Bibliometric Analysis of Human Resource Management Research in the Field of Health Services During 2019-2023

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Abstract

Purpose – This paper presents and discusses the mapping of the research landscape in the field of Human Resource Management (HRM) in the field of health services, especially during 2019-2023. This research was conducted through bibliometric analysis of major journals and publications. Through this approach, we analyze the patterns, trends, and characteristics of publications related to HRM in the healthcare sector that have been published.

Design/methodology/approach – Bibliographical data was obtained from Scopus database sources, including leading journals and trusted publications in the field of HRM. We analyze the country where the research was conducted, local and global citation analysis. In addition, we also analyze citation patterns, map collaboration networks between authors, and identify the most dominant research themes in the HRM field over the last 5 years using VOSviewer software.

Findings and Discussion – The results of research by mapping using the keywords "healthcare", "health service", "human resource", and "human resource development" during 2019-2023 obtained 8,680 articles which were then filtered into 236 articles and 138 articles were eligible to use. The country with the highest contribution was India with a percentage of 18.44%, then England with a percentage of 15.53%, Australia with 14.56%, and the United States with 12.62%, the rest were other countries. Based on trend analysis using keywords, in the period before 2020 the research keywords that appeared a lot were behavioral research, environmental management, environmental performance, customer satisfaction, quality control, competition, etc. During the period of the outbreak of COVID-19, the research keywords that appeared a lot were keywords related to members of health service agencies, especially in the service and performance of health workers. In the period after COVID-19 had subsided, the focus was on efforts to revive the healthcare sector from the COVID-19 pandemic by increasing the productivity of health workers through strategic human resource management and improving internal communications.

Conclusion – Based on the trend, it is advisable to research topics that are rarely discussed such as green human resource management, IoT, digitalization and the use of quantitative analysis such as Structural Equation Modeling.

Keywords – Bibliometric Analysis, Health Services, Human Resource Management

Introduction

Human resource management (HRM) is a key aspect of modern organizational success, where effective human resource management can provide a significant competitive advantage (Jackson et al., 2014). In recent decades, technological developments and changes in the business

environment have had a significant impact on HRM practices (Paillé et al., 2014).

Health care services require human resources as the most important asset. Human resource management is key in providing these services, because machines and devices are only tools that require direct interaction by humans (Top et al., 2015). Expertise, human touch and commitment are required for equipment to function optimally. Many studies have been conducted to improve the quality of hospital services, for example research from (A. Ahmad & Chowdhury, 2020; Alahbabi et al., 2021; Khan et al., 2019; Tannady et al., 2019) and so on.

Therefore, it is important to have a deep understanding of the research landscape in the field of HRM to inform policy, practice, and strategic decision-making related to the management of human resources in the health care sector. Along with technological developments and social changes, the study of HRM continues to develop and become a dynamic research field.

Mapping the research landscape in the field of HRM has an important role in understanding the latest developments and currently developing research directions (Kianto et al., 2017). Bibliometric analysis is a powerful approach to understanding the trends and characteristics of the research that has been done, by analyzing bibliographic data covering major journals and publications (Donthu et al., 2021).

This study aims to map the HRM research landscape through bibliometric analysis of major journals and publications. By using a bibliometric analysis tool, we will identify research patterns, trends, and research characteristics in the field of HRM. Through this mapping, we can gain a deeper understanding of emerging research topics, dominant themes, and the contributions that have been made by researchers in the field of HRM. This information can provide guidance for researchers, practitioners and other stakeholders to direct future research and identify areas of research that have not been covered.

It is our hope that the results of mapping the HRM research landscape will provide valuable insights in understanding recent developments and research directions in this field. It is hoped that this research can contribute to strengthening our understanding of HRM, encouraging innovative research, and encouraging the development of policies and practices related to human resource management. In the context of the health sector, the results of this study can be used as a reference for organizations or companies that provide health care services. The purpose of using these references is to update and develop their human resource management practices so that they remain relevant to the times.

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Literature Review

A. Bibliometric analysis

The bibliometric method is used to quantitatively analyze written publications. This method relies on identifying a collection of literature, including publications in general and in specific fields (Donthu et al., 2021). The use of computing and technological developments have helped advance this method in recent years. The bibliometric method requires a sufficient amount of data so that the statistical analysis results are reliable. Today, various software and tools are available that facilitate the interpretation and analysis of scientific literature in various ways (Moral-Muñoz et al., 2020). However, with the increasing number of unconventional publications and scholarly publishing platforms, the situation has become more complex. For example, there are databases such as Web of Science (WoS), Scopus, or Google Scholar that aggregate and add references as aggregate data sources.

