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## Araştırma Makalesi • Research Article

### A Bibliometric Analysis on Electronic Human Resource Management (E-HRM)

#### Elektronik İnsan Kaynakları Yönetimi (E-HRM) Üzerine Bibliyometrik Bir Analiz

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#### ÖZ

Elektronik İnsan Kaynakları Yönetimi (E-HRM), bilgi teknolojilerinin (BT) insan kaynakları yönetimi (İKY) ve süreçlerine ilişkin politikalara ve süreçlere uygulanması iş dünyasında giderek yaygınlaşmaktadır. E-HRM ifadesi, bilgi teknolojilerinin İKY sonuçlarını nasıl iyileştirebileceğini inceleyen araştırmacılar tarafından ortaya atılmıştır. Bu çalışmada Scopus veri tabanından yararlanılarak bibliyometrik analiz kullanılmıştır. Bu çalışmanın amacı, E-HRM araştırmalarındaki güncel eğilimleri vurgulayarak bilgi tabanının coğrafi dağılımını, miktarını, gelişimini araştırmak ve mevcut literatürü ve entelektüel yapıyı incelerken yazar, makale ve kaynaklara bakmaya odaklanmaktır. E-HRM henüz yeni bir kavram olmas ı sebebiyle bu çalışma konunun mevcut durumunun bir özeti sunarak çağdaş araştırmacılara yardımcı olmayı amaçlamaktadır. Çalışmanın sonucunda 2019 yılı 33 yayın ile 2022 yılı ise 906 atıf ile en verimli yıl, Strohmeier S. ve Bandarouk T 9'ar yayın ve sırasıyla 531, 459 atıf ile en verimli yazarlar, Hollanda Twente Üniversitesi 13 yayın ile en verimli kurum ve Advanced Series in Management ise 18 yayım ile en verimli kaynak olarak tespit edilmiştir.

#### ABSTRACT

Electronic Human Resource Management (E-HRM), the utilization of information Technologies (IT) based to policies on human resource management (HRM) and processes, is gaining ground in the business world. E-HRM was coined by researchers studying how information technologies may improve HRM outcomes. Bibliometric analysis was used in this study by utilizing the Scopus database. This study aim is to investigate the geographical distribution, quantity, development of the knowledge base by emphasizing current trends in E-HRM research and focus on looking authors, articles, and sources while examining existing literature and intellectual structure. E-HRM is yet a new concept, this study attempts to assist contemporary researchers by providing a summary of the current state of the subject. As a result of the study, 2019 was the most productive year with 33 publications and 2022 was the most productive year with 906 citations, Strohmeier S. and Bandarouk T were the most productive authors with 9 publications and 531, 459 citations respectively, Twente University in the Netherlands was the most productive institution with 13 publications, and Advanced Series in Management has been identified as the most efficient resource with 18 publications.

## 1. Introduction

HRM stands for human resource management, which entails recruiting, choosing, allocating, and managing personnel. Human resources departments are frequently in charge of developing, implementing, and monitoring a company's policies involving workers and its relationships with them. The phrase "HR" was first used to refer to all of an employees of the company in the 1900s, and it started to catch on in the 1960s (Chai and Sutner, 2020).

Throughout the last few decades, technological innovation

has given rise to innovative HRM-related corporate improvements. These advancements have had an influence on how HR professionals connect with employees and manage their jobs. It immediately has two consequences on organizations: (1) enhanced efficiency, efficacy, and productivity; and (2) a transformation in how people develop, manage, arrange, and administer enterprises (Zhang and Wang, 2006: 356-369). These tremendous technology developments and modernizations, together with the arrival of the internet and a plethora of other cutting-edge technologies, have culminated in an age of management of

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human resources known as E-HRM. To succeed in a highly competitive field, E-HRM dramatically reengineers HR methods and tactics.

Despite the fact that the term “E-HRM” has become common currently there are few unambiguous definitions (Strohmeier, 2007). According to Olivás-Lujan et al. (2007: 419), the term “E-HRM” was first used in the late 1990s, while “ecommerce” spread throughout the commercial sector. According to Voermans and van Veldhoven (2007: 887), a particular definition of E-HRM is the use of Internet technologies in enterprises to assist the HR function administratively. E-HRM is the term used by Lengnick-Hall and Moritz (2003: 365) to describe executing company operations utilizing the Internet and other technologies. E-HRM is defined as a strategy for integrating human resources plans, strategies, and methods in organizations by employing web-based platforms and/or with purposeful and focused help (Ruel et al., 2007: 406).

