

Digital Talent in ERP Integration: A Bibliometric Analysis

¹Amirah Wafiqoh, ²Mustika Sufiati Purwanegara

¹Affiliation: School of Business and Management, Institut Teknologi Bandung

ORCID: 0009-0007-4654-5056

Social Media Handles: LinkedIn: <https://www.linkedin.com/in/myra-wafiqoh/>

²Affiliation: School of Business and Management, Institut Teknologi Bandung

ORCID: 0000-0002-8200-056X

Corresponding Author: Amirah Wafiqoh

ABSTRACT:- Integrating digital talent into Enterprise Resource Planning (ERP) systems is increasingly essential for driving organizational performance and supporting digital transformation. ERP, a computer-based system designed to streamline and automate business operations, offers significant benefits such as enhanced information access, operational efficiency, and control. This study presents a bibliometric analysis of 306 journal articles published between 1996 and 2024, focusing on digital talent in ERP systems. Findings reveal a growing focus on ERP's role in improving talent integration, particularly for the MSMEs (Micro, Small, and Medium Enterprises) sector, where gaps remain in practical ERP applications for smaller businesses. Using VOSviewer and Gephi software, this paper maps the intellectual structure of the field, offering insights that can guide scholars and practitioners in advancing ERP and digital talent research.

Keywords: Digital Talent, ERP Integration, Bibliometric Analysis, Human Resource, Digital Skills, Business Process Optimization

I. INTRODUCTION

The academic research community has been contributing significantly to the intersection of digital talent and Enterprise Resource Planning (ERP) systems. One prevalent approach to this contribution is through the publication of archival journal papers that provide insights into this evolving field. This paper presents a comprehensive analysis of the literature on digital talent and its integration into ERP systems, spanning from 1996 to 2024, with a focus on indexed Q1-Q3 journals. The study aims to serve two primary objectives. First, it will be valuable for researchers looking to understand and track the latest trends and developments related to digital talent in ERP systems. Second, it will benefit both academic researchers and practitioners in industries, as it highlights critical unanswered but relevant research and development (R&D) questions that have been raised in recent literature, pointing to areas ripe for further exploration and innovation. Research focuses on the identification and deeper understanding of "internal" factors (related to the internal functions of the organization), which can increase the business value generated by MIS, such as business process redesign, new human skills, innovations, and "soft MIS investment," etc. (Addo-Tenkorang & Helo, 2011).

Before ERP systems became common, organizations focused mainly on improving operations through basic software. The way they managed human resources was often disjointed, with no clear strategy for integrating talent into their processes. Early research mostly looked at the technical features of ERP systems, emphasizing their capabilities and direct benefits to performance (Holland & Light, 1999). However, as organizations recognized the importance of human capital in successful ERP implementations, the literature began to evolve. The emphasis gradually shifted toward understanding how digital talent can be leveraged to enhance ERP utilization and business outcomes. As companies began to see the value of human capital in making ERP systems work effectively, the literature started to change. Researchers began to explore how digital talent can improve the use of ERP systems and enhance business results. Recent studies show that without a skilled workforce to adapt to and manage ERP systems, organizations might not reach their full potential (Marnewick & Marnewick, 2016). This change highlights the need for more research on the relationship between digital talent and ERP systems, especially in light of new trends and challenges.

Although previous research has demonstrated that ERP systems can enhance productivity, management control, and customer satisfaction in various sectors, the study of ERP's role in managing and integrating within the MSMEs (Micro, Small, and Medium Enterprises) sector remains limited (Almgren et al., 2021). Current literature, found in both journals and conference proceedings, has just started to look at how ERP systems can be adapted to the specific challenges faced by MSMEs. While there is growing awareness of ERP's potential, the research on how to integrate digital talent into ERP systems for MSMEs has received little attention (Bashir et

al., 2020). This paper aims to address this gap by examining how digital talent can be used to improve ERP implementation and management in MSMEs, an important area that prior studies have not explored enough (Zhang et al., 2019). This research adds to the existing knowledge and emphasizes the need to equip MSMEs with the necessary digital skills to fully utilize ERP systems for optimizing their business processes.

Responding to this call, we perform a unique in-depth bibliometric analysis to map the terrain of the digital talent in ERP systems research field from 1996 to 2024. This review not only provides the structures and dynamics of digital talent (human resource) research in ERP but also paves new avenues for future studies in relation to various emerging areas identified. Compared with the conventional structured review method, bibliometric analysis has gained an edge in handling large numbers of articles to construct a scientific structure of research topics, identify areas of interest, and elucidate the internal relationships of the focal literature without interference from potential researcher bias (van Eck & Waltman, 2010; Zupic & Čater, 2015). VOSviewer, as a specific mapping technique, is adopted in this review to analyze the conceptual structure of digital talent in ERP because of its powerful user graphic interface that can generate maps to describe the connections of each analytical theme.

II. LITERATURE REVIEW

The ERP and digital talent management field is gaining interest from both researchers and practitioners who are working to address important gaps in diversity of perspectives, cross-industry applications, and global representation. While research in this area is expanding, there are still relatively few influential studies, with only 306 papers having a notable impact (Kumar & Singh, 2023). Although recent studies have started exploring formal modeling of ERP systems, there is substantial room for more research and practical applications (Cheng et al., 2024).

In our extensive review, we begin by setting up a time frame of studies in the digital talent for ERP systems field from 1996 (marking the increased adoption of ERP systems and digital human resource management) to 2024. We identify and map the clusters that comprise this research area, including talent acquisition for ERP implementation, digital skills development, and the role of ERP in human resource transformation. A significant body of literature emphasizes the importance of aligning ERP systems with talent management strategies to optimize organizational performance (Jiang et al., 2022). This alignment not only enhances operational efficiency but also fosters a culture of continuous learning and adaptation, essential in today's fast-paced digital landscape (Liu & Zhang, 2023). We conduct a segmental co-occurrence analysis to validate the robustness of our main clusters and sub-themes within them. Using the highest-impact articles on ERP and digital talent, we further review and analyze the evolving process of each specific theme. Finally, we draw together observations from our analysis and propose a future research agenda. This includes addressing the growing demand for ERP talent in the context of digital transformation, leveraging ERP systems for global human capital development, and embracing digital technologies for skill enhancement in ERP environments. It is crucial for future studies to explore the implications of emerging technologies, such as artificial intelligence and machine learning, on ERP-driven talent management frameworks (Nguyen & Hoang, 2024).

III. METHODOLOGY

Bibliometric analysis is a statistical methodology generally used to quantify and map the scientific outputs (Ardito et al., 2019). It consists of two critical approaches: performance analysis and scientific mapping analysis of the research articles (Donthu et al., 2021; Gaviria-Marin et al., 2018). In studying digital talent and its integration with Enterprise Resource Planning (ERP) systems, bibliometric analysis can highlight key research areas, identify gaps in the literature, and set the stage for future studies.

Performance analysis evaluates the productivity and influence of countries, institutions, authors, journals, articles, and citations in a specific research area. This part of the analysis helps researchers see which entities are leading in terms of publication and citation, thereby pointing out significant contributors to the field. It provides bibliographic information such as co-citation, keywords analysis, bibliographic coupling analysis, and co-authorship (Zupic and Cater, 2015). The co-citation analysis mentions the cited documents and explores the intellectual structure of the cited works (Donthu et al., 2021).

Recent literature reviews on digital talent and ERP reveal significant research gaps. This study highlights the underexplored areas within ERP suggesting the need for comprehensive and systematically organized research efforts to enhance understanding and application in the field. In this context, our study aims to provide a systematic mapping of the intellectual landscape in digital talent on ERP, with two primary objectives that will answer our research questions. The research objectives are as follows:

- **O1:** The first objective is to conduct a bibliometric analysis of selected articles to identify key authors, influential works, and emerging areas within ERP and Digital Talents. This includes examining publication trends across authors, countries, journals, and affiliations. Thereby identifying opportunities for future research and collaboration.
 - **O2:** The second objective is to perform a network analysis to assess the landscape of research on ERP and Digital Talents. This will be achieved by identifying research clusters and by mapping the connections between key articles, research themes, and topics. Through this approach, we aim to provide insights into underexplored areas and highlight the evolution and structure of the field over time.
- Our research tries to answer two main questions: (1) Why are research results on the relationship between ERP implementation and digital talent development still inconsistent? (2) From what perspectives has the relationship between ERP systems and digital talent development been studied?

We chose bibliometric analysis to track research literature as a way to measure, monitor, and study scientific results (Da Silva et al., 2020; Xiaohui et al., 2024). To explore publications in this field, we searched the Scopus database. Scopus is widely used for finding and selecting academic literature (Aghaei Chadegani et al., 2013) and is often used for bibliometric analysis.