B. Citation and Co-citation Analysis

Citation analysis, is a quantitative method that provides information about the extent to which research articles influence a particular field (MacRoberts & MacRoberts, 2018). Through citation analysis, researchers can gain an understanding of when major articles that have had a significant impact in a field were published, how their popularity has evolved over time, and their relevance in current research. Citation analysis helps in understanding the frequency of citations in articles and shows the significance of these articles in research fields (Kim et al., 2016). The higher the citation frequency, the more important the influence of the article. In addition, citation analysis is also useful in identifying the main research streams, which are known as key research streams. Co-citation analysis, which is a similar method to citation analysis, is used to track and understand the interrelationships between authors and their research fields (MacRoberts & MacRoberts, 2018). Using an approach similar to citation analysis, co-citation analysis looks for relationships between two or more articles that are frequently cited together. The articles that are often quoted together are then considered to have a co-citation relationship.

C. Human Resource Management in the Health Sector

Human resource management has become a focus of increasing attention in healthcare systems worldwide. Human resources are one of the three main elements in the health system, along with physical capital and consumables (Guest, 2017). In the health care context, human resources includes a wide variety of clinical and non-clinical staff who are responsible for the health of individuals and communities. The performance and effectiveness of the health system is highly dependent on the knowledge, skills and motivation of

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the individuals providing health services (Baigireyeva et al., 2021).

Human resource management in the health care sector is an important part of management that applies scientific principles. The personnel department of the health care sector has a crucial role to play in providing health services, in addition to financial and physical resources. Human resource management enables efficient delivery of healthcare services and achieves patient satisfaction. Organizational success is highly dependent on implementing effective human resource management practices (Currie & Spyridonidis, 2022).

The top level management in the hospital must have a clear vision and formulate a strategy. Organizational goals must be explained to all employees. Emphasizing regular performance reviews, training, and development for doctors, nurses, and paramedics will improve the quality of health care. In addition, there are various ways to ensure the performance of human resources within the organization, one of which is through the development of a human resource management performance measurement system (Suriyankietkaew & Kungwanpongpun, 2022).

Methods, Data, and Analysis

This research was conducted into four stages consisting of: data collection, descriptive analysis, bibliometric analysis, and finally the conclusion drawing stage. At the data collection stage, the data taken comes from the Scopus database. The search was carried out by looking for articles that lead to human resource management in the health care sector for the last 5 years. The search keyword combinations used are ("Human resource" OR "Human resource development) AND ("Healthcare" OR "Health service"). Because this research only focuses on 5 years, the year limit is between 2019 – 2023.

The search results are then filtered back for document types *article* and *conference paper* and selected subject area *business, management and accounting*. The next stage is filtering articles manually by reading the relevance of titles and abstracts. Articles were analyzed descriptively and then grouped based on the contents of the discussion. The final results of the article data obtained were then entered into the VOSViewer software for bibliometric analysis. Citation and co-citation analysis was carried out to evaluate the frequency of the two variables, look for the significance of the article, and investigate how the relationships between authors, topics, and keywords are interrelated. Finally, conclusions are drawn from the analysis stages carried out.

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Results

A. Data Collection and Selection Process

From the search results for articles on Scopus, there were 8,680 articles/*paper* research for the last 5 years. The results were then filtered back based on the research subject, namely *business, management and accounting,* and by document type *article and conference paper*. Of the 8,680 articles, 236 articles were then filtered which had a complete bibliography. The articles are then selected manually by reading the title, abstract and relevant keywords to ensure that the articles obtained are in accordance with the theme. From the results of manual selection, 138 articles were obtained that were feasible to use.

B. Descriptive Analysis

In the descriptive analysis stage, 138 selected articles were then analyzed by contributing countries. The country with the highest contribution was India with a percentage of 18.44%, then England with a percentage of 15.53%, Australia with 14.56%, and the United States of America with 12.62%. Other countries contributing to this topic include China, Italy, Malaysia, Pakistan, South Africa, Thailand, Indonesia, etc.