E-HRM described by some academics as the employer's directed and IT-networked contacts with workers concerning HRM material (Bondarouk and Ruel, 2005: 578-590). E-HRM is the utilization of the internet to help administrative HR functions in enterprises (Voermans and Van Veldhoven, M., 2007: 887). According to Ruel, Bondarouk, and Looise (2004: 365), E-HRM is “a means of carrying out HR strategies, policies, and practices in enterprises with the purposeful and focused assistance of and/or the optimal utilisation internet channels”. E-HRM, according to Gainey and Klaas (2008: 50), is the practice of employing computer-based technology to provide “customers” control over HR-related tasks.

Traditional definitions of E-HRM include a “umbrella word including all possible approaches and elements of convergence between HRM and IT, with the goal of providing benefit for chosen employees and management.” (Bondarouk, and Ruel, 2009: 505). E-HRM refers to the utilization of ICT for connecting and assisting at least two independent people or a group in performing shared HR tasks (Strohmeier, 2007).

According to human resources professionals, the amount of organizations implementing E-HRM and the amount of applications accessible within enterprises are both increasing. Companies are just now beginning to embrace Technology to provide greater HRM services (De Alwis, 2010). The amount of material on E-HRM has greatly increased since 2003 (Ruel and Kaap, 2012), and E-HRM educational ambitions have increased as well (Strohmeier, 2007).

Ruel and Kaap (2012) discovered a positive connection among HRM value development and E-HRM, a relatively new technology-driven phenomenon. E-HRM aids its participants by partially or totally replacing them in HR operations. It is critical to connect traditionally geographically separated participants and facilitate interactions between them, whether they operate within a

single area (Strohmeier, 2007). The use of E-HRM in businesses has the potential to improve sustainability by preventing negative ecological, social, and economic consequences. For example, by utilizing technology, HR managers obtained greater quality about relevant data, and employees could speed up their document search (Bondarouk et al., 2009), enables decision-making for strategic choices, automates HR routines, brands organizations and improves organizational image, reduces HR's administrative burden, and empowers managers through development and support (Bondarouk and Ruel, 2013), and aids in the reduction of environmental waste (Yusoff, Ramaya, and Othman, 2015). In many organizations today, E-HRM has become a standard organizational practice. Its implementation has been credited with several beneficial effects for the organization, including cost reduction (Marler, 2009), an improvement in HR service quality (Ruel, Bondarouk and Looise, 2004), an improvement in strategic HRM orientation (Bondarouk and Ruel, 2013; Marler and Fisher, 2013), as well as the development of the human resources department into a trusted business partner (Lepak and Snell, 1998). There is a good likelihood that switching administrative HRM chores to the electronic format with a lot of dedication will cause the emphasis to change to one that is more strategically focused (Ruel et al., 2007). It may boost HR productivity, enhance HR service delivery, as well as shifting the HR function's role to a more strategic one (Martin et al. 2008).

E-HRM's role is to assist in the overall accomplishment of HRM goals. Cost-effectiveness, enhancing interior user services, and promoting the company's long-term objectives have historically been the three areas under which HR goals have been categorized (Lepak and Snell, 1998; Martin et al., 2008). Ruel et al. (2007) also stated four goals: cost reduction, improved HR capabilities, a more strategic approach, and a greater global focus. The majority of this material has concentrated on the two main advantages of E-HRM for the HR function: enhancing efficiency and cutting HRM expenditures (Buckley et al., 2004) and enabling the HR department to play a more proactive part directly (Gardner, Lepak, and Bartel 2003). The objectives of E-HRM, according to Martin et al. (2008), are to assist the department of human resources in attaining its transactional or transformational goals. Transactional goals concentrate on cutting costs or improving the HR function's performance and service delivery, in contrast to transformational goals, which emphasize giving professionals more time to solve broader strategic concerns. These objectives can be viewed as subtasks of the HR function's larger purpose of satisfying the company's strategic needs (Paauwe, 2004).

HR success, as defined by Bondarouk and Ruel (2005), is linked to real usage of the E-HRM service, particularly the content and design. Yosoff, Ramayah, and Ibrahim (2010) proposed an E-HRM model relying on the acceptance of technology paradigm. According to Obeidat (2016), implementing E-HRM improves HRM efficacy both at the regulation and implementation levels. It also supports the

theory that user intent mediates the relationship between e-HRM usage and incentives such as pressure from society and success requirements. While many managers are unfamiliar with the phrase “E-HRM,” Mdhushani and De Alwis (2017) concluded that they are accustomed to numerous elements of HR technology. In order to achieve greater benefits, it is expected that they would use cutting-edge HR technology and completely automated operations. According to Thathsara and Sutha (2021), organizational flexibility mediates the relationship among E-HRM techniques and business performance, and E-HRM practices have a considerable and beneficial influence on organizational performance.