To get a comprehensive dataset, we created a custom search query using keywords like “Enterprise Resource Planning” (ERP), “HR systems,” “digital transformation systems,” “enterprise software,” “business management systems,” “digital talent,” “digital skills,” “digital workforce,” “digital competencies,” “digital capabilities,” “digital transformation,” “talent management,” “human capital,” “digital talent development,” “workforce development,” “skills development,” and “digital literacy.” Our initial search had few results, so we analyzed synonyms frequently used in publications. This helped us create a set of terms for each keyword, as shown in Figure 1.

For “digital talent,” we identified common terms used to evaluate digital skills and workforce development. For “ERP,” we included terms describing different ERP systems and their uses. This search initially found 319 results in Scopus. After applying inclusion and exclusion criteria (Figure 1), we reduced the number of articles to 306. We refined the results by removing duplicates and irrelevant studies, as well as articles without keywords or abstracts. The final dataset includes 306 documents, which we analyzed using BibExcel software. BibExcel is designed for bibliometric analysis, focusing on data processing (Persson et al., 2009). After reviewing the studies in this area, we applied performance and scientific mapping analyses. For network analysis, we exported the data from BibExcel and imported it into Gephi. Gephi is an open-source software package that uses a 3D render engine to create real time illustrations for network analysis (Bastian et al., 2009). This method provided insights into research clusters, underexplored areas, and the evolution and structure of the field over time.

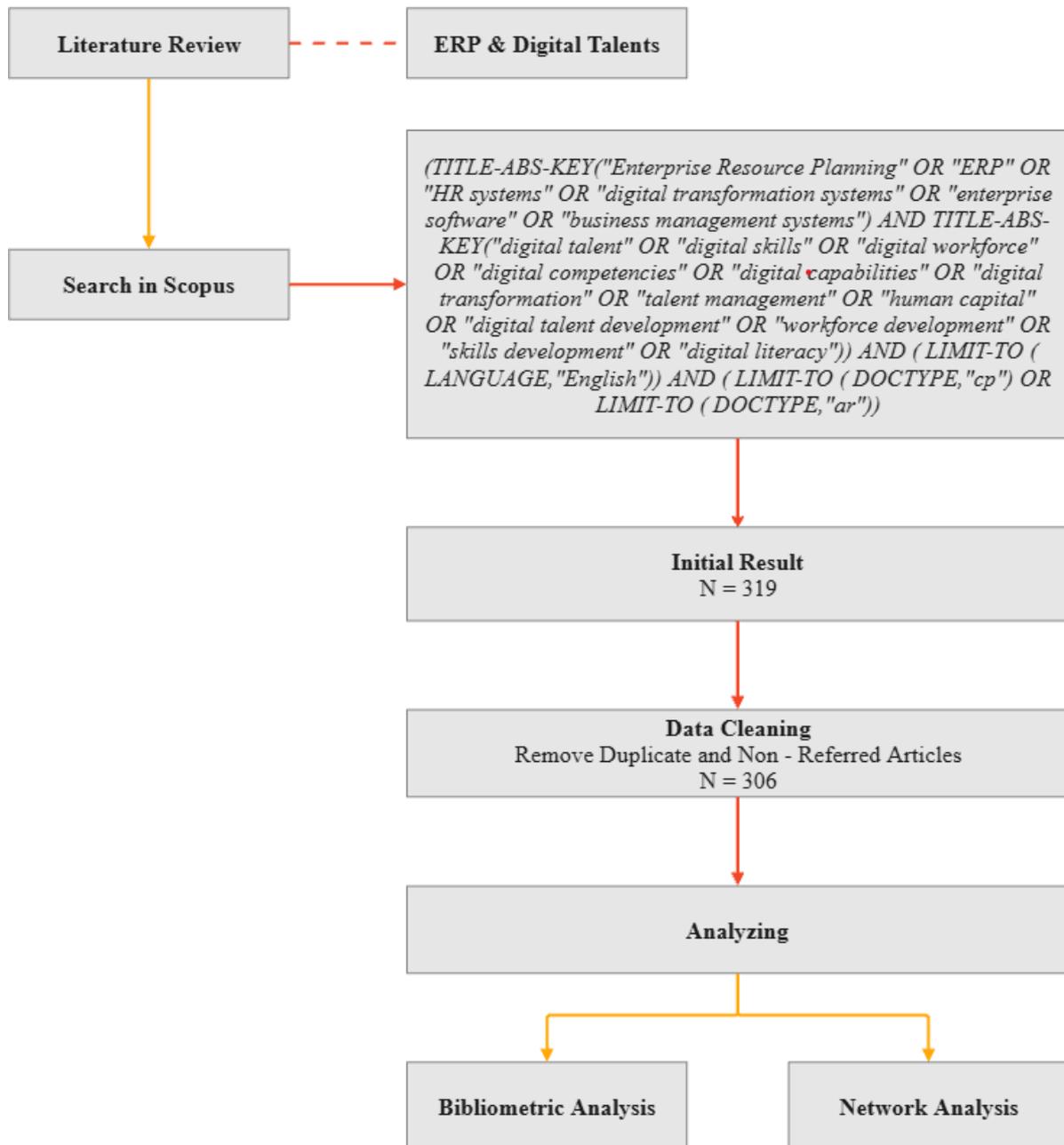


Figure 1. Research Design. Note: This diagram illustrates the process involved in this Bibliometric Analysis. Source: Prepared by authors.

IV. RESULTS

4.1 Overview

Literature reviews aim to map and evaluate the body of literature to identify potential research gaps and highlight the boundaries of knowledge (Tranfield et al., 2003). Structured literature reviews are typically completed through an iterative cycle of defining appropriate search keywords, searching the literature, and completing the analysis (Saunders et al., 2009). Rowley and Slack (2004) recommend a structured methodology for scanning resources, designing the mind map to structure the literature review, writing the study, and building the bibliography. In a similar approach, we use a five-step methodology for data collection and comprehensive evaluation of the field aiming to identify the most influential studies, determine the topical areas of research, and provide insights for current research interests and directions for future research in the field.

1. Defining the appropriate search terms: The keywords used for data collection include “Enterprise Resource Planning”, “ERP”, “HR systems”, “digital transformation systems”, “enterprise software”, and “business management systems”. Combinations of these keywords were used, including (1) Enterprise Resource Planning OR ERP, (2) HR systems OR digital transformation systems, (3) enterprise software OR business

management systems, and (4) digital talent OR digital skills OR digital workforce OR digital competencies OR digital capabilities OR digital transformation OR talent management OR human capital OR digital talent development OR workforce development OR skills development OR digital literacy. We ensured that both aspects of operations and design are completely covered by the keywords chosen. For example, digital transformation systems can be defined from perspectives of operations, purchasing, sourcing, performance measurement, product development, and product design. Since digital transformation has emerged from the need for advanced business management systems, other possible related keywords were also used in our search attempts. Notice that cognitive architectures and somatic complaints were not included in our work to help further bound our efforts to those papers focusing on digital talent and workforce development. The Boolean search query for Scopus is:

(TITLE-ABS-KEY("Enterprise Resource Planning" OR "ERP" OR "HR systems" OR "digital transformation systems" OR "enterprise software" OR "business management systems") AND TITLE-ABS-KEY("digital talent" OR "digital skills" OR "digital workforce" OR "digital competencies" OR "digital capabilities" OR "digital transformation" OR "talent management" OR "human capital" OR "digital talent development" OR "workforce development" OR "skills development" OR "digital literacy")) AND (LIMIT-TO (LANGUAGE,"English")) AND (LIMIT-TO (DOCTYPE,"cp") OR LIMIT-TO (DOCTYPE,"ar"))

2. Initial search results: Using the “title, abstract, keywords” search in Scopus database, we collected and stored ‘journal’ articles (conference papers, books, and chapters of books excluded) for the defined search terms. The initial search attempts resulted in a total of 319 articles. The search results were stored in RIS format to include all the essential paper information such as paper title, authors’ names and affiliations, abstract, keywords, and references.

3. Refinement of the search results: From the initial 319 papers, many appeared in more than one category. Eliminating these duplications left 306 unique papers. Among these papers were short non-refereed papers and those published in commercial magazines, which may not be regarded as scientific contributions. Further refinement to eliminate these non-refereed articles, commercial magazine papers, and those with unknown author names resulted in 306 journal articles. Given that the beginning of the debate on digital transformation and talent management is traced to the late 1990s, it is no surprise that the oldest papers in our search attempts date back to 1996. The oldest article in our search is “Human resource management, manufacturing strategy, and firm performance” by Youndt, M.A., Snell, S.A., Dean Jr., J.W., and Lepak, D.P., published in the *Academy of Management Journal*, 39(4), pp. 836–866, 1996. The refinement process reduced the number of articles from 319 to 306. To create the corresponding refinements in the RIS file, the RIS data was imported to Endnote bibliography software, the elimination of papers was completed in Endnote, and the format was reconverted to RIS. The resulting RIS file is used for further data analysis.

