEAN LEVEL. BIBLIOMETRIC ANALYSIS OF THE LAST 6 YEARS

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Abstract: *European human resource management policies are very complex as the European area comprises many cultural, historical and linguistic differences. Each country in Europe has its own employment system or legislation, harmonised with European legislation, its own institutions with different tasks in managing labour markets, its own educational system and management culture. In some European countries, these differences are found between their different regions. Taking this diversity into consideration, the main objective of this paper is to reasearch and study the interest in the European research area concerning the human resource management. The research methodology focuses on the development of a bibliometric analysis, thus a quantitative research method, in the form of an inventory of publication activity in the field of human resource management, and is developed by querying the Web of Science platform database. The query resulted in the display of 261 scientific documents in the database containing the acronym human resources management in the title, abstract or keywords of the documents. The query was carried out on 25 June 2023 and involved the inclusion of publications from the last 6 years, 2018 - 2023, published in European countries. The results of the search confirm the scientific interest in the field of human resources management, with data contained in the WOS having a Hirsch index of 25.*

Keywords: *human resources management, bibliometric research, quantitative research, Vosviewer*

JEL classification: M12, O15

Introduction

The enlargement of the European Union is a prerequisite for the increased demands on working and living conditions at European level. The extremely diverse rules on working and living conditions across the European Union present HR managers with extremely serious challenges to meet in their work. Euromanagers are promoters of the European career concept, with Eurocareers being a direct consequence of the Europeanisation process. European career management is thus becoming an important process in the integration desired by the coordination and management structures of the European Union. The development of this system is having a positive impact on the increased mobility of the population within the European Union and the expansion of multinational companies throughout Europe. There is a tendency for European companies to secure

European competences through employees who have experience gained in multinational relations and are internationally minded. Tolerance, recognition of pluralism, social responsibility and rights are characteristics that support a certain development of social dialogue.

"Currently, among the challenges facing human resource management are the development of sustainability strategies and employee participation as a key element that enables them to develop their capabilities so that all employees are integrated into the firm" (Horváthová et al., 2020).

"The core strategic objectives of every organisation include long-term growth and sustainability in today's challenging conditions of global competition and under the increasing pressures of business globalisation, human resources are becoming increasingly important for achieving these core strategic objectives" (Cachón-Rodríguez et al., 2020).

Human resource management is the main means and instrument which companies can secure the competitive advantage they need with, in the context of the intensifying globalisation process. According to experts, a main cause of the failure of some European companies is the lack of understanding of the specific differences in human resource management within countries. Companies will secure a competitive advantage and achieve the desired added value by operating in a single market.

This paper starts from the analysis of scientific papers dealing with specific concepts of human resource management, their analysis in terms of affiliation to higher education institutes, origin by country, funding sources, number of articles by authors, citations and frequency of occurrence of words and phrases in the studied articles

One of the requirements of the internationalisation of organisations' activities is the preparation of managers from a cultural point of view, to the knowledge, application and management of cultural elements, specific to the country or region where the company operates.

"Organizational change has become a core activity to support the effectiveness of organizations and increase their ability to respond and adapt to the changing environment and competitive market by using a variety of human resource management practices to provide organizations with human resources that possess the knowledge, skills, abilities and behavior necessary tendencies to achieve change strategies, the human resource management function can play a central role in improving organizational change." (Alqudah et al., 2022)

At the end of the last century, most European Union countries faced the imbalances generated by the profound reform situations needed to be achieved in Eastern European countries and, in particular, the decreasing competitiveness that had emerged in the EU economic market. The participative management model, the human resource management model and the organisational management model are the main human resource management models that can be found in European countries.

In order to bridge the gap in the approach to human resource management at the level of European countries, in addition to the European Social Fund (ESF) aimed at creating jobs, helping citizens to get better jobs and ensuring fairer career opportunities for all European citizens in line with the Europe 2020 strategy, there are also other area-specific funding programmes such as the Erasmus+ programme for education and training areas which provide mobility and cooperation programmes for actors in these areas aimed at bridging the gap between EU Member States.

Literature review

According to some experts, human resource management at European level is characterised by the lack of a Europe-wide national identity compared to the American and Japanese management models. The changes in Europe are more complex than in the US and Japan. The continuing process of enlargement of the European Union towards South-East Europe has brought about a number of changes in economic, social and political terms. Another dominant feature of human resource management at European level is the need to develop new forms of work organisation and to increase structural flexibility in the business environment in order to use cultural, economic, social

and political diversity and complexity to gain competitive advantage. Thus the European model of human resource management is characterized by a high degree of cultural, economic, social and political diversity, reflecting the organizational, ownership, national and international dimensions of the organizational culture of companies.