With the aim of highlighting trends in E-HRM research, this study will look into the development of the E-HRM knowledge base by locating relevant authors, works, keywords, publications, and existing literature. There are papers conducting bibliometric analysis about HRM, GHRM and etc. But there is a gap about E-HRM study using bibliometric analysis. So this research fills this gap.

This study consists of six chapters. In the second part there is a literature review about E-HRM. In the third part bibliometric analysis explained. In the fourth part research results are given about bibliometric analysis. And in the fifth and sixth part conclusions and limitations about research were given, respectively.

## 2. Methodology

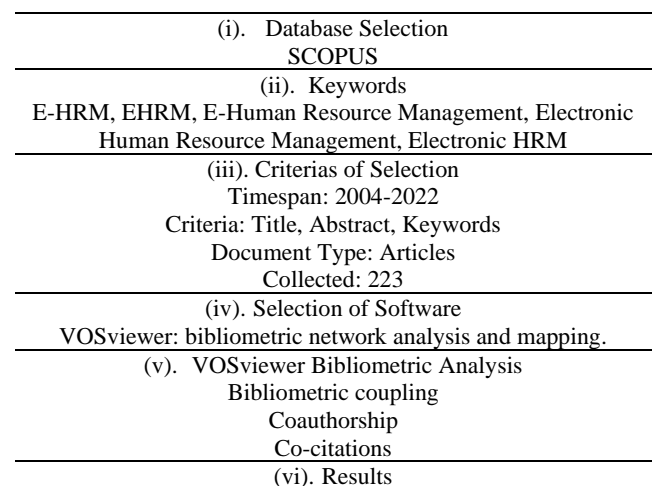
Social science scholars are increasingly employing the bibliometric approach (Bartol et al., 2014) to analyze and assess authors (Wu et al., 2021), publications, subjects (Gurzki and Woisetschlager, 2017), journals (Martnez-Lopez et al., 2018; Valenzuela-Fernandez, et al., 2019), and nations (Mas-Tur et al., 2019). Bibliographic analysis is a comparison based on the quantitative evaluation method that draws on published academic literature's bibliographic data. It examines a wide range of bibliographic elements, including the number of documents, references, social networking (co-authorship), and important subject trends (Marler and Boudreau, 2017).

This research intends to investigate the geographical distribution, quantity, and evolution of the knowledge base by emphasizing current trends in E-HRM research and identifying significant authors, publications, and sources while examining existing literature and intellectual structure. Workflow of this research shown on Figure 1. Goals in this study are achieved by using performance analysis and scientific analysis, two essential bibliometric analysis components. Science analysis (Baker, Kumar, and Pandey, 2021) depicts the field's form and factors, whereas performance analysis (Donthu et al., 2020) analyzes efficiency and effect based on the number of publications and citations. This study employs citation and co-citation analysis, bibliographic pairing, and keyword co-occurrence analysis to achieve its purpose.

One of the most used techniques for examining the connections between bibliographic data is co-citation analysis. If two texts are referenced together in a third document, it is assumed that they belong to the same body of literature (Liu, et al., 2015). Bibliographic coupling occurs when two independent texts often quote the third thing in their list of references (BC). BC compares the quantity of sources used by two published publications to determine their degree of similarity. The degree of resemblance grows as the number of shared references grows (Zupic and Cater, 2015). Co-occurrence is a term used to describe the closeness, frequency of recurrence, and existence of similar terms (Gong et al., 2018).

Scopus was used to find E-HRM bibliographic content. Scopus is one of the most comprehensive databases for bibliographical data in the field of social science. Some prior bibliometric evaluations have employed these analyses (Sanchez et al., 2019; Shahzad et al., 2020). This study employed a number of search procedures to make sure all articles and materials pertaining to E-HRM were covered. The search query is given as TITLE-ABS-KEY (“E-HRM”) OR TITLE-ABS-KEY (“EHRM”) OR TITLE-ABS-KEY (“E-Human Resource Management”) OR TITLE-ABS-KEY (“Electronic Human Resource Management”) OR TITLE-ABS-KEY (“Electronic HRM”). The search yielded 223 papers spanning the years 2004 to 2022. This study did not take the year 2023 into account. The 223 publications' titles, abstracts, and keywords were rigorously evaluated to ensure that all papers and research collected during our search related to E-HRM. Only articles were in the final database. Additionally, only English language is chosen.

**Figure 1:** Workflow of Research



Source: This figure created by the author.