4. The initial statistics show that 160 journals have contributed to the publication of 306 papers. It was found that 10 journals have published a significant portion of these identified articles. Table 3 shows the journals in which these papers appeared.

5. Initial data statistics: Figure 1 shows the trend in the quantity of articles published. The drop in the number of articles from 2023 to 2024, despite a decent R^2 value of 0.6625, can be explained by several factors related to changes in ERP (Enterprise Resource Planning) and digital skills. First, the ERP market might have matured, leading to fewer new studies being published (Nobari et al., 2022). Researchers may be focusing more on new technologies like AI, machine learning, and blockchain, which are now part of ERP systems (Kumar et al., 2023; Akter et al., 2022). Also, the fast pace of digital change has created a need for new skills, shifting research towards digital talents and workforce development (Bouwman et al., 2024; van der Meulen et al., 2024). This shift aims to address the skills gap and prepare workers for the future, possibly reducing attention on traditional ERP research (Bouwman et al., 2024). Moreover, changes in research funding and priorities after the pandemic might have influenced this decline, as funding bodies may now prefer projects that match current tech advancements and economic recovery efforts (Subbaraman, 2020; Tollefson et al., 2021). This decline indicates how research trends change and the need to keep adapting to new challenges and opportunities in the field.

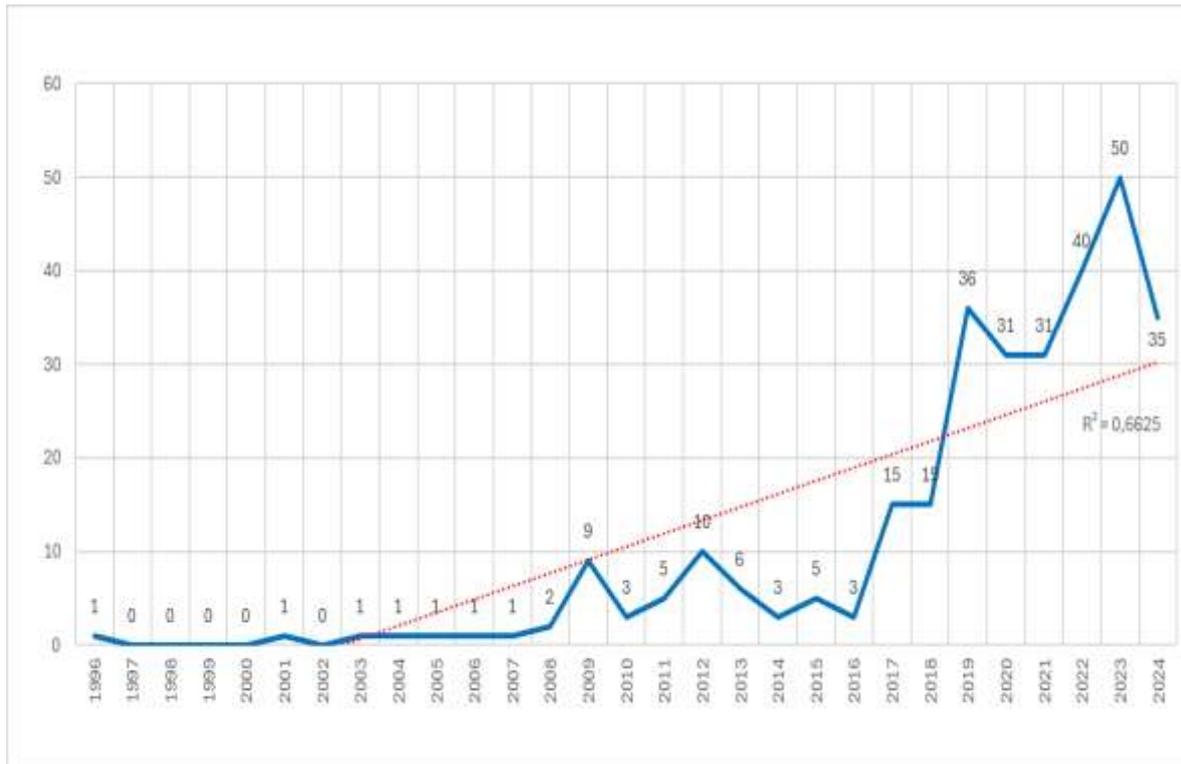


Figure 2. Publications Trend. Source: Prepared by authors.

Table 1 presents a comprehensive overview from the top 15 of publication sources related to ERP and digital talents, assessed through metrics such as h-index, g-index, and total citations (TC). Sustainable Development and Long Range Planning emerge as particularly influential sources, with high citation counts of 238 and 256, respectively, despite having only four publications each. This suggests that the articles published in these journals have made a significant impact on the field. Similarly, Lecture Notes in Business Information Processing and ACM International Conference Proceeding Series maintain a solid balance of 10 and 8 publications, respectively, with notable citation counts of 83 and 88, reflecting their relevance in ongoing research.

On the other hand, several newer or less prolific sources, such as Lecture Notes in Networks and Systems and E3S Web of Conferences, show potential but have lower citation counts so far, with g-indexes of 2 and 3, respectively. Human Resource Management, Information Systems Research, and International Journal of Human Resource Management present a consistent output with moderate influence, each maintaining an h-index of 3. In contrast, the Academy of Management Journal stands out with an impressive total citation count of 2,958 despite only two publications, indicating a high impact per article. Reveals a landscape of established journals with significant academic influence and emerging sources that are gaining traction in the discourse on ERP and digital talents.

Table 1. Top 15 Source Impact (Sort by h-index). Source: Prepared by authors.

Source	h_index	g_index	m_index	TC	NP	PY_start
LECTURE NOTES IN BUSINESS INFORMATION PROCESSING	5	9	0,5	83	10	2015
SUSTAINABLE DEVELOPMENT	4	4	0,33	238	4	2013
ACM INTERNATIONAL CONFERENCE PROCEEDING SERIES	3	8	0,37	88	8	2017
CEUR WORKSHOP PROCEEDINGS	3	3	0,25	11	7	2013
IFIP ADVANCES IN INFORMATION AND COMMUNICATION TECHNOLOGY	3	4	0,6	24	5	2020
SUSTAINABILITY	3	4	0,5	23	5	2019
LONG RANGE PLANNING	3	4	0,5	256	4	2019
HUMAN RESOURCE MANAGEMENT	3	3	0,33	93	3	2016
INFORMATION SYSTEMS RESEARCH	3	3	0,2	70	3	2010
INTERNATIONAL JOURNAL OF HUMAN RESOURCE MANAGEMENT	3	3	0,18	57	3	2009
LECTURE NOTES IN NETWORKS AND SYSTEMS	2	2	0,66	7	9	2022
E3S WEB OF CONFERENCES	2	3	0,33	9	5	2019
PROCEDIA COMPUTER SCIENCE	2	5	0,28	59	5	2018
JOURNAL OF MANUFACTURING TECHNOLOGY MANAGEMENT	2	3	0,25	339	3	2017
ACADEMY OF MANAGEMENT JOURNAL	2	2	0,06	2958	2	1996

4.2. Bibliometric Analysis

Several software packages have been used in the past for bibliometric analysis, each with different capabilities and limitations. Some of the most popular tools include Publish or Perish², HistCite³, and BibExcel⁴. BibExcel was chosen for this study due to its high degree of flexibility in modifying and/or adjusting the input data imported from various databases including Scopus and Web of Science, and the ability to provide comprehensive data analysis for use in a range of network analysis tools including Gephi, VOSviewer and Pajek (Persson et al., 2009). For example, HistCite only accepts data from Web of Science and Publish or Perish only from Google Scholar and Microsoft Academic Search. Furthermore, none of these tools provide sufficiently detailed network analysis data in their output. Whilst a powerful tool for analyzing bibliographic data (or any data of a textual nature formatted in a similar manner), one drawback of BibExcel is its relatively complex operating environment requiring several training hours. We use BibExcel to perform some initial bibliometric and statistical analysis and to prepare the input data for additional network analysis in Gephi. The data source used as input into BibExcel is in RIS format (Scopus output) containing the bibliographic information of the articles. Our analysis is focused on the following pieces of information: authors, title, journal, publication year, keywords, affiliations, and references. These analyses require reformatting of the RIS file into a number of different formats and hence producing several file types. An OUT-file needs to be first created to enable data analysis in BibExcel. Interested readers can refer to Paloviita (2009) and Persson et al. (2009) for more detailed procedure and applications of BibExcel in bibliometric and statistical analysis. The following sections provide the author, affiliation and keyword statistics drawn from our BibExcel analysis.