According to Geert Hofstede, HR practices must incorporate the cultural specificity of the country concerned, companies admitting that appreciation for different kinds of people must use different standards, thus valuing the ability to understand foreigners using their standards. The cultural context of each country has a major influence on the HR practices of that country. In specific situations the principle may apply that what is valid in one culture may not be applicable identically in another: "The term 'culture' can be applied to nations as well as to organisations, occupations and professions, age groups, religious groups, ethnic groups, etc., although the manifestations of culture at these different levels vary considerably" (Hofstede, 1994).

The diversity of the cultural-historical context at the European level is obvious, and in the present circumstances only a nuanced, contextualised approach allows us to correctly interpret the particularities of this possible HRM model. Thus, in the case of a possible European model of human resource management, four management models can be identified, which can correspond to the four groups of countries, namely: Nordic countries, Anglo-Saxon countries, Latin countries and German countries. Moreover, within each management model or group of countries, there may be a number of national differences in institutional, economic, cultural and social terms. A comparison between today's Europe, economically developed Asia and North America reveals that the issues separating the citizens of the three poles of global economic power are much broader and deeper than those separating the citizens of Europe from each other. According to Makridakis, it can be said that the European Community is not yet a 'unicultural' area. (Makridakis 1990) However, most specialists accept that the nations that make up the EU are more similar than different in cultural terms.

Research methodology

As society and electronic tools for storing and archiving scientific work have developed, access to the results of scientific research has become easier for an increasing number of teachers and researchers in more and more areas and fields of research. Science is thus a process that generates new information, new points of view and new areas of research or reinterpretation.

For the present article the scientific research was based on biliometric analysis of Web of Science data and the use of scientific data processing procedures: Wold Art and Vosviewer.

"Bibliometrics has its origins in bibliography and statistical bibliography and has its roots in librarianship. Bibliometric methods have been applied in various forms for more than a century. The terminology bibliometrics was first introduced by Pritchard, who defined it as the application of mathematical and statistical methods to books and other media. Gradually the scope of the definition of bibliometrics was broadened, defining it as the quantitative treatment of the properties of discourse and related recorded behaviour. Then Broadus defined bibliometrics as the quantitative study of physically published units, or bibliographic units, or alternatives of each. Currently, bibliometrics is used to explore scientific documentation and scholarly communication" (Yang, et al., 2020).

"There is no universal interpretation of the research objective of bibliometrics. Some authors believe that the objective of bibliometrics is documents, while others associate it with quantitative models in the analysis of document information flows, which characterize the development of science and contribute to the improvement of scientific work" (Mokhnacheva. and Tsvetkova, 2020)

A first activity was to query the Web of Science database by the tag "human resources management", I limited the searches to Arts & Humanities Citation Index (A&HCI), Science Citation Index Expanded (SCI-EXPANDED), Social Sciences Citation Index (SSCI) and put filters on the database: all open access, publication years 2018-2023, countries of origin in Europe.

After providing the result of 261 articles we performed a statistical analysis of article publications over the 6 years, an analysis on word density via word cloud to see the association of frequently used words with economic performace, by article name, abstract, Author Keywords and Keywords Plus.

A further analysis was performed using WOSviewer software to see the density of phrases used within the 261 articles in the selection. We used Co-occurrence, Author Keywords, fractional counting, minimum 4 occurrence tabs.

Subsequently, bibliometric analysis and density analysis were used, both of them being performed according to country of publication, according to year of publication, according to number of articles per country, according to funding organization, number of articles per author, according to affiliation and according to number of citations of the scientific articles in the selection. The Hirsch Index (H Index) for this selection is 25.

In this part of establishing the methodology used, we considered it appropriate to present the criteria that we addressed in creating the bibliographic links and the funding and publication density situation.

Using the WOSviewer software we created a map of citation density among authors, using data exported from the Web of Science database, and selected the Bibliographic coupling analysis type and the Authors and minimum author 2 documents analysis unit.