Using VOSviewer, the visualization of similarities approach was applied to display the literature maps (Van Eck and Waltman, 2010). This program works well with bibliometric network constructions and visualization (Baker et al., 2020). These networks encompass academic, journal, researcher, and publishing graphs that rely on co-citation,

bibliographical pairing, and co-authorship (Sharifi et al., 2021). Moreover, it makes use of text processing tools that may be used to create and display co-occurrence networks of pertinent phrases gleaned from a database of academic papers (Jang et al., 2017).

### 3. Results

In this research, publication trends (Table 1, Figure 2), the most productive countries and regions (Table 2), bibliographic coupling (Figure 3), co-authorship among countries (Table 3, Figure 4), the most productive universities (Table 4), leading sources (Table 5), the most productive authors (Table 6), co-citations of authors (Figure 5), most cited publications (Table 7) are mentioned.

#### 3.1. Publication Trend

The search strategies turned up 223 papers in total. The data in Table 1 and Figure 2 demonstrates that since 2006, the E-HRM field has expanded. According to the findings, 2019 was the most productive year for publications. In this year there are 33 publications. As for citations 2022 is the best year with 906 citations.

**Table 1:** Publication and Citations Trends

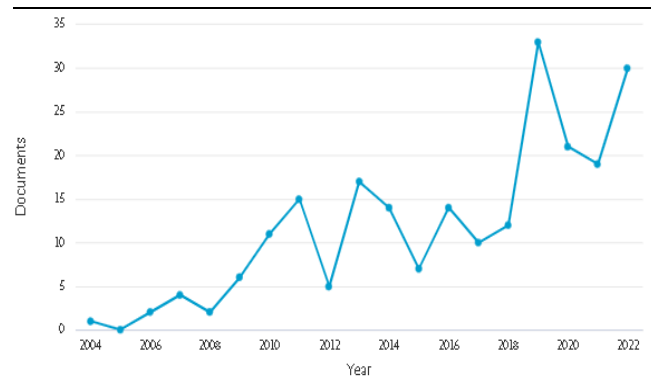
Year	NP	NC	Year	NP	NC
2022	30	906	2012	5	53
2021	19	646	2011	15	59
2020	21	534	2010	11	70
2019	33	496	2009	6	38
2018	12	294	2008	2	8
2017	10	186	2007	4	3
2016	14	264	2006	2	0
2015	7	131	2005	0	0
2014	14	120	2004	1	0
2013	17	149			

Notes: NC: Number of Citations; NP: Number of Papers  
Source: This table created by the author.

The significant increase of publications on E-HRM may be due to the fact that the current economic situation expects expertise from enterprises. Globalization, as well as recent advances in communication and information technology, already have made the world more perplexing, dynamic, and unpredictable. Customers who have high expectations for performance, quality, and price may put businesses in a perpetual state of competition (Nivlouei, 2014). As a result, businesses regularly search for innovative strategies that will set them apart from their rivals in order to fulfill the demands of this fiercely competitive industry. Making effective usage HR became essential to achieving business objectives as a result (Som, 2008). A growing number of scholars claim that the popularity of E-HRM is likely to result in substantial changes to organizational structures (Strohmeier, 2007; Marler and Fisher, 2013; Strohmeier and Kabst, 2014) as well as improve service quality, decision-making speed, and HR processes and strategies are being fundamentally reengineered through E-HRM in order to compete in a fiercely competitive market. Organizations are

paying greater focus on E-HRM as a way to compete, become more profitable, and sustain their offerings. Researchers thus concentrate on this area to show the true benefits of E-HRM to businesses.

**Figure 2:** Trends of Publications



Source: This figure created by the author.

#### 3.2. Origin of Publications

There are few publications in German, Russian, and Ukrainian, and the vast bulk of papers on E-HRM are written in English. Only English-language documents were used in this study. Despite coming from all across the world, the majority of publications are from India. India is blessed with a sizable population, a wide land mass, and abundant natural resources. Efforts have been made to transform this mass into an important asset in the shape of HR. The growth of a nation depends heavily on the development of its HR. They started using IT technologies in HRM to transform their people resource into a strategic force. The introduction of the “Digital India” program in 2015 saw a massive increase in the utilization of IT technologies (Nanda and Randhawa, 2020). The findings of the top contributing countries are shown in Table 2. With 33 publications, India is the most prolific country. On the other hand, it has the least amount of citations created for each article. Germany ranks sixth among nations in terms of publishing yet top in respect of article citations.

The bibliographic coupling was created to help readers better understand the relationships between the nations that publish works on that topic (Zupic and Cater, 2015). Bibliographic coupling (BC) occurs when multiple works frequently cite the same third work. Bibliographic coupling occurs when a third publication is cited in the publication of two publications from different nations. This indicates how several countries use similar works of literature in their publications (Gu et al., 2021).

