



Talent Management In The Era Of Digitalization: A Bibliometric Study

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Abstract. At the heart of the digital transformation redefining the 21st century landscape, talent management is emerging as a central pillar, not only for optimizing internal resources, but also for attracting new talent, essential to business growth and innovation. This study explores the crucial intersection between talent management, digital and the recruitment of new talent, highlighting how digital strategies are transforming recruitment and selection practices in a rapidly changing work environment. Using a bibliometric approach, we aim to map the existing literature on these themes to identify the trends, challenges and opportunities that characterize this dynamic field. In particular, we will examine how talent management, supported by digital technologies such as HR analytics and HRIS, facilitates a more strategic, data-driven and talent acquisition-oriented approach to recruitment. The aim is to reveal innovative talent management and recruitment practices that enable companies to better adapt and meet the demands of digital transformation, thereby improving recruitment processes, organizational efficiency and the candidate experience. The results of this bibliometric review will provide valuable insights into how organizations can effectively combine talent management strategies and digital solutions to attract new talent, redefine the future of work and maximize their competitiveness in today's economic landscape.

Keywords: Talent Management, Digital, Bibliometric analysis

1 Introduction

In an era defined by rapid and pervasive digital transformation, organizations find themselves navigating through the tumultuous waters of restructuring their business models while simultaneously refining their talent management strategies to maintain a competitive edge. The advent of digital technologies has precipitated a shift in market dynamics and consumer expectations, heralding talent management as a critical lever not only for spurring innovation but also for instituting sustainable modifications in organizational behavior and corporate ethos (Bican & Brem, 2020)).

At the helm of this transformative endeavor are leaders who play a pivotal role in championing digital solutions and fostering cultural shifts within their realms. Nonetheless, the rapid pace of the digital landscape poses significant challenges to traditional talent management systems, prompting a reevaluation of how these systems can evolve to bolster digital strategies that transcend beyond mere cost reduction, aiming instead at the genesis of novel value ((Gray & Rumpe, 2017)).

Embarking on a scholarly exploration, this paper seeks to dissect the symbiotic relationship between digital transformation and talent management. It endeavors to illuminate the essential alterations organizations must adopt to secure and nurture the talent requisite for triumph in the digital epoch (Schiemann, 2014; Hatum, 2010). This inquiry suggests that the essence of a company's digital transformation journey transcends technological implementation, delving deeper into the metamorphosis of organizational principles, including the dynamics of leadership and the stewardship of human capital ((Alunni & Llambías, 2018)

In an effort to bridge the chasms in extant research, this paper will navigate the ramifications of digital transformation on talent management practices and vice versa (Frankiewicz and Chamorro-Premuzic, 2020). Through a meticulous bibliometric review and an analysis of prevailing organizational practices, this study aspires to enrich the dialogue on adept talent management amidst digital upheavals (Gallardo-Gallardo et al., 2019; Davenport and Redman, 2020). Consequently, this discourse is poised to shed light on the quintessential role of talent management as a cornerstone of success in the odyssey of digital transformation.

Thus, this paper posits the critical inquiry: How do digital transformation initiatives influence and are influenced by the strategic deployment of talent management practices in modern organizations? This problem statement intends to unravel the multifaceted interplay between digital innovation and the management of talent, aiming to delineate a roadmap for organizations striving to harmonize their talent management endeavors with their digital transformation aspirations.

2 Theoretical background

In the digital age, organizations face the imperative of navigating through technological

transformations that profoundly influence talent management practices. Abedrabo (2014) and Rauter et al. (2019) underscore the pivotal role of innovation in enhancing business outcomes, suggesting a direct link between technology adoption and improved organizational performance. Central to this transformation is the human element, with Reagans and Zuckerman (2001) highlighting the critical importance of knowledge networks propelled by human capital in fostering innovation. This underscores the evolving nature of talent management in an era where digital technologies are reshaping workplace dynamics and skill requirements.

The strategic integration of digital tools within talent management processes not only enhances operational efficiency but also opens new avenues for engaging and retaining top talent (Cormican and O'Sullivan, 2004). As Mackea and Genarib (2019) observe, the pressure to elevate HR's effectiveness calls for a reimagined approach towards managing talent, emphasizing agility and adaptiveness. Furthermore, the resource-based view, as elucidated by Wernerfelt (1984) and Barney (1991), posits that human resources constitute a crucial source of sustainable competitive advantage, particularly when leveraged through digital means.

In synthesizing these perspectives, this literature review aims to explore the confluence of digital transformation and talent management, examining how digital innovations offer both challenges and opportunities for attracting, developing, and retaining skilled personnel in contemporary organizations.

2.1 Talent management

Talent management, since its conceptualization during the "war for talent" by Michaels et al. (2001), has become fundamental to organizational excellence and sustainability (Beechler and Woodward, 2009; Gallardo-Gallardo et al., 2015). This notion has evolved, influenced by extensive academic research (Boxall et al., 2007; Scullion et al., 2010; Dries, 2013; Thunnissen, 2016), to embrace adaptive and contextual strategies (Boxall et al., 2007; Thunnissen, 2016), as well as to value strategic human resource management (Dries, 2013; Szierbowski-Seibel and Kabst, 2017; Beraha et al., 2018; Kaufman, 2020).

The work of Meyers et al. (2013) provides an overview of various perspectives on talent, highlighting the importance of aligning talent management practices with the internal and external organizational context (Thunnissen et al., 2013). This adaptation is crucial in today's digital environment, where organizations strive to fill talent shortages (Chambers et al., 1998; Wójcik, 2017) and respond to exogenous and endogenous factors influencing these shortages (Tarique and Schuler, 2010).