Results

A first search of the Web of Science database by the tag "human resources management" and using the filters: All open access, countries of origin in Europe resulted in 352 articles. Analysing the density of articles published per year, I decided to limit the research period to 2018-2023. I also chose the year 2023 even though it is only halfway through because the number of articles published is almost the same as in 2018. Applying the 6-year conditioning resulted in 261 articles.

The publication of articles for the chosen period was as follows:

Table 1 Distribution of the 261 articles from the Web of Science query

Year	2023	2022	2021	2020	2019	2018
Number articles	21	60	63	56	37	24

*Source:* Web of Science database (accessed 25.06.2023)

Out of 261 only 2 articles, Artificial Intelligence and Human Resources Management: A Bibliometric Analysis and Advances in management research: a bibliometric overview of the Review of Managerial Science, are bibliometric analyses.The first article used the Bibliometrix program and the second article had the analysis period 2011 -2019, so we could not make comparisons between our article and the other 2 articles. The writing team of this article wants to analyze the reports provided by Web of Science and the bibliometric analyses of the WOSviewer program.

After word cloud analysis of 261 articles on words contained in the Article Title, Author Keywords, Plus Keywords and Abstracts , the words with the highest frequency of use were (figure 1) : Manage, Resource, Human, Work, Study, Employee, Perform, Research, Organizational, Effect, Practice, Result, Job and the graphical representation is as follows:
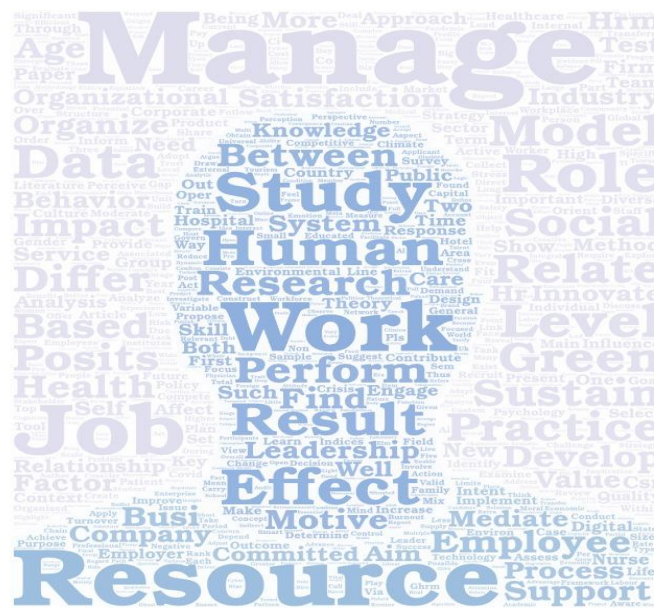
Fig. no. 1 Word count of the 261 articles retrieved from the Web of Science query

The second analysis was the sentence density analysis using the VOSviewer software. After applying the filters we have the following results:
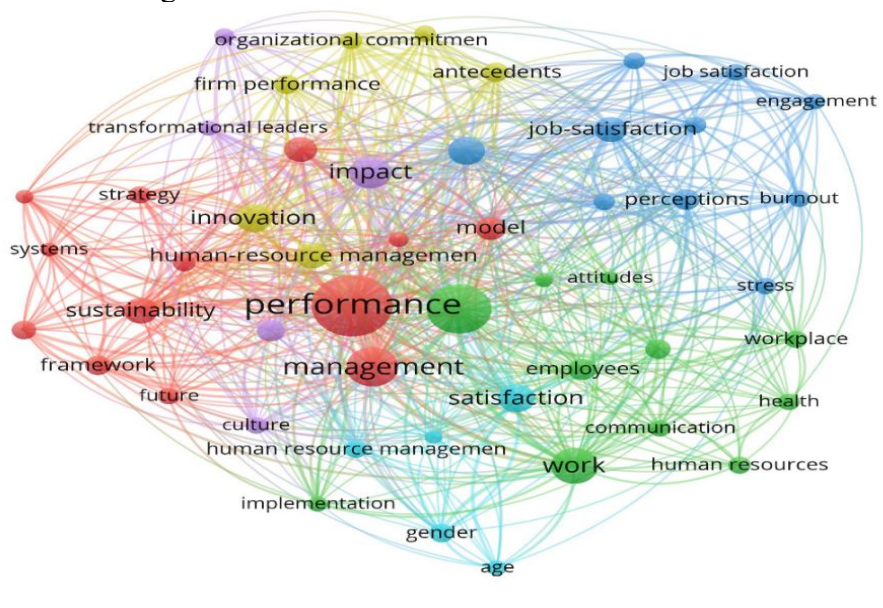
Fig. no. 2 Phrase and word density of the 261 articles from the Web of Science query

The words and phrases with the highest density resulting from the analysis by the VOSviewer software are: performance, human resources management, management, work, impact, mediating role, job -satisfaction, satisfaction, innovation, sustainability.