Figure 3 displays the BC results; each circular represents a country, and the size of the circle represents the contribution; the larger the circle, the greater the contribution. According to the bibliographic coupling, there are 4 clusters, as shown in Figure 3. In the green cluster are Australia, Finland, France, the United Kingdom, and India.

Saudi Arabia, Jordan, and Malaysia are all included in the same blue cluster. United States, Germany, Netherlands, Italy, Bangladesh, and South Africa are all represented by

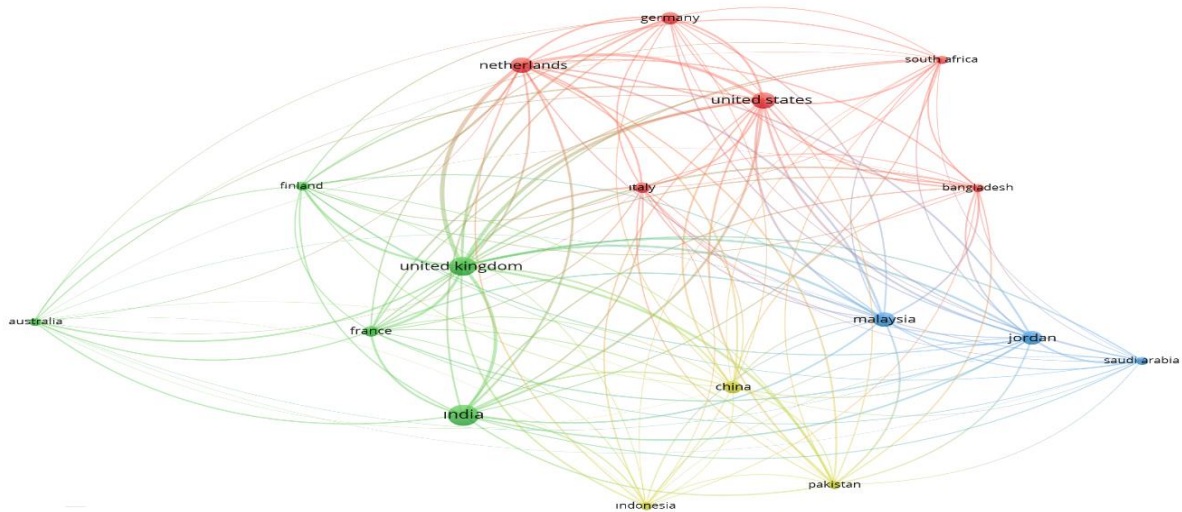
the red color cluster. The yellow cluster includes Indonesia, Pakistan, and China. Figure 3 also shows that nations with comparable color clusters cite the same works.

**Table 2:** Countries & Regions with the Highest Productivity

Rank	Country/region	NP	NC	C/P	Rank	Country/region	NP	NC	C/P
1	India	33	90	2,73	10	Italy	9	186	20,67
2	United Kingdom	26	882	33,92	11	Finland	6	203	33,83
3	United States	21	743	35,38	12	Australia	5	51	10,20
4	Netherlands	18	807	44,83	13	Bangladesh	5	20	4,00
5	Malaysia	17	128	7,53	14	Indonesia	5	35	7,00
6	Jordan	15	87	5,80	15	Pakistan	5	53	10,60
7	China	12	64	5,33	16	Saudi Arabia	5	19	3,80
8	Germany	12	612	51,00	17	South Africa	5	55	11,00
9	France	9	140	15,56					

Notes: NC: Number of Citations ; NP: Number of Papers; C/P: Citations per publication  
 Source: This table created by the author.

**Figure 3:** Bibliographic Coupling Countries

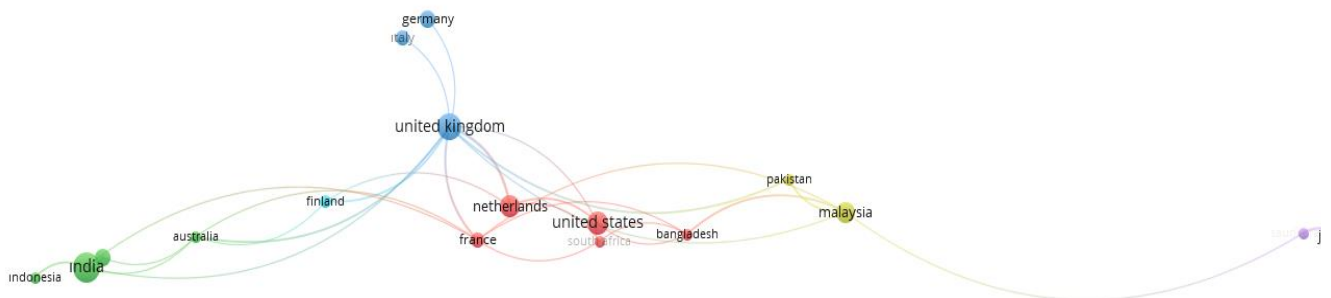


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Figure 4 depicts the co-authorship arrangement per nation. Co-authorship demonstrates a country's publishing output as

well as crucial relationships with other nations.