C. Bibliometric Citation Analysis

Analysis of the number of citations is divided into two, namely local citations and global citations. Local citations are the number of articles cited by 138 selected articles. Meanwhile, global citations show the number of citations to the article cited by other articles indexed in the Scopus database.
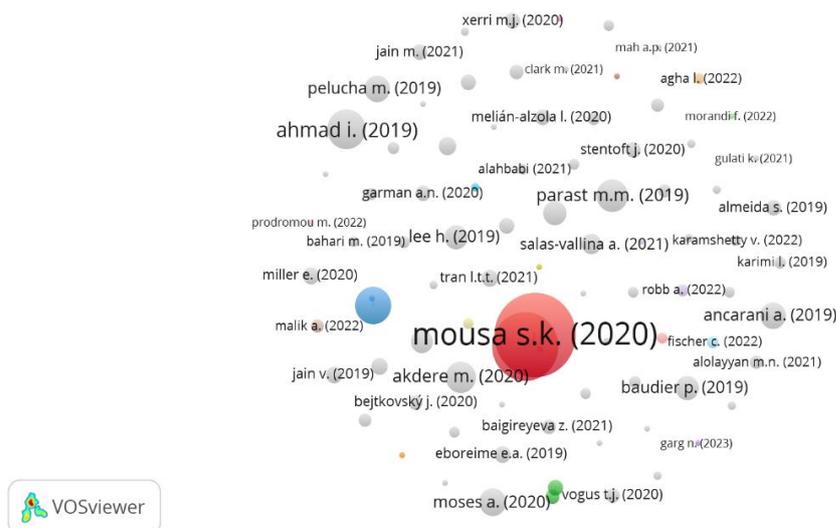

Figure 4.1. Global Citation Analysis Results

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Table 4.1. Local Citation Analysis Results

Author (Year)	Local Citation
Mousa S.K. (2020)	4
Pinzone M. (2019)	3
Mateen A.U. (2023)	2
Ayyash I. (2021)	2

In Figure 4.1. a global citation visualization of the filtered articles is presented, while table 4.1 presents a table of local citation analysis results. Of the 138 articles, research conducted by Mousa & Othman (2020), is the most cited article globally and locally with a total of 182 citations. The next article that has been widely cited globally and locally is a study conducted by Pinzone et al., (2019) 123 times. Other research that has been widely cited globally and locally belongs to Ayyash, (2021) and Mateen et al., (2023). Uniquely, these four studies both discuss green human resource management practices that promote environmental friendliness.

Discussion

The purpose of this research is to look at a bibliometric review of research in the field of Human Resource Management (HRM). Through a bibliometric approach, we analyze trends, themes and future directions in HRM research. Bibliographical data was obtained from primary publication sources including leading academic journals and conferences in the field of HRM.

The results of this bibliometric review reveal a number of significant trends in HRM research. First, there has been an increasing number of HRM publications year on year, indicating a growing interest in the field. Second, the dominant research themes include recruitment strategy, employee development, performance management, job satisfaction, and leadership. These themes reflect a focus on key aspects of human resource management that are relevant to the needs of modern organizations.

Based on table 4.1., Mousa & Othman's research, (2020) emphasizes the importance of adopting environmentally friendly (green) human resource management (HR) practices in organizations, especially in the health care sector in Palestine. The research findings show that environmentally friendly HR management practices have been implemented at a moderate level, while sustainable performance has been achieved at a high level. Environmentally friendly HR management practices have a positive influence on sustainable performance, with environmental sustainability having the greatest influence.

Then, the research conducted by Pinzone et al., (2019) also explained the importance of providing environment-related competencies to employees in the healthcare sector in Italy and obtaining their commitment to environmentally friendly efforts to improve organizational environmental

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performance. This research was conducted through a survey of 260 professionals in the health care sector. This sector was chosen as an extreme case, because recent research has shown that it is difficult for professionals in the healthcare sector to engage in environment-related behaviors and view employer support for green endeavors as a factor influencing their job satisfaction.