We also made an analysis of articles containing the phrase human resources management and other words or phrases with a high frequency. Thus with a high density were found: sustainability, management, work, job-satisfaction, firm performance, satisfaction, mediating role impact.
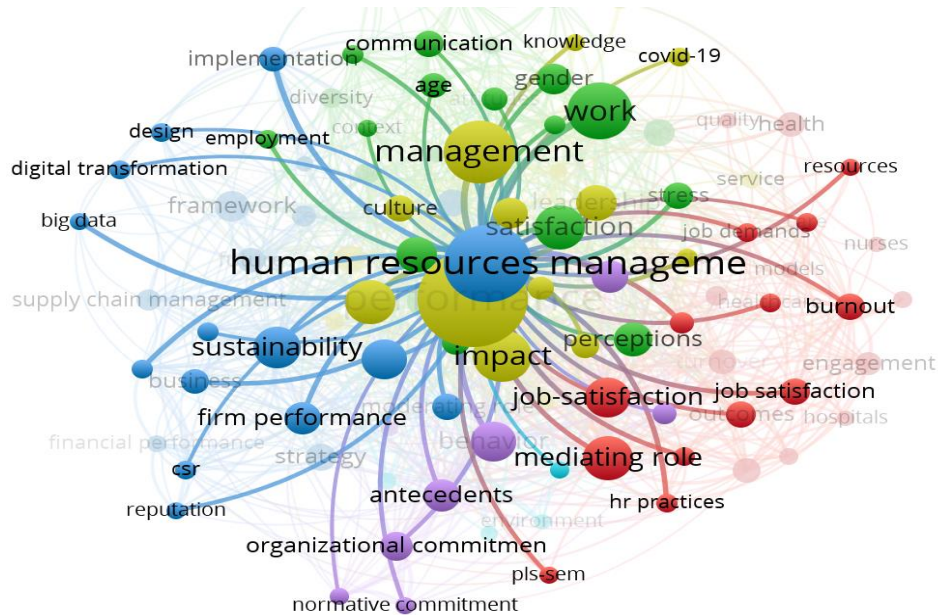
Fig. no. 3 Density of phrases and words related to human resources management

It can be seen from these analyses of the high frequencies of words and phrases that the selected articles are more oriented towards the sphere applied to the economic performance of enterprises where human resources are active

Through bibliometric analysis and density analysis, the origin of authors in Europe was classified for the first 11 countries as follows:
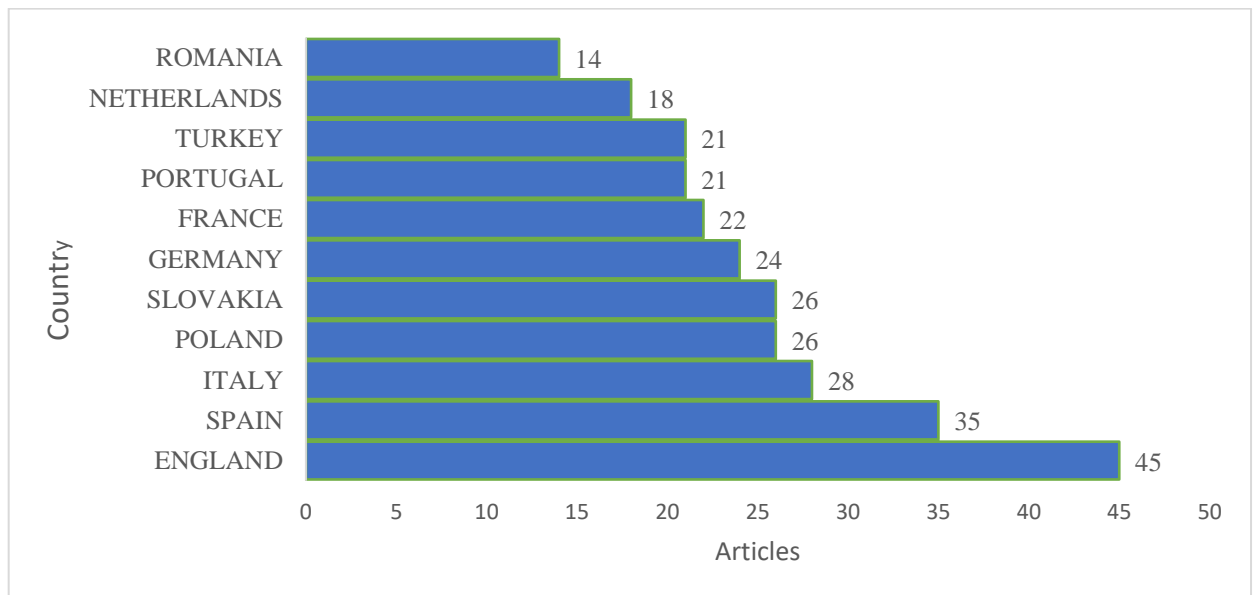
Fig. no. 4 Origin of authors for the top 11 countries from the Web of Science query