**Figure 4:** Co-authorship (Countries)



Source: This figure created by the author.

Table 3 reveals that the authors from the United Kingdom and the Netherlands have the most works in cooperation. The United

Kingdom works closely with France, Australia, and Finland. Similarly, Malaysian authors collaborate on two articles with authors from Pakistan and Bangladesh.

**Table 3:** Co-authorship (Countries)

From	To	Frequency
United Kingdom	Netherlands	4
United Kingdom	France	3
Indonesia	India	2
Australia	United Kingdom	2
Finland	United Kingdom	2
United Kingdom	Pakistan	2
Netherlands	United States	2
Bangladesh	Malaysia	2
Pakistan	Malaysia	2
Australia	India	1
India	China	1
India	France	1
India	United Kingdom	1
Australia	France	1
Australia	Finland	1
Finland	Netherlands	1
United Kingdom	Italy	1
Germany	United Kingdom	1
United Kingdom	United States	1
United Kingdom	Malaysia	1
France	Malaysia	1
France	Bangladesh	1
France	South Africa	1
Netherlands	South Africa	1
United States	South Africa	1
United States	Bangladesh	1
Malaysia	Saudi Arabia	1

3.3. The Most Productive Universities

Table 4 shows the writers and contributors to E-HRM research from various educational institutions throughout the world, as well as the universities and institutions that produced more than four publications between 2004 and 2022. There were eleven academic institutions with at least four papers between 2004 and 2022. These objective data aid in understanding how academics and researchers at universities in the Netherlands, Germany, Jordan, and the United Kingdom contributed considerably to E-HRM research.

**Table 4:** Total Affiliation of Universities

Rank	University/Institute	TA	Country
1	Universiteit Twente	13	Netherlands
2	Universität des Saarlandes	8	Germany
3	Al-Balqa Applied University	6	Jordan
4	Cranfield School of Management	6	United Kingdom
5	Universiti Utara Malaysia	4	Malaysia
6	Vaasan Yliopisto	4	Finland
7	Università Cattolica del Sacro Cuore	4	Italy
8	Al Al-Bayt University	4	Jordan
9	The University of Jordan	4	Jordan
10	Amity University	4	India

Notes: TA: Total Affiliation

3.4. Leading Sources

The list of sources that have written on E-HRM research is shown in Table 5. With 18 publications, the Advanced Series in Management came in top. With 17 publications on

E-HRM, the International Journal of Human Resource Management came in second.

**Table 5:** Top HRM Resources

Rank	Source Title	NP	TC	C/P
1	Advanced Series In Management	18	107	5,94
2	International Journal of Human Resource Management	17	842	49,53
3	Employee Relations	9	288	32,00
4	Human Resource Management Review	7	848	121,14
5	International Journal of Manpower	7	107	15,29
6	International Journal of Data And Network Science	6	41	6,83
7	European Journal of International Management	5	54	10,80

Notes: NC: Number of Citations; NP: Number of Papers; C/P: Citations per Publication

Source: This table created by the author.

3.5. The Most Productive Authors in E-HRM

Table 6 shows authors who publishes most frequently in E-HRM. Strohmeier, S. is in the top of the list with 9 publications and 531 citations. The author followed by Bondarouk, T. with 9 publications and 459 citations. Other authors that are not mentioned in the table have 4 or less publications. A fascinating aspect of bibliometric research is the examination of these top writers' co-citations. Co-citation occurs when a third document includes references to two publications written by two separate writers (Farrukh et al., 2021). Figure 5 depicts the groups of co-citations for the authors in six different hues. With 26 writers, the red cluster is the largest; the green cluster has 23, the blue cluster has 22, the yellow cluster has 16, the purple cluster has 12, and the cyan cluster has 6. The writers of the same color cluster have a co-citation relationship, and the same is true for the authors of the other colors. The extent and trend of the publications are indicated by these facts. Each cluster is connected to every other cluster. The more times an author is acknowledged, the greater the circle.

**Table 6:** Productivity of Authors

Rank	Author	NP	TC
1	Strohmeier, S.	9	531
2	Bondarouk, T.	9	459
3	Ruël, H.	7	233
4	Parry, E.	6	488

Notes: TC: Total Citations; NP: Number of papers

Source: This table created by the author.