Finally, the research conducted by Mateen et al., (2023) used a quantitative research method, and data was collected using a structured questionnaire from 161 employees in the health sector in Punjab, Pakistan. The research findings indicate that corporate environmental strategy and green psychological climate mediate the relationship between green human resource management and pro-environmental behavior. In addition, various HR practices have a greater impact on a company's environmental strategy than others. Very significant HR practices could be focused more for a more environmentally conscious workforce.
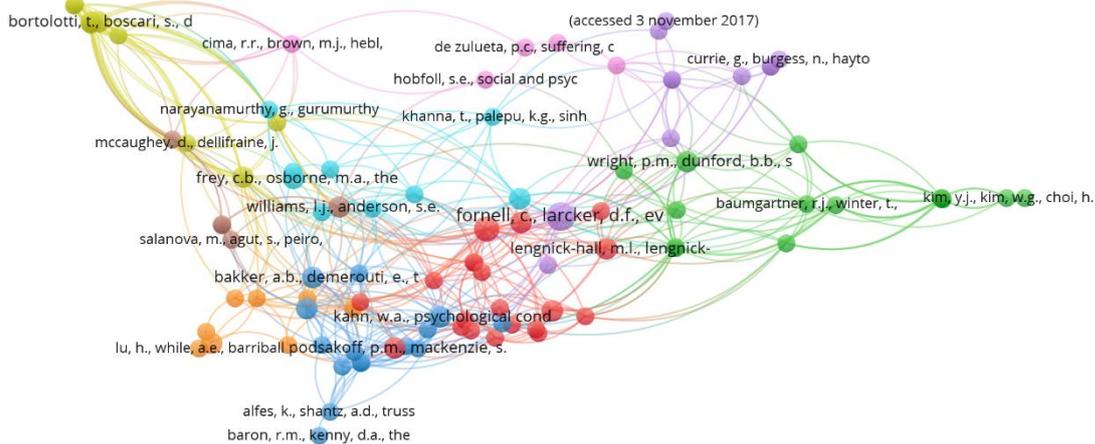

Figure 4.2. Co-citation analysis results

A. Bibliometric Co-citation Analysis

Co-citation analysis was performed using VOSviewer software. The results of this analysis are presented in Figure 4.2. Based on Figure 4.2, it is known that there are 8 clusters on the co-citation network map. Analysis of each cluster was carried out to see the relationship between studies. Of all the clusters, there is a relationship or connection to the direction of the discussion which makes the articles divided into several clusters. Each cluster has its own focus topic of discussion, although there are several clusters that have overlapping topics of discussion. In addition, there are also articles with topics of discussion other than human resource management that are mapped.

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B. Research Trend Analysis

To find out research trends, an analysis is carried out *co-occurence* on the VOSviewer software to find out what keywords often appear in research. Then these keywords are grouped by year of appearance and presented in the form of a network *overlay* as in Figure 4.3. We divided the keyword search groups into 3 periods, namely before 2020, 2020-2021 and after 2021. The division for this period was also based on the COVID-19 pandemic that hit the world, and we wanted to see how human resource management research progressed from before the pandemic. until now when the pandemic has ended.
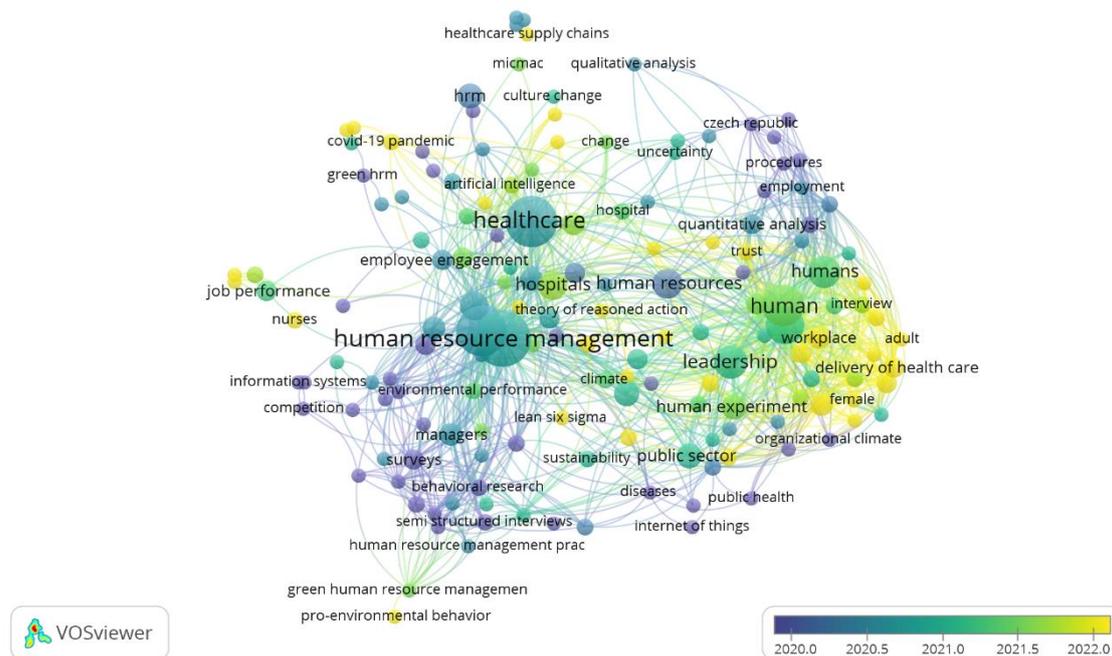