Another analysis is the affiliation of the authors of the articles.

Table 2 Affiliation from the Web of Science query

Affiliations	Record Count
N8 Research Partnership	11
Universidade de Lisboa	10
University of Economics Bratislava	9

| University of Presov | 9 |
| University of Gottingen | 8 |

Source: WOS own data processing (accessed 25.06.2023)

It can be seen that the top 5 where the most authors of scientific articles are affiliated are in the academic sphere. The N8 Research Partnership is a collaboration of the eight most research-intensive universities in the North of England: Durham, Lancaster, Leeds, Liverpool, Manchester, Newcastle, Sheffield and York.

When analysing the funders of the 261 articles 154 of them did not have data on this query. 132 articles had information on their funders and the top 7 sources for was:

Table 3 Top 7 sources of funding from the Web of Science query

| Funding Agencies	Publications
Scientific Grants Agency of the Ministry of Education, Science, Research and Sports of the Slovak Republic and the Slovak Academy of Sciences -VEGA	14
Foundation for Science and Technology Portugal	8
Spanish government	5
European Commission	5
National Science Center Poland	4
The DEAL project led by the Conference of German Rectors	4

Source: own conceptualisation and data processing from WOS (accessed 25.06.2023)
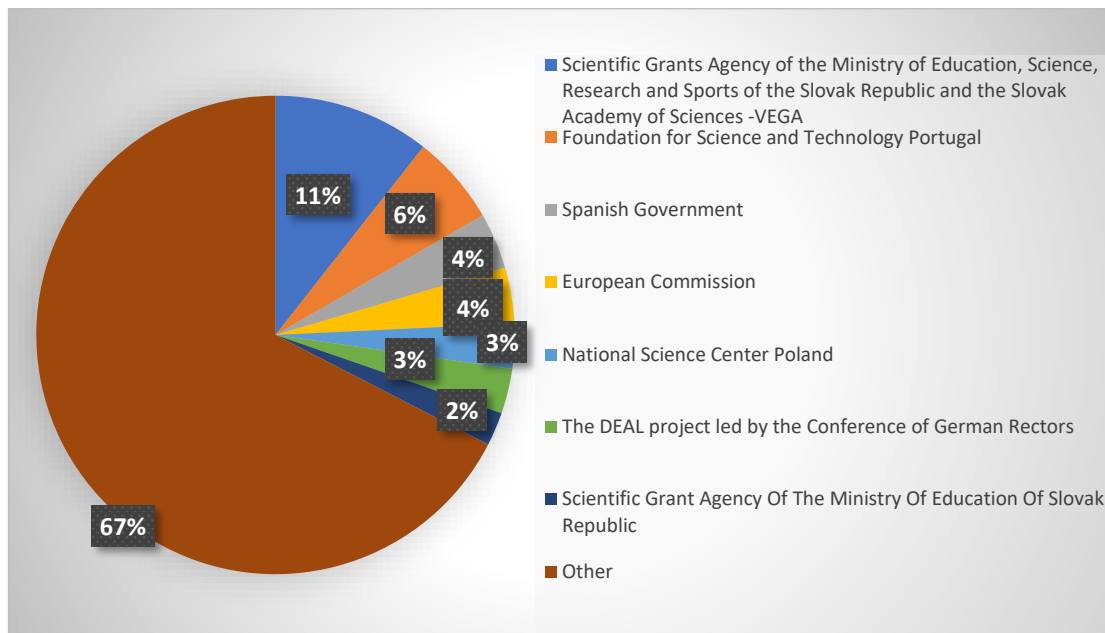
Fig. no. 5 Funding sources of the 261 articles from the Web of Science query

From this analysis of the source of funding, it can be seen that a large proportion of the articles were supported by authors (59%) and for the articles that mention the source of funding, there is no specific source and the predominant sources are the European Commission, governmental sources or those of higher education institutions.