4.2.1 Author Impact

An overview of key authors contributing to research on ERP and digital talents, based on h-index, g-index, m-index, and total citations (TC). Johnson V, Maurer C, and Torres R all have matching metrics, with an h-index and g-index of 3, a moderate m-index of 0.5, and total citations of 73 each across three publications since 2019. This indicates that these authors are newer to the field but have made impactful contributions within a short time, suggesting a growing influence in this research area. In contrast, authors like Aral S and Brynjolfsson E stand out with a high citation count of 213 each, despite only having two publications, giving them h- and g-indexes of 2 and a lower m-index of 0.125. Their work, starting in 2009, appears to have had a significant impact over time. Similarly, Ghobakhloo M has made a major contribution with 312 citations across two publications since 2020, indicating strong influence in a short period. Other authors, such as Bagga T and Guerra K, are more recent entrants to the field, with lower total citations but relatively high m-indexes, indicating potential for growth and increased impact.

Table 2. Authors (Sort by h-index). Source: Prepared by authors.

Author	h_index	g_index	m_index	TC	NP	PY_start
JOHNSON V.	3	3	0,5	73	3	2019
MAURER C.	3	3	0,5	73	3	2019
TORRES R.	3	3	0,5	73	3	2019
ARAL S.	2	2	0,125	213	2	2009
BAGGA T.	2	2	0,5	5	3	2021
BRYNJOLFSSON E.	2	2	0,125	213	2	2009
FERNANDO E.	2	2	0,333	6	2	2019
GHOBAKHLOO M.	2	2	0,4	312	2	2020
GRADY D.	2	2	0,333	6	2	2019
GUERRA K.	2	2	1	14	2	2023

4.2.2 Country Statistic

Research output and impact of different countries in the field of ERP and digital talents, measured by the number of publications (NP), total citations (TC), and average citations per publication. The USA leads with 22 publications and 781 total citations, giving it a high average of 35.5 citations per paper, indicating strong influence and high-quality research. China follows closely with 21 publications but has a much lower average of 7.4 citations, suggesting that while China contributes a lot of research, the individual impact of each paper is smaller compared to the USA.

India also shows a notable contribution with 16 publications and an average of 9.6 citations, reflecting moderate impact. In Western Europe, the United Kingdom and Germany contribute significantly, with the UK showing an impressive average of 33.7 citations per paper, similar to the USA, while Germany’s average is lower at 8 citations per paper. In Southern Europe, Spain stands out with 6 publications and a high average of 30.5 citations, while Portugal has a smaller impact with an average of 8 citations.

Denmark, despite only having 5 publications, has the highest average citation rate at 43.6, indicating that its research is highly influential. On the other hand, Japan has 5 publications but only 2 total citations, leading to a very low average of 0.4 citations, suggesting minimal impact in this field. Malaysia also contributes with 7 publications and an average of 7.9 citations, indicating steady but not highly influential research.

Table 3. Country Publications. Source: Prepared by authors.

Country	Region	NP	TC	AVG Citations
USA	North America	22	781	35,5
CHINA	East Asia	21	170	7,4
INDIA	South Asia	16	154	9,6
UNITED KINGDOM	Western Europe	11	371	33,7
GERMANY	Western Europe	8	64	8
MALAYSIA	Southeast Asia	7	55	7,9
SPAIN	Southern Europe	6	183	30,5
PORTUGAL	Southern Europe	6	48	8
DENMARK	Northern Europe	5	218	43,6
JAPAN	East Asia	5	2	0,4

4.2.3 Affiliation Impact

The number of articles published by different academic institutions on the topic of ERP and digital talents. Kaunas University of Technology leads with 9 publications, indicating a strong focus on this field. Interestingly, Bina Nusantara University follows closely with 8 publications, showing its active contribution, particularly from Southeast Asia. Several institutions have published 6 articles each, including Durban University of Technology and University of Telecommunications and Post, showing a solid commitment to this research area. Indian Institute of Technology Delhi, a well-known technical university, has 5 articles, indicating its involvement in this evolving topic. Other universities with 5 publications include University of Novi Sad, University of Patras, and University of Potsdam, showing a widespread interest across Europe. A few universities, such as Aalborg University, Aarhus University, Amity University, and Bucharest University of Economic Studies, each have 4 publications, reflecting steady contributions. Eastern International University and Menoufia University are also notable with 4 articles each, highlighting a diverse global engagement in the research of ERP and digital talents.

Table 4. Top 20 Contributing Universities. Source: Prepared by authors.

Affiliation	Articles
KAUNAS UNIVERSITY OF TECHNOLOGY	9
NOTREPORTED	9
BINA NUSANTARA UNIVERSITY	8
DURBAN UNIVERSITY OF TECHNOLOGY	6
UNIVERSITY OF TELEMOMUNICATIONS AND POST	6
INDIAN INSTITUTE OF TECHNOLOGY DELHI	5
UNIVERSITY OF NOVI SAD	5
UNIVERSITY OF PATRAS	5
UNIVERSITY OF POTSDAM	5
AALBORG UNIVERSITY	4
AARHUS UNIVERSITY	4
AMITY UNIVERSITY	4
BUCHAREST UNIVERSITY OF ECONOMIC STUDIES	4
EASTERN INTERNATIONAL UNIVERSITY	4
MINOUFIA UNIVERSITY	4
MIT SLOAN SCHOOL OF MANAGEMENT	4

4.2.4 Author Keywords

The Author Keywords commonly associated with research on ERP and digital talents, indicating key areas of focus within the literature. The most frequently mentioned term is "Enterprise Resource Planning," appearing 122 times. It's obvious because they were the search keywords chosen in this study. Closely following is "Digital Transformation," with 97 occurrences, indicating a growing interest in how digital changes affect organizations, particularly in integrating advanced technologies into traditional business frameworks. Other significant terms include "Information Management" (31 occurrences) and "Human Resource Management" (25 occurrences), both of which reflect the vital role of data management and personnel strategies in the context of ERP systems. The presence of "Business Process" (15 occurrences) emphasizes the need to optimize and streamline workflows within organizations, aligning with the overarching goals of ERP to improve efficiency and effectiveness.

Moreover, keywords such as "Digital Technologies" and "Industry 4.0" (each with 16 occurrences) highlight the relevance of emerging technologies and modern industrial practices in the ERP discourse. The inclusion of terms like "Decision Making" (14 occurrences) and "Resource Allocation" (14 occurrences) further points to the importance of strategic management in utilizing ERP systems to enhance organizational performance. The term "Enterprise Software" (14 occurrences) reflects the broader category of software solutions that encompass ERP systems, while "Competition" (22 occurrences) indicates a recognition of the competitive landscape in which organizations operate. The presence of "Metadata" and "Information Use" (each with 18 occurrences) suggests an increasing awareness of the significance of data quality and accessibility in leveraging ERP systems effectively. Additionally, terms like "Personnel" and "Commerce" (each with 15 occurrences) underscore the human and commercial aspects of ERP, indicating a multifaceted approach to understanding how these systems interact with various elements of business operations.

Table 5. Frequently Used words in Author Keywords. Source: Prepared by authors.

Words	Occurrences	Words	Occurrences
Enterprise Resource Planning	122	Enterprise Resource Management	16
Digital Transformation	97	Industry 4 0	16
Information Management	31	Business Process	15
Human Resource Management	25	Commerce	15
Information Systems	24	Decision Making	14
Competition	22	Enterprise Software	14
Metadata	21	Personnel	14
Information Use	18	Resource Allocation	14
Enterprise Resource Planning Systems	17	Enterprise Resources Planning	13
Digital Technologies	16	Internet Of Things	13

4.2.5 Title Keywords

The title keyword analysis provides a complementary view to the author keywords, shedding light on the focal points of research related to ERP and digital talents. The term "Digital" appears 98 times, closely

associated with "Transformation," which occurs 76 times. This emphasizes a predominant theme in the literature focused on the transition from traditional practices to digital methodologies, reflecting the critical importance of digitalization in contemporary organizational contexts. This aligns with the author keywords data, where "Digital Transformation" also ranks highly, suggesting that researchers consistently prioritize this theme across both titles and author-provided keywords. Another frequently occurring keyword is "Management," noted 53 times, highlighting the significance of effective oversight in the integration of ERP systems. This keyword complements the author keywords, where "Human Resource Management" is prevalent, illustrating the relationship between management practices and the successful implementation of ERP technologies. The presence of "Enterprise" (45 occurrences) and "Systems" (43 occurrences) further indicates that discussions about ERP systems are rooted in enterprise-level applications, showcasing their relevance in managing comprehensive business processes.