Figure 4.3. Analysis Results of *Co-occurence*

In the period before 2020, the research keywords that appeared a lot were *behavioral research, environmental management, environmental performance, customer satisfaction, quality control, competition,* etc. Meanwhile, there are also trending keyword trends that continue, for example: *organizational performance, HRM practices, employee engagement, climate, human experiment,* to *employee practices.*

In the next period, during the early to the peak of the COVID-19 pandemic, the keywords that emerged were *healthcare, job satisfaction, organizational culture, employee retention, healthcare personnel, health services,* etc. In this period, many keywords emerged related to members of health service agencies. For example, during the COVID-19 pandemic, many employees, especially health workers, were dissatisfied with their jobs, so companies must be able to retain their employees in a professional, productive and quality manner or often referred to as *employee retention.* These

keywords that appear a lot then decrease in number after 2022 until the pandemic is declared over in 2023.

In this period, the keywords that appear a lot are COVID-19, *change communication, productivity, health sector, strategic human resource management, health care delivery, pandemic,* etc. Much of the research conducted during this period focused on efforts to revive the health care sector from the COVID-19 pandemic by increasing the productivity of health workers through strategic human resource management and improving internal communications. There are some keywords that are rare in 2022 and beyond but could be relevant research topics for example:

1. *Green human resource management and pro-environmental behavior,* is an approach that combines environmentally friendly HR practices and knowledge preservation. This approach involves interacting with employees to promote sustainable practices and increase employee awareness and commitment to sustainability issues. GHRM also focuses on employees' environmental behavior at work and encourages them to adopt environmentally friendly consumption patterns in their personal lives. The goal is to make employees aware of the importance of environmental management and feel proud to be part of efforts to protect the environment (S. Ahmad, 2015).

2. *Internet of things* and *Digitalization*, The development of IoT (Internet of Things) in healthcare systems has been researched from the standpoint of enabling technologies and methodologies, IoT-based smart devices and systems, as well as various IoT applications in the healthcare industry. IoT can also improve the work performance of health workers (Yin et al., 2016). The increasing importance of using digital technologies in human resource management, such as HR analytics and artificial intelligence, shows the potential for more in-depth research in this field (Hecklau et al., 2016).

3. *Structural Equation Modelling* and *Quantitative Analysis*, there is a trend showing an increase in the use of quantitative research methods in HRM research, although there is also the use of qualitative methods. The use of quantitative methods makes research more measurable and more valid (Anderson, 2015).

This study provides valuable insights for researchers, practitioners, and academics who are interested in HRM, especially in the health care sector. By understanding trends, themes and future directions of research, they can identify research gaps that need to be filled and develop innovative approaches to human resource management. Even so, the limitations of this research are limited to a few countries and in 2019 to 2023 only. There are possible changes and differences after the year.

Conclusion

Based on the results of data processing and analysis that has been carried out, the following are some of the things that can be concluded in this study: (1) As a result of the number of local citations, articles from Mousa & Othman (2020) are the most cited articles globally and locally with a total of 182 quotes. Research from Mousa & Othman, (2020) is popular within the realm of green human resource management in healthcare, which means that the article has had considerable impact on the focus of this research area. (2) Referring to the results of the co-citation analysis, it can be concluded that articles in the realm of human resource management in health care also cite articles that focus on other topic areas and have interrelationships. (3) Based on trend analysis using keywords, in the period before 2020 the research keywords that appeared a lot were *behavioral research, environmental management, environmental performance, customer satisfaction, quality control, competition,* etc. During the period of the outbreak of COVID-19, the research keywords that appeared a lot were keywords related to members of health service agencies, especially in the service and performance of health workers. In the period after COVID-19 has subsided (2022 onwards), focus on efforts to revive the health care sector from the COVID-19 pandemic by increasing the productivity of health workers through strategic human resource management and improving internal communication. (4) Based on the trend, it is advisable to research topics that are rarely discussed such as green human resource management, IoT, digitalization and the use of quantitative analysis such as *Structural Equation Modelling*.

Limitation

The limitations of this research are limited to a few countries and from 2019 to 2023 only. There are possible changes and differences after the year.

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