We also analysed the top 9 authors who have at least 4 articles within the 261 articles included in our analysis and we have the following distribution
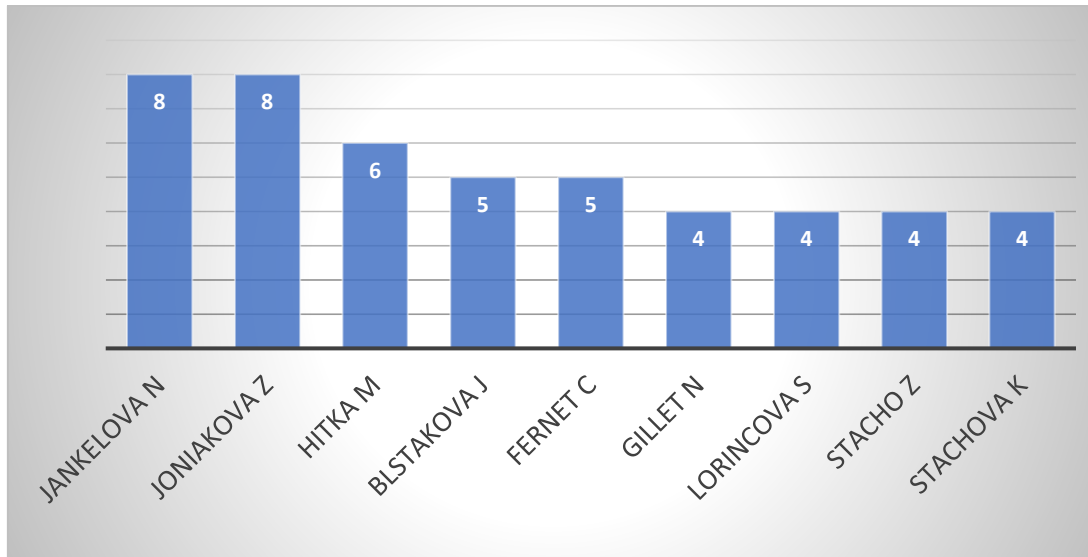
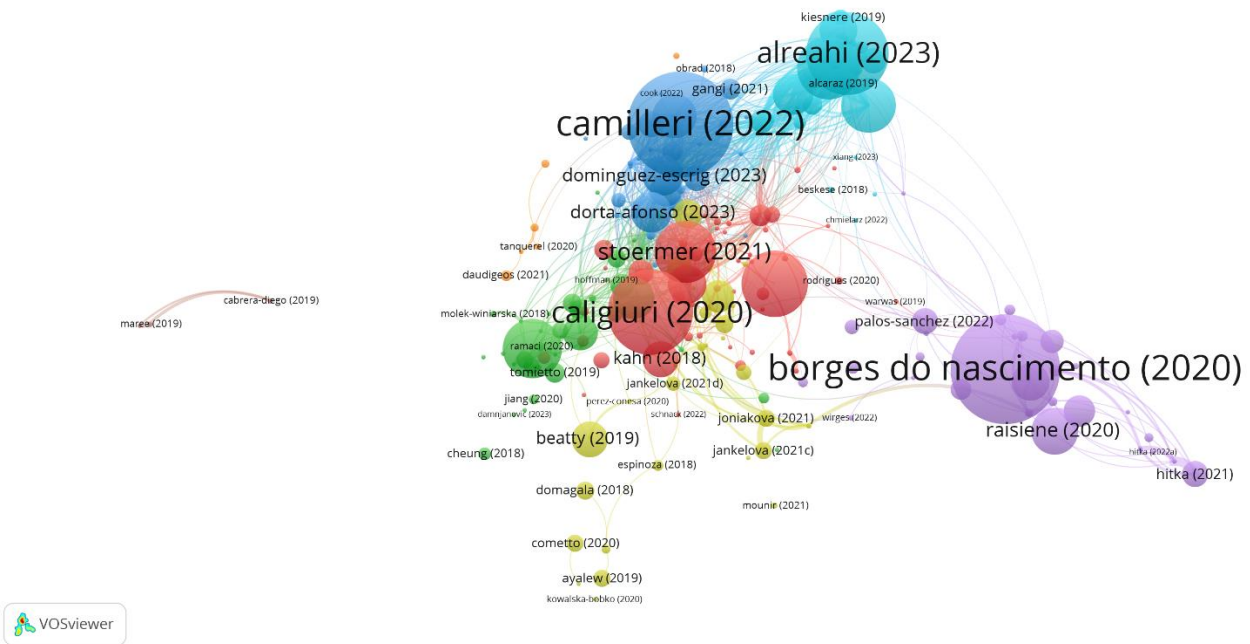**Fig. no. 6** Authors with at least 4 articles from the Web of Science query