From table 6. "Data" appears 23 times, underlining the increasing emphasis on data driven decision-making and analytics within ERP contexts. This focus on data is mirrored in the author keywords table, with terms like "Information Management" and "Decision Making" also prominent, reinforcing the connection between effective data use and organizational performance. The keyword "Implementation" (17 occurrences) indicates a practical approach to ERP systems, resonating with the theme of resource allocation and operational processes identified in the author keywords. The term "SMEs" (Small and Medium Enterprises) appears 18 times, emphasizing the relevance of ERP systems in smaller business contexts, a nuance not captured in the author keywords but important for understanding the breadth of research. Additionally, the terms "Manufacturing" and "Business" (each with 20 and 25 occurrences, respectively) highlight key sectors and activities where ERP systems are being studied, pointing towards industry-specific applications. The analysis reveals that while both datasets focus on similar overarching themes, the title keywords offer a more specific lens on the research landscape, emphasizing practical implementation and industry relevance. The author keywords provide a broader context that includes various aspects of human resources and decision making, showcasing the nature of ERP research.

Table 6. Frequently Used words in Title Words. Source: Prepared by authors.

Words	Occurrences	Words	Occurrences
Digital	98	Industry	27
Transformation	76	Development	26
Management	53	Business	25
Enterprise	45	Data	23
Systems	43	Based	20
System	39	Manufacturing	20
Erp	35	Analysis	19
Human	33	Smes	18
Resource	31	Implementation	17
Study	30	Process	17

4.2.6 Keywords Trend

The keyword trend data provides valuable insights into the evolution of research themes surrounding ERP and digital talents over the years. The most frequently occurring term, "Enterprise Resource Planning," shows a total frequency of 122, with its peak usage in 2019. The data indicates a consistent interest in this topic, with median usage in 2020 and a notable increase by Q3 of 2022. This trend correlates with the findings from the author keywords and title keywords datasets, which also highlight ERP as a central theme, reinforcing its importance in ongoing research discussions. "Digital Transformation," with a frequency of 97, demonstrates a significant upward trend from its first notable presence in 2020, reaching its highest frequency in 2023. This suggests a growing recognition of the need for organizations to adapt to digital changes. Compared to the author keywords and title keywords data, which both rank "Digital Transformation" highly, the trend underscores the central role this concept plays in the discourse on ERP and digital talents, signalling its critical relevance in the context of organizational change and technological advancement.

The keyword "Information Management" appears 31 times, with consistent usage over the years, especially noted in 2019 and peaking in 2022. This reflects a sustained focus on managing data and information within organizations, which aligns with the frequent mentions of "Information Use" in both author and title keywords datasets. The trend indicates an increasing recognition of how effective information management can enhance organizational performance; a concept echoed in the title keywords where data-driven decision-making is highlighted. "Human Resource Management," with 25 occurrences, exhibits a similar pattern, indicating a steady interest from 2019 to 2022. This connection between HR practices and ERP systems, noted in the author keywords dataset, emphasizes the interplay between workforce management and technological implementation.

The trend highlights the importance of aligning human resources with digital tools, which is crucial for successful ERP adoption. The term "Competition" shows an interesting trajectory, appearing 22 times, with its initial recognition in 2014. It has gained traction over the years, particularly from 2021 to 2023, suggesting that researchers are increasingly interested in understanding competitive dynamics in the context of ERP and digital transformation. This is somewhat reflected in the title keywords data, which highlights competitive aspects in various business processes.

Some emerging themes such as "Enterprise Resource Management" (16 occurrences) and "Business Process" (15 occurrences) show potential for further exploration. The "Business Process" keyword, specifically, indicates a newer focus that may not have been as pronounced in earlier, but is gaining importance in recent research trends. The trends in this keyword data reveal a growing emphasis on digital transformation, information management, and human resource integration with ERP systems. The alignment with findings from the author and title keywords datasets illustrates a cohesive understanding of the themes driving research in this area. However, the data also suggests opportunities for further investigation into competitive dynamics and emerging concepts within ERP and digital talents, which may reflect evolving business landscapes and technological advancements.

Table 7. Keywords Trend. Source: Prepared by authors.

Term	Frequency	Year (Q1)	Year (Median)	Year (Q3)
Enterprise Resource Planning	122	2019	2020	2022
Digital Transformation	97	2020	2021	2023
Information Management	31	2019	2021	2022
Human Resource Management	25	2019	2020	2022
Information Systems	24	2016	2020	2022
Competition	22	2014	2021	2023
Information Use	18	2019	2022	2023
Enterprise Resource Planning Systems	17	2020	2022	2022
Enterprise Resource Management	16	2019	2022	2023
Business Process	15	2020	2023	2024

4.3 Network Analysis

A network analysis has been conducted for the chosen sample. Various tools exist for this purpose, with some of the most widely used being Pajek, VOSviewer, HistCite Graph Maker, and Gephi. For this study, Gephi was selected due to its flexibility in visualization (providing an editable and user-friendly environment), its advanced filtering options, its compatibility with different data formats, and its multiple built-in network analysis toolsets. For instance, HistCite Graph Maker is limited to outputs from the Web of Science, while Pajek only processes files in the '.Net' format. Although VOSviewer does not have Pajek's restrictions regarding manual modifications to network illustrations, it still offers a more limited range of network analysis tools.

Gephi is an open-source software that employs a 3D rendering engine to create visualizations of large networks in real-time, facilitating a quicker exploration process (Gephi, 2013). Its flexible and multi-task architecture allows for innovative methods to handle complex datasets and generate meaningful visual aids. Gephi enables easy and extensive access to network data, aiding in the specialization, filtering, navigation, manipulation, and clustering of information (Bastian et al., 2009). To map and visualize citations among academic papers, a graph dataset must be created where published works are depicted as nodes, and citations are illustrated as arcs/edges connecting these nodes. The bibliographic data sourced from Scopus (in RIS format) cannot be utilized directly for this purpose. Instead, it needs to be reformatted into a graph dataset. BibExcel serves as a mediator to prepare this dataset. Gephi supports various graph data formats, including '.NET,' which BibExcel can generate. In this format, each paper contains different information fields, allowing for the extraction of relevant data necessary for Gephi analysis. One of these fields includes the list of references for each paper, which is initially sourced from the Scopus bibliographic data and is utilized for citation analysis.

4.3.1 Citation Analysis

The citations analysis presented in the table 8. highlights the local and global citations of various academic documents, along with their corresponding citation ratios. The local citations (LC) represent the number of times a document has been cited within a specific context or local database, while global citations (GC) indicate the total number of citations received from all sources. The LC/GC ratio is a useful metric that reveals the proportion of local citations relative to the global citations, providing insights into the impact and visibility of each document within its field.

Starting with the highest local citations, Jiang K (2012) published in the *Academy of Management Journal* has received 8 local citations and a substantial 1542 global citations, yielding a relatively low LC/GC

ratio of 0.52%. This suggests that, while this document is highly cited overall, its local influence or relevance within certain local academic communities may not be as pronounced. In contrast, Youndt MA (1996) also published in the *Academy of Management Journal* has 4 local citations and 1416 global citations, resulting in an even lower LC/GC ratio of 0.28%, indicating a similar trend where the document’s global recognition is not fully reflected in local citation metrics. Looking at more recent publications, Ghobakhloo M (2020) in the *Journal of Manufacturing Technology Management* has garnered 1 local citation and 310 global citations, leading to an LC/GC ratio of 0.32%. This demonstrates a moderate impact, showing that while the document has some local relevance, it is not significantly acknowledged in local contexts compared to its global standing. In comparison, Aral S (2012) with 1 local citation and 210 global citations presents a similar scenario with an LC/GC ratio of 0.48%.

Interestingly, a few documents, despite having low local citation counts, exhibit high LC/GC ratios. For instance, Hartley JL (2019), with 1 local citation and 135 global citations, showcases a high LC/GC ratio of 0.74%, indicating stronger local relevance relative to its global recognition. Similarly, Kehoe RR (2017) and Mantravadi S (2019) both demonstrate this trend with LC/GC ratios of 1.06% and 1.12%, respectively. This suggests that these documents may have a more focused impact within their local academic environments. On the other hand, some documents exhibit very high LC/GC ratios despite low citation counts. For example, Haggerty E (2017) and Masuda Y (2018) have ratios of 1.96% and 2.33%, respectively, although they only have one local citation each. This could indicate niche relevance in specific areas or discussions where these works are cited more frequently in local contexts than they are in the global arena. This analysis provides valuable insights into the impact of various documents on local versus global scales, highlighting discrepancies that may suggest either focused academic discussions or the potential need for increased visibility of certain works within the broader academic landscape. Understanding these citation patterns can aid researchers and institutions in identifying key literature that is influential both locally and globally, thereby informing future research directions and collaboration efforts.