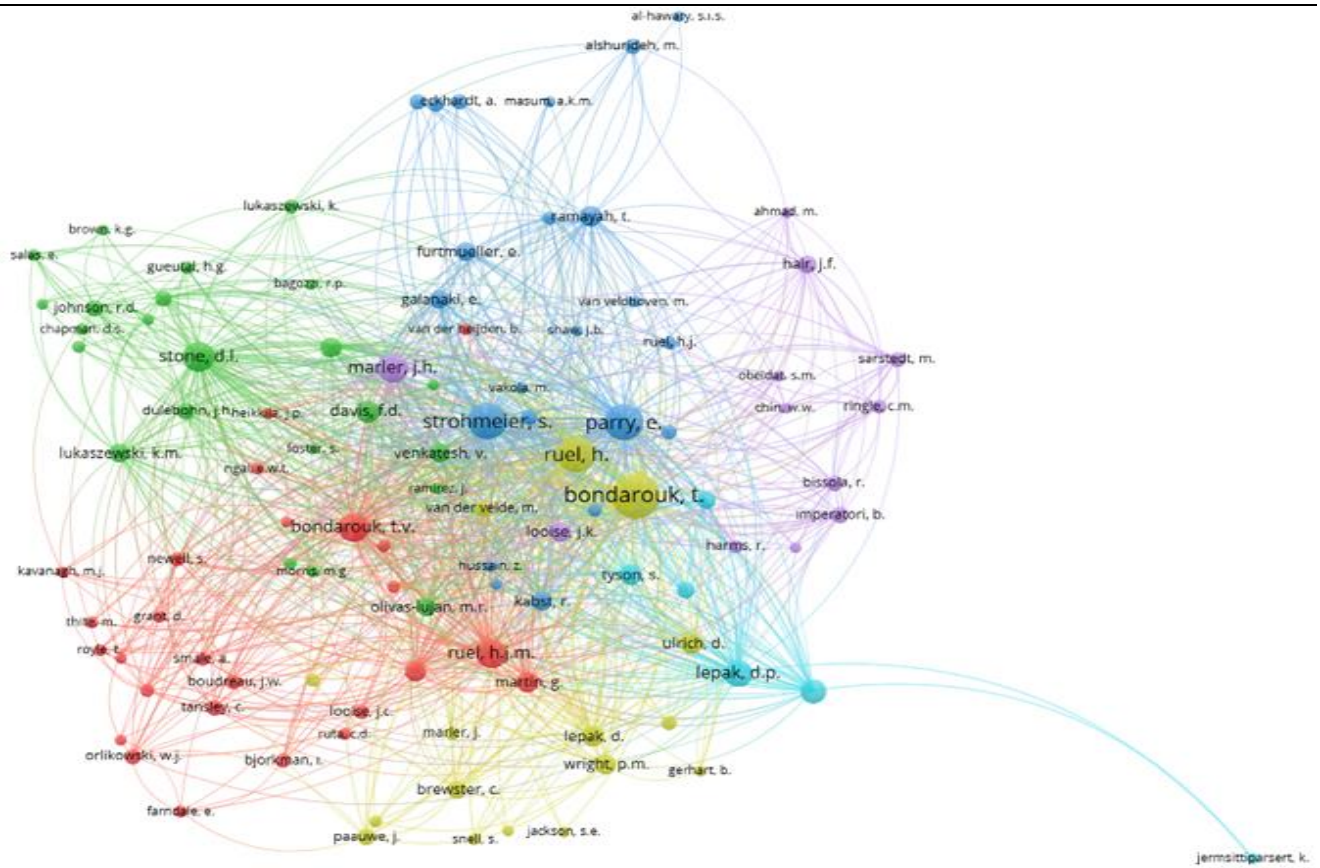
3.6. The Most Cited Publications

Since 2008, E-HRM research has increased because businesses began to employ E-HRM in their systems more successfully in order to defeat competitors. A published paper's reliability and quality are often assessed based on the citations it has garnered. The argument put out in the literature is that a paper's impact on the field is directly related to its citation count (Aksnes et al., 2019). The top 10 most referenced papers are listed in Table 7 under "Most Cited Publications." The most cited publication is Strohmeier, S.'s published in 2007. It has 268 citations. The second



most cited publication is written by Stone, D.L., Deadrick, D.L., Lukaszewski, K.M., Johnson, R. in 2015 with 191 publications.

**Figure 5:** Co-Citations of Authors



Source: This figure created by the author.