We also performed a processing according to the number of articles included in our selection and using the VOSviewer software as well as the links between articles and the result for authors with at least 3 articles was as follows:
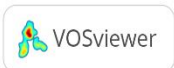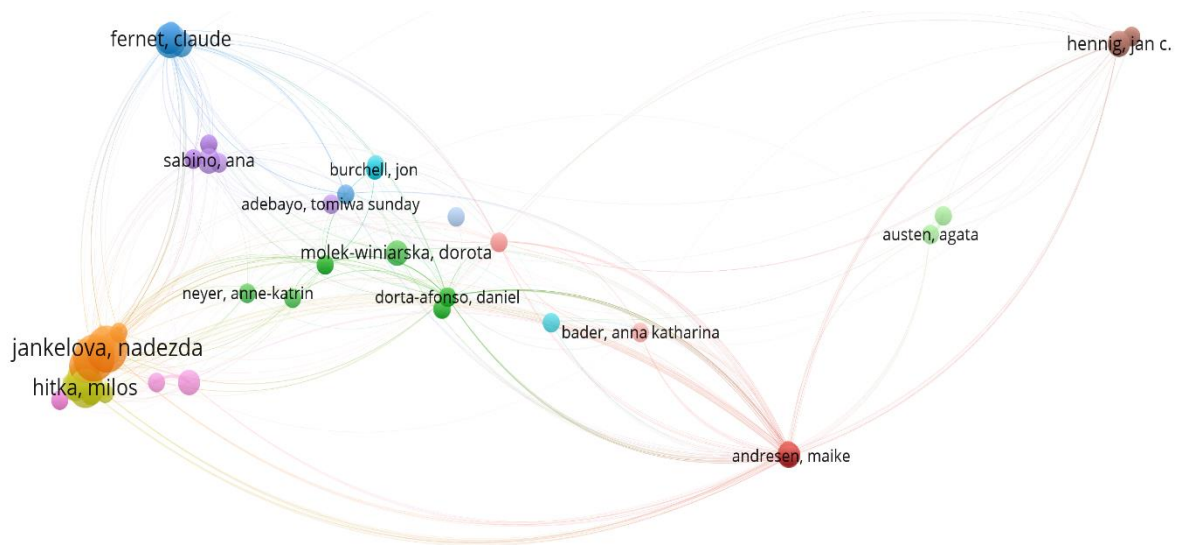
Fig. no. 7 Authors with at least 4 articles from the Web of Science query

Using the VOSviewer software we analysed the citation links within the selection of 261 articles

Fig. no. 8 Circular references of the 261 articles from the Web of Science query

It can be seen that the authors with the most articles are also the most cited authors Borges do Nascimento, Caligiuri Paula, Camilleri Mark Anthony and Alreahi Mahmoud.

The 261 articles are cited 3,057 times with a Hirsch Index (H Index) of 25. The citations for the top 5 articles are as follows:

**Table 4** Top 5 articles by number of citations from the Web of Science query.

No crt	Article title	Publication year	Total citations	from which:					
				2018	2019	2020	2021	2022	2023
	Total		3057	16	100	415	865	1162	499
1	Novel Coronavirus Infection (COVID-19) in Humans: A Scoping Review and Meta-Analysis	2020	311	0	0	125	118	55	13
2	International HRM insights for navigating the COVID-19 pandemic: Implications for future research and practice	2020	228	0	0	14	74	103	37
3	Human resources for Big Data professions: A systematic classification of job roles and required skill sets	2018	124	7	13	27	34	31	12
4	All of work? All of life? Reconceptualising work-life balance for the 21st century	2019	116	0	10	21	32	35	18
5	Working from Home-Who Is Happy? A Survey	2020	109	0	0	4	46	48	11

	of Lithuania's Employees during the COVID-19 Quarantine Period								

Source: Own concept, based on WOS data processing (accessed 25.06.2023)

It can be seen that the main articles cited refer to the COVID 19 pandemic which affected HRM and created an interest in researching changes in the specific mechanisms of this field.