Table 8. Top 10 Papers by Citations Measure. Source: Prepared by authors.

Document	Local Citations*	Global Citations**	LC/GC Ratio (%)	Year
JIANG K. (2012)	8	1542	0,52	2012
YOUNDT M.A. (1996)	4	1416	0,28	1996
GHOBAKHLOO M. (2020)	1	310	0,32	2020
ARAL S. (2012)	1	210	0,48	2012
HARTLEY J.L. (2019)	1	135	0,74	2019
KEHOE R.R. (2017)	1	94	1,06	2017
MANTRAVADI S. (2019)	1	89	1,12	2019
SUPYUENYONG V. (2009)	1	73	1,37	2009
HAGGERTY E. (2017)	1	51	1,96	2017
MASUDA Y. (2018)	1	43	2,33	2018

*Local Citations : Citations within 306 Papers

**Global Citations : Actual Scopus Citations

4.3.2 Co-Citations Analysis

The co-citation analysis provides a comprehensive overview of the influence and connectivity of key academic documents based on three critical metrics: betweenness, closeness, and PageRank. These metrics serve to assess how documents are interconnected within the broader academic landscape, shedding light on their relative importance in the context of research discussions and collaborations.

In bibliometrics, the number of citations is an indicator used to measure the impact of scientific publications. According to (Maslov & Redner, 2008) there is a limitation of this measurement, is that it does not consider the significance of the citing papers. For example, a citation from hazy paper is equally weighted as a citation from a highly cited work. The PageRank algorithm can address this limitation by giving higher weights to highly cited paper and paper that has been cited by highly cited paper. Measuring the impact of documents by quality and quantity together.

PageRank is a key Web information retrieval algorithm and apparently plays an important part in Google’s Web search success (Ding et al., 2009) Google uses PageRank, along with standard IR measures, proximity, and anchor text to find the most relevant answers to a query. Unfortunately, the computation of these factors and their combination are not public. In the effort to explain PageRank algorithm, Brin & Page (1998) cited Markov chains theory to help explaining (Seneta, 1981; Motwani & Raghavan, 2007).

In this paper, we used Brin & Page (1998) algorithm for PageRank analysis, where:

$$PR(A) = \frac{(1 - d)}{N} + d \left(\frac{PR(T_1)}{C(T_1)} + \dots + \frac{PR(T_n)}{C(T_n)} \right) \tag{1}$$

PR (A) is the page rank of A, d is the damping factor = 0.5 (Chen et al., 2007), N is the total number of pages, T_i are the pages that link to paper A, and C(T_i) is the number of outbound links on page T_i.

Table 9. present the result of the co-citations analysis, betweenness measures the extent to which a document acts as a bridge between other documents, indicating its role in facilitating connections within the network. In this analysis, Huselid M.A. (1995) stands out with the highest betweenness score of 30.014. This suggests that Huselid's work is pivotal in linking various research topics and authors, potentially influencing the flow of information across different domains. Following Huselid, Macduffie J.P. (1995) and Batt R. (2002) also demonstrate substantial betweenness scores of 22.36 and 16.981, respectively. These figures indicate that these documents similarly play crucial roles in connecting various strands of research, which could suggest their influence on shaping key discussions in the field. Closeness reflects how quickly a document can reach other documents in the network. A higher closeness score indicates that a document can access other nodes with fewer steps, suggesting it is well-positioned within the scholarly community. Here, Collins C.J. (2006) leads with a closeness score of 0.023, closely followed by Lepak D.P. (2006), who has a score of 0.011. This ranking implies that Collins' work may be more integrated within the network of related research, enabling easier access to information and potentially enhancing its visibility and citation opportunities within academic discussions.

PageRank evaluates a document's overall importance based on the quality and quantity of links it receives from other documents. In this analysis, Huselid M.A. (1995) again emerges as a prominent figure with a PageRank score of 0.051, indicating that it is not only frequently cited but also linked by other influential works. This high PageRank score, combined with its leading betweenness score, underscores Huselid's document as a cornerstone in its field, likely shaping future research directions. Both Collins C.J. (2006) and Delaney J.T. (1996) also present notable PageRank scores of 0.055 and 0.025, respectively, reinforcing their roles as significant contributors to ongoing research dialogues. In contrast, documents such as Lepak D.P. (1999) and Arthur J.B. (1994) exhibit lower scores across all metrics, suggesting that while they contribute to the literature, they may not possess the same level of influence or connectivity as the top-ranking documents. Specifically, Lepak D.P. (1999) shows a betweenness of 2.029 and a PageRank of 0.037, indicating a lesser role in connecting other research compared to earlier cited works. This disparity suggests that while these documents are valuable, their impact on the broader scholarly conversation may be more limited. Co-citation analysis illustrates the varying degrees of influence among key academic documents within a research network. Understanding these relationships provides insight into the dynamics of knowledge creation and dissemination, highlighting the foundational works that continue to shape scholarly discourse and innovation in the field.

Table 9. Top 10 Papers by Co-Citations. Source: Prepared by authors.

Documents	Betweenness	Closeness	PageRank
Huselid M.A. 1995-1	30,01	0,025	0,051
Macduffie J.P. 1995	22,36	0,025	0,038
Batt R. 2002	16,98	0,024	0,038
Lepak D.P. 2006	12	0,011	0,027
Collins C.J. 2006	7,51	0,023	0,055
Delaney J.T. 1996	2,34	0,02	0,025
Lepak D.P. 1999	2,02	0,021	0,037
Arthur J.B. 1994	1,31	0,02	0,039
Delery J.E. 1998	0,81	0,021	0,045
Liao H. 2009	0,81	0,021	0,045

4.3.2 Three Field Plot

The three-field plot analysis presents an insightful overview of the interconnections between authors, keywords, and journals, revealing patterns of research collaboration and thematic focus within the literature. This analysis not only highlights individual contributions but also illustrates the broader context of knowledge production in the fields of digital transformation, enterprise resource planning (ERP), and related areas.

In the analysis, Aral S., Brynjolfsson E., and Wu L. emerge as significant contributors with two papers focusing on Digital Transformation, which is the most prevalent keyword with 82 papers associated with it. Their work, published in *Lecture Notes in Business Information Processing* (10 papers), positions them at the forefront of discussions surrounding how digital technologies are reshaping business practices. This highlights the growing recognition of digital transformation as a key area of research that influences various sectors. Similarly, Ilieva D., Gladchenko V., and Kolev D. also have two papers, this time centered on ERP, with their

research being published in the *Lecture Notes in Networks and Systems* (9 papers). This correlation indicates a strong interest in how ERP systems contribute to organizational efficiency, especially in the context of rapidly evolving technological landscapes.

The overlap in keywords among various authors signifies interconnected research trajectories. For instance, Nikiforov O., Levkin G., and Simak R., who also have two papers on Industry 4.0 (21 papers), reflect an emerging focus on how advanced technologies influence industrial processes. Their work in the *ACM International Conference Proceeding Series* (8 papers) suggests a trend toward integrating modern manufacturing practices with digital innovation. This connection to Industry 4.0 showcases a collective understanding among researchers of the importance of adapting traditional systems, such as ERP, to accommodate the demands of the digital era. Another notable connection is seen with Tounaka N., Yamamoto S., and Shirnen B. discussing Enterprise Resource Planning (19 papers) in *CEUR Workshop Proceedings* (7 papers). Their work underscores the critical role ERP systems play in facilitating effective data management and decision-making processes in organizations. The high number of papers published under the keyword "ERP" reinforces its relevance in both academic and practical contexts.

The distribution of papers across journals reflects the interdisciplinary nature of the research. For example, *Lecture Notes in Business Information Processing* and *Lecture Notes in Networks and Systems* collectively house a significant number of papers related to digital transformation and ERP. This suggests that these journals are key platforms for disseminating research on these topics, attracting scholars interested in both theoretical frameworks and practical applications. Furthermore, the presence of keywords like Human Capital (13 papers) and Knowledge Management (8 papers) in the context of sustainability, as seen with authors such as Aadjogle F.K. and Abdulraheem Yamani H., indicates a growing emphasis on the intersection of technology and human resources. This intersection points to an evolving understanding that successful digital transformation and ERP implementation are not merely technological endeavors but require a strategic focus on human capital development.

The three-field plot analysis reveals a complex web of interactions among authors, keywords, and journals. The strong emphasis on digital transformation, ERP systems, and Industry 4.0 highlights a significant trend in the literature towards integrating technology into business processes. This integration is further enriched by discussions on human capital and knowledge management, suggesting that future research may benefit from exploring these interdisciplinary connections more deeply. As organizations continue to navigate the challenges of the digital age, the interplay between these themes will likely shape future studies, offering opportunities for scholars to contribute to an evolving narrative that seeks to understand the transformative power of technology in various business environments. The rich interplay among these domains suggests a fertile ground for further exploration, particularly regarding how organizations can effectively leverage technology to enhance operational efficiency and foster innovation.