**Table 7:** Most Cited Publications

Rank	Authors	Title	Year	Source Title	Cited by
1	Strohmeier, S.	Research in E-HRM: Review and implications	2007	Human Resource Management Review	268
2	Stone, D.L., Deadrick, D.L., Lukaszewski, K.M., Johnson, R.	The influence of technology on the future of human resource management	2015	Human Resource Management Review	191
3	Ruël, H.J.M., Bondarouk, T.V., Van Der Velde, M.	The contribution of E-HRM to HRM effectiveness: Results from a quantitative study in a Dutch Ministry	2007	Employee Relations	125
4	Parry, E., Tyson, S.	Desired goals and actual outcomes of E-HRM	2011	Human Resource Management Journal	118
5	Bondarouk, T., Parry, E., Furtmueller, E.	Electronic HRM: four decades of research on adoption and consequences	2017	International Journal of Human Resource Management	114
6	Marler, J.H., Parry, E.	Human resource management, strategic involvement and E-HRM technology	2016	International Journal of Human Resource Management	104
7	Parry, E.	An examination of E-HRM as a means to increase the value of the HR function	2011	International Journal of Human Resource Management	101
8	Voermans, M., Van Veldhoven, M.	Attitude towards E-HRM: An empirical study at Philips	2007	Personnel Review	93
9	Bondarouk, T., Brewster, C.	Conceptualising the future of HRM and technology research	2016	International Journal of Human Resource Management	87
10	Marler, J.H.	Making human resources strategic by going to the Net: Reality or myth?	2009	International Journal of Human Resource Management	82

Source: This table created by the author.

#### 4. Conclusion

E-HRM has received a lot of attention from both academics and practitioners. Previous study and the authors' review of articles on E-HRM reveal that this field is quickly expanding. The world has already become more complicated, dynamic, and unpredictable as a result of globalization and recent advancements in information and communication technologies. Companies may constantly compete, especially if there are high demands for performance, quality, and pricing. As a result, they frequently look for unique techniques. Companies need to utilize HR effectively, to differentiate themselves from other companies in this competitive industry. Businesses are beginning to leverage IT to provide greater HRM services, particularly with the rise of the Internet. The goal of E-HRM is to aid in the attainment of HRM goals. As a result, firms began to embrace E-HRM to stay ahead of rivals. As a consequence, scholars are focused on this area to illustrate the real advantages of E-HRM to businesses.

Understanding the key trends in research that are presently being published in a certain field or publication is the aim of the bibliometrics study. It is an effective approach for gathering information on a certain study location over a specific time period. It helps readers to get crucial information from a number of sources. This research looks at E-HRM studies that were published between 2004 and 2022. Bibliographic data is compiled using the Scopus database. This study provides valuable information on the papers that were published, the key authors, and the universities that pursued E-HRM research. According to the data, there has been a considerable growth in the amount of papers produced on E-HRM during the previous four years, with 2019 registering the most publications with 33. During the time of the research, there was a considerable increase in the number of citations for E-HRM. According to Table 1, there were 0 citations on the subject in 2006 and 906 citations in 2022. This rapid rise in publications and citations indicates that academics' and researchers' interest in this subject is growing with time.

The findings indicate that Strohmeier S. and Bandarouk T. are the primary contributors in this subject, with 9 publications and 531, 459, and citations, respectively. This is true of the authors, institutions, and nations involved in publishing research on the issue. Perry E. and Ruel H. are the other two prominent authors in this area. These writers made a substantial contribution to the discipline as well, and numerous research articles reference their works. Regarding academic institutions that have published material on E-HRM, Twente University in the Netherlands has created 13 publications, while Saarlandes University in Germany has created 8 articles. It was observed that institutions from all over the world published papers on this topic, and the subject is similarly attractive in different geographical areas. It stresses the topic's importance and relevance in the twenty-first-century business environment. Advanced Series in Management is the most prolific source, with 18 articles,

preceded by International Journal of Human Resources Management, with 17 papers.

#### 5. Limitations

The E-HRM field has had substantial growth in recent years, showing the relevance of this sector in particular. Notable changes in organizational structures, improved service quality, and greater speed and accuracy of HRM choices are just a few examples. Therefore, E-HRM is an emerging area of research that is important for academics as well as practitioners. There is a significant amount of variability when it comes to the results of E-HRM, despite the fact that its theoretical foundation is still being developed and it is of major interest to academics and researchers. Future academic study is thought to clear up any remaining uncertainty on the matter. Despite its contribution, the study contains some drawbacks. To begin, because data used came from a Scopus database rather than from articles published in other sources like Web of Science, no broad conclusions regarding the findings can be derived. Second, because the data were acquired from Scopus, and the limitations of this resource may have an impact on this research, it is suggested that additional analysis be undertaken by combining data from other databases. This research is a bibliographic evaluation (quantitative analysis) of the E-HRM area, and the future paths are forecasted using the quantitative analysis.

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