The combined Web of Science graphical representation of the number of articles and citations is as follows:
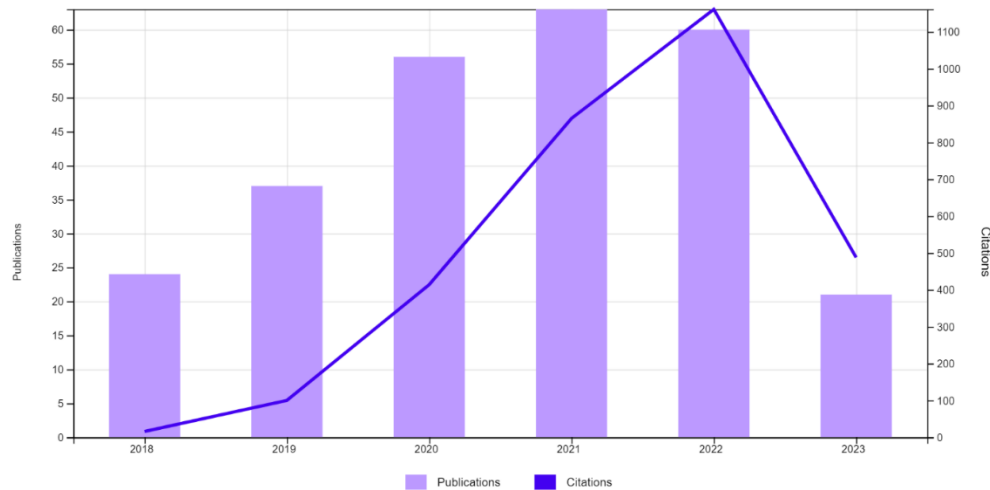
Fig. no. 9 Number of articles and citations

The results show a strong increase in publications and citations over time resulting in an increase in interest in studying articles in the field of human resource management, as there are new challenges for this area of research in this post-pandemic period.

Conclusions

"Human resources could be regarded as rare and inimitable assets that provide a sustainable competitive advantage for the company. The interesting question for the organization is how to develop human resources to be the human capital that plays crucial roles in sustaining the purpose of the organization" (Banmairuroy, et al., 2022).

Senior managers in European multinational companies have developed different types of strategies to mitigate the impact of the pandemic on the companies' activities. In most cases, these strategies aim at managing distance and rethinking borders, either at the macro level or at the level of one's own company. Cross-border remote issues (travel bans or reduced international mobility) increased during the pandemic and often led to new remote challenges within the firm imposed on previously employed employees.

"Previous research in the field of human resource management has highlighted the challenges of distance in terms of employee selection, training, support, health and safety, and virtual leadership and collaboration. Much of this thinking is applicable to addressing remote challenges related to the pandemic. The current extreme cases of necessary physical distance need not imply equivalent increases in psychological distance, and it also provides firms with insight into the unforeseen benefits of a virtual workforce - a type of workforce that will quite possibly influence the 'new normal' of the workforce. Looking ahead, one can see areas for future HR research: managing under uncertainty, facilitating international and even global work, and redefining organizational performance." (Caligiuri, et al., 2020)

The application of empirical research in line with the research problem, that of human resource management, led to the identification of effects that can lead to increased organizational performance, and the validation of research hypotheses were benchmarks for the foundation of the components of the model for achieving organizational performance. The research activity of the present article was subject to a number of limitations. A main limitation was the dispersion of information, some particular problems with records and translations that did not favour an overview of the topics in a connected way.

The team that wrote this article wishes to deepen the field of human resources on specific topics as there is indeed a growing interest in recruiting highly qualified staff, adapted to the cultures of different countries at European level, adaptable to changing forms of work and changing locations where they work, being an absolutely necessary prerequisite in the new conditions in which companies are faced with the changing environment and high competition.

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