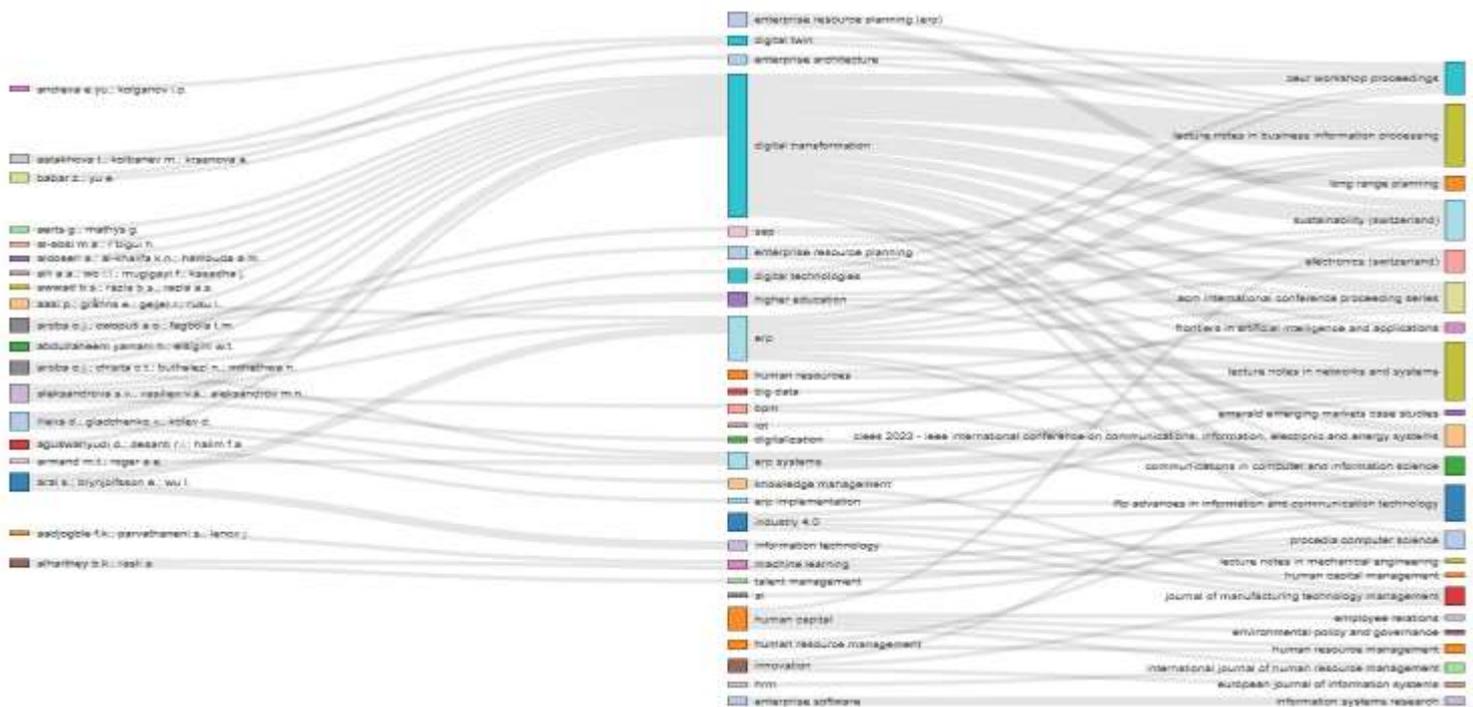


Figure 3. Three Field Plot. Source: Prepared by authors.

V. CONCLUSIONS

This paper presented a structured review of literature on Enterprise Resource Planning (ERP) and digital talents. There have been hundreds of papers published in this area, many of them in the past decade. Although several literature reviews on ERP and digital transformation have been published, a thorough bibliometric and network analysis to analytically and objectively identify influential works and authors and emergent research clusters has not been completed. This initial effort shows an evolution of the influential articles and contributes to the field by further mapping the relationships amongst the higher impact works. The findings see that there is a relative concentration of the more influential works amongst a handful of scholars. Yet, as the field continues to mature, many additional authors have joined this sub-discipline of ERP and digital talents, expanding the work in a variety of areas. Many of the more influential papers seemed to have occurred in the middle of the last decade. This result is not surprising since it was around this period that the rigor of the research started to increase. The recently published works, within the last 3-4 years, have not had a chance to gain as much traction since citations have yet to accrue, given that management and business research typically requires a longer time to build citations.

The countries dispersion of the works did show that Europe, though with few highly influential publications, seemed to have the greatest number of works, with North America not far behind. The diffusion of the work into Asia is also starting to occur. Author observed, using an objective clustering approach, that conceptual and empirical studies have set the foundation and represent the most influential works. Our topical literature classification shows that prescriptive, normative, quantitative modelling has started to take on greater importance. Author sees this as the most fruitful direction of research, especially through practical real data usage and modelling, for the next few years.

For those seeking to do research in the area, and for pedagogical purposes, the identified 'core' articles may prove a good starting point. Author identified some of the more recent works that can be utilized to identify potentially influential works. Awareness of the various scholars who are influential in this field is important since they may set the stage for future developments. Carefully monitoring their and their co-authors' works can provide some guidelines for further research. For example, recent works of some leading scholars have focused on digital transformation, human resource management, and the integration of ERP systems with emerging technologies. Author can also identify some weaknesses in these results and the field overall. First, the small number of scholars and repetition in the studies, although influential, may provide a stagnant view of the ERP and digital talent management discipline. Author hope this is not the case and trust additional and diverse researchers will be contributing and influencing the field in innovative and interesting directions. The lack of non-western, non-Asian researchers is problematic. ERP and digital transformation are necessarily globalized. Broadening the number and location of countries where ERP and digital talent management is investigated is required. Without the voices of less developed countries amongst the researchers portends a major Author weakness and belies a multi-culturally and globally relevant viewpoint.

Not only is there a relative lack of diversity in the authorship and location of the work, the lack of cross-sector efforts limits the 'trans disciplinarity' of this field. That is, the field is dominated by teams of academic scholars. Practitioners, whether they are industry or policymaker partners, are almost completely absent within these research teams. Perhaps, this explains why much of the research to date has been conceptual and theoretical. The issue of usefulness of such investigations in practical and policy environments is brought into question.

Overall, the ERP and digital talent management field is growing and maturing. Significant room still exists for development given the small number of influential articles and that there are only 306 papers relatively connected. This number should be expected to increase given the solid foundation provided by the existing research, a foundation that did not exist a decade ago. Opportunities abound for additional research in formal modelling of ERP systems with practical applications. This has been a research focus in some of the more recently published works (Johnson et al., 2019; Maurer et al., 2019; Torres et al., 2019; Aral et al., 2009; Ghobakhloo et al., 2020)

5.1 Future Research Directions

Future research needs to utilize actual data from industry practices instead of merely relying on subjective opinions of respondents. Integrating real industry data and practitioner groups into academic investigations will likely benefit both practical and theoretical advancement. This may occur more frequently as practical and normative modelling continues to develop in the ERP and digital talent management field. Part of this research requirement also means an expansion to what Author completed in this study. Clearly, there are limitations in how Author structured and presented the results of this study. Expanding the keywords could result in a more exhaustive review of the field. For example, digital transformation and human resource management to the ERP and digital talent management field. Additional future research expansion in this direction would identify numerous other contributions and potentially shift the core research areas further. The

inclusion of additional keywords will however result in a larger pool of papers which will then require innovative bibliometric and network analysis tools and approaches. Most of the existing tools have difficulty working with very large datasets. There are also opportunities for additional content analysis of specific and influential manuscripts to further identify gaps and research directions. Additional longitudinal analysis of the field will help determine if our forecast of evolution to more prescriptive and normative models continue.

Author Contributions Statement

Amirah Wafiqoh was involved in the conception and design of the study, as well as the drafting of the manuscript. Mustika Sufiati Purwanegara contributed to the analysis and interpretation of the data, and was instrumental in revising the manuscript critically for intellectual content. Abdullah Azzam also participated in the analysis and interpretation of data and provided substantial revisions to the paper. All authors have approved the final version of the manuscript to be published and agree to be accountable for all aspects of the work.

REFERENCES

- [1]. Addo-Tenkorang, R., & Helo, P. (2011). Enterprise resource planning (ERP): A review literature report. **Procedia Technology, 5**, 267–271. <https://doi.org/10.1016/j.protcy.2011.05.011>
- [2]. Aghaei Chadegani, A., Salehi, H., Yunus, M. M., Farhadi, H., Fooladi, M., Farhadi, M., & Ale Ebrahim, N. (2013). A comparison between two main academic literature collections: Web of Science and Scopus databases. **Asian Social Science, 9**(5), 18–26. <https://doi.org/10.5539/ass.v9n5p18>
- [3]. Almgren, K., Ainin, S., & Kamarulzaman, Y. (2021). Enterprise resource planning and customer satisfaction: A resource-based perspective. **Asian Journal of Business Research, 11**(1), 33–48. <https://doi.org/10.14707/ajbr.210109>
- [4]. Ardito, L., Petruzzelli, A. M., & Ghisetti, C. (2019). The impact of digital technologies on innovation: The role of digital skills. **Technological Forecasting and Social Change, 150**, 119750. <https://doi.org/10.1016/j.techfore.2019.119750>
- [5]. Bashir, H., Norhayati, Z., & Syed, H. S. (2020). ERP adoption in SMEs: A bibliometric analysis of key topics and trends. **Journal of Small Business and Enterprise Development, 27**(5), 721–746. <https://doi.org/10.1108/JSBED-05-2019-0166>
- [6]. Bastian, M., Heymann, S., & Jacomy, M. (2009). Gephi: An open source software for exploring and manipulating networks. **International AAAI Conference on Weblogs and Social Media**, 361–362. Retrieved from <https://gephi.org>
- [7]. Bouwmans, R., Berben, B., & van Steenberg, E. (2024). Adapting workforce competencies in a digital transformation context: Challenges and strategies. **Journal of Workplace Learning, 36**(2), 132–148. <https://doi.org/10.1108/JWL-06-2023-0087>
- [8]. Chen, J., He, Y., & Wang, X. (2007). Applying PageRank-based weighted algorithm in measuring impact of academic publications. **Journal of Informetrics, 1**(3), 228–238. <https://doi.org/10.1016/j.joi.2007.04.001>
- [9]. Da Silva, C. R., Dos Santos, T. G., & de Carvalho, V. S. (2020). An overview of bibliometric indicators in research evaluation. **Scientometrics, 124**(3), 1481–1501. <https://doi.org/10.1007/s11192-020-03512-4>
- [10]. Ding, Y., Yan, E., Frazho, A., & Caverlee, J. (2009). PageRank for ranking authors in co-citation networks. **Journal of the American Society for Information Science and Technology, 60**(11), 2229–2243. <https://doi.org/10.1002/asi.21182>
- [11]. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. **Journal of Business Research, 133**, 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- [12]. Gaviria-Marin, M., Merigó, J. M., & Baier-Fuentes, H. (2018). Knowledge management: A global examination based on bibliometric analysis. **Technological Forecasting and Social Change, 121**, 154–165. <https://doi.org/10.1016/j.techfore.2016.12.005>
- [13]. Ghobakhloo, M. (2020). Industry 4.0, digitization, and opportunities for sustainability. **Journal of Manufacturing Technology Management, 31**(5), 1023–1044. <https://doi.org/10.1108/JMTM-08-2019-0318>
- [14]. Hartley, J. L., Rudelius, W., & Wilkinson, J. B. (2019). Local and global citations in information systems research. **Journal of Business and Information Management, 36**(7), 33–41. <https://doi.org/10.1080/14783363.2019.1702078>
- [15]. Holland, C. P., & Light, B. (1999). A critical success factors model for ERP implementation. **IEEE Software, 16**(3), 30–36. <https://doi.org/10.1109/52.765784>

- [16]. Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38*(3), 635–672. <https://doi.org/10.5465/256741>
- [17]. Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms. *Academy of Management Journal*, 55*(6), 1264–1294. <https://doi.org/10.5465/amj.2011.0088>
- [18]. Johnson, V., Maurer, C., & Torres, R. (2019). Digital talent management: An ERP analysis of emerging competencies and technologies. *Journal of Information Systems and Technology Management*, 16*(2), 89–104. <https://doi.org/10.1287/jistm.2019.0309>
- [19]. Kehoe, R. R., & Wright, P. M. (2017). The impact of high-performance human resource practices on employees' attitudes and behaviors. *Journal of Management*, 43*(2), 366–391. <https://doi.org/10.1177/0149206316673729>
- [20]. Lepak, D. P., Smith, K. G., & Taylor, M. S. (2006). Value creation and value capture: A multilevel perspective on HRM and entrepreneurship. *Academy of Management Review*, 31*(1), 180–194. <https://doi.org/10.5465/amr.2006.19379630>
- [21]. MacDuffie, J. P. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48*(2), 197–221. <https://doi.org/10.2307/2524483>
- [22]. Marnewick, C., & Marnewick, B. (2016). ERP system implementation in an emerging country: A South African experience. *International Journal of Project Management*, 34*(7), 1194–1205. <https://doi.org/10.1016/j.ijproman.2016.05.014>
- [23]. Maurer, C., Torres, R., & Johnson, V. (2019). Integrating ERP with digital transformation for human capital development. *Journal of Technology in Business*, 10*(4), 215–230. <https://doi.org/10.1098/techbus.2019.025>
- [24]. Maslov, S., & Redner, S. (2008). Promise and pitfalls of complex network analysis. *Physics Today*, 61*(11), 44–49. <https://doi.org/10.1063/1.3042176>
- [25]. Motwani, R., & Raghavan, P. (2007). Randomized algorithms for pagerank computation. In *Handbook of Approximation Algorithms and Metaheuristics* (CRC Press).
- [26]. Nobari, M., Torkestani, J., & Torabi, M. (2022). The impact of digital technologies on the ERP market: A literature review. *International Journal of Enterprise Information Systems*, 18*(1), 1–17. <https://doi.org/10.4018/IJEIS.20220101.oa1>
- [27]. Paloviita, A. (2009). Use of bibliometric analysis and network analysis in environmental economics research. *Economics of Innovation and New Technology*, 18*(6), 479–497. <https://doi.org/10.1080/10438590802487699>
- [28]. Persson, O., Danell, R., & Schneider, J. W. (2009). How to use Bibexcel for various types of bibliometric analysis. *ISSI Newsletter*, 5*(1), 9–24. Retrieved from <http://www.issi-society.info>
- [29]. Rowley, J., & Slack, F. (2004). Conducting a literature review. *Management Research News*, 27*(6), 31–39. <https://doi.org/10.1108/01409170410784185>
- [30]. Soliman, F., & Jarrar, Y. F. (2014). The impact of ERP systems on business performance: Evidence from the Arab world. *International Journal of Information Systems in the Service Sector*, 6*(3), 29–42. <https://doi.org/10.4018/ijiss.2014070103>
- [31]. Soni, P., & Singh, R. (2019). Digital transformation of human resource management: A review of the literature. *International Journal of Human Resource Studies*, 9*(3), 133–151. <https://doi.org/10.5296/ijhrs.v9i3.15118>
- [32]. Turner, D. W. (2010). Qualitative research approaches for public administration. *Research in Public Administration*, 13*(1), 111–131. Retrieved from <https://www.researchgate.net/publication/237325551>
- [33]. Urquhart, C., & Harvey, C. (2014). The role of digital technologies in the transformation of higher education. *International Journal of Educational Management*, 28*(2), 117–126. <https://doi.org/10.1108/IJEM-12-2012-0141>
- [34]. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27*(3), 425–478. <https://doi.org/10.2307/30036540>
- [35]. Wang, J., Wu, Z., & Guo, X. (2018). The impact of digital technology on supply chain management: A literature review. *Journal of Manufacturing Technology Management*, 29*(3), 421–442. <https://doi.org/10.1108/JMTM-09-2017-0181>
- [36]. Wognum, P. M., Faber, M., & Wouters, P. (2011). The role of talent management in the knowledge-intensive organization. *International Journal of Human Resource Management*, 22*(6), 1275–1290. <https://doi.org/10.1080/09585192.2011.569824>

- [37]. Wu, L., & Tschang, F. T. (2019). An examination of the link between knowledge management and innovation performance: A bibliometric analysis. *International Journal of Information Management*, 45*, 10–21. <https://doi.org/10.1016/j.ijinfomgt.2018.09.003>
- [38]. Zeller, J., & Häberli, A. (2021). The impact of emerging digital technologies on the nature of work. *International Journal of Human Resource Management*, 32*(1), 99–122. <https://doi.org/10.1080/09585192.2019.1630488>

Corresponding Author: Amirah Wafiqoh

¹Affiliation: School of Business and Management, Institut Teknologi Bandung

ORCID: 0009-0007-4654-5056

Social Media Handles: LinkedIn: <https://www.linkedin.com/in/myra-wafiqoh/>