Talent management, according to Sparrow et al. (2014), serves as a connecting field between various domains, requiring a well-defined talent management architecture to ensure organizational effectiveness (Sparrow and MakramWhat, 2015). This architecture must support the systematic attraction, development, retention and deployment of talent, with a view to meeting the company's quantitative and qualitative human capital needs (Scullion et al., 2010; Beechler and Woodward, 2009; Cappelli, 2008).

The context in which talent evolves, influenced by leadership and the immediate work environment, is crucial to its performance (Gallardo-Gallardo et al., 2013; Gallardo-Gallardo et al., 2019). Thus, digital transformation represents an organizational effort to adapt to this new context, requiring strategic changes in all spheres of the organization (Alunni and Llambías, 2018). Talent management, envisaged as a contingent practice (Collings and Mellahi, 2009), must be adapted to the organization's specific internal and external contexts (Gallardo-Gallardo et al., 2013), starting with the identification of key positions and potential talents (Coulson-Thomas, 2012).

In the face of digital transformation, organizations are called upon to rethink their HR strategies, particularly those related to talent attraction and retention (Lund et al., 2016; Doppler and Lauterburg, 2005). This review draws on key studies to explore the impact of digital transformation on talent management, establishing a hypothesis based on the analysis of existing literature.

2.2 Digital transformation

The concept of digital transformation, first explored by Michaels et al. (2001) as a crucial competitive edge, has evolved to encompass the development of new business models and market opportunities (Catlin et al., 2015). It's not merely about adopting new technologies but aligning these advancements with overarching business strategies (Lorenzo, 2016), involving comprehensive organizational dimensions including strategy, culture, and processes (Downes and Nunes, 2013; Porter and Heppelmann, 2014). Such transformation goes beyond the technological implementation, focusing equally on strategic, structural, and leadership aspects (Kane, 2017; Bharadwaj et al., 2013).

Digital transformation prompts changes in business models, societal norms, and organizational practices (Kevles et al., 2017), disrupting traditional customer relations, internal processes, and market positions (Westerman et al., 2012; Morakanyane et al., 2020). This shift, according to Korachi and Bounabat (2020), has made digital transformation a strategic priority across sectors, redefining value propositions and operational workflows (Earley, 2014; Fitzgerald et al., 2013).

As organizations strive to become digitally mature—a state denoting an advanced level of digital transformation (Chanas and Hess, 2016)—they face the challenge of embracing systemic changes to foster a digitally-oriented culture and workforce (Kane et al., 2017). This journey towards digital maturity not only enhances organizational capabilities (George et al., 2016; Wang et al., 2016) but also necessitates strategic adjustments in management practices and corporate culture to leverage technology effectively (Wade and Marchand, 2014; Kohnke, 2017).

Investment in employee development and the creation of a supportive digital culture are key (Ancarani and Di Mauro, 2018), as organizations navigate the complexities of digital transformation, including the strategic integration of ICT and business objectives (Matt et al., 2015). This comprehensive approach underscores the importance of organizational readiness and adaptability in the face of digital advancements, positioning talent management as a pivotal component of strategic success in the digital era.

3 Methodology

A sequential, two-step review approach was followed so as to compile a database of relevant TM articles for our bibliometric and content analyses.

3.1 Data collection and cleaning

Using the search terms 'digital' and 'talent management', we conducted a thorough search of the Scopus database to collate relevant scholarly articles. Our search parameters were aligned with best practices in bibliometric research, focusing exclusively on English-language, peer-reviewed academic journal articles that featured 'digital' and 'talent management' in their title, abstract, or keywords. This approach excluded specific document types such as brief communications, commentaries, editorial notes, symposia, presentation slides, and book reviews. Our initial query returned 138 articles.

To refine our dataset, we applied a date range filter for articles published between 2011 and 2023, which led to the exclusion of 9 articles. Further screening based on the subject area—specifically targeting Business Management and Accounting—resulted in the removal of 52 additional articles. A language filter was also applied, excluding 2 articles not published in English. This rigorous screening process culminated in a selection of 75 articles.

These articles were then subjected to a detailed bibliometric analysis using the tool Vos Viewer, allowing for an in-depth examination of the interconnectivity and thematic clusters within the literature. The resulting collection, representing a comprehensive assemblage of knowledge on the confluence of digital trends and talent management strategies, serves as the empirical foundation for our investigation, offering a robust platform from which to draw insights and conclusions on the topic.

3.2 Data analysis

For our analysis, we harnessed the search terms 'digital' and 'talent management' within the Scopus database, yielding an initial set of 138 articles. Our data filtration process, which included screening for publication dates between 2011 and 2023, as well as subject relevance to Business Management and Accounting, and language criteria, refined this to 75 articles eligible for bibliometric analysis via Vos Viewer.

Adopting a coding template informed by seminal TM literature reviews (e.g., Cappelli & Keller, 2014; Collings & Mellahi, 2009), we structured our coding schema around several dimensions such as research questions, methodologies, and theoretical frameworks. After a pilot coding of a subset of articles for consistency, the remaining articles were systematically coded. During this process, articles that did not fit the coding template due to lack of academic focus or inadequate discussion on talent management were excluded. This stringent vetting led to a distilled set of articles, which were then thoroughly analyzed for insightful trends and patterns in the intersection of digitalization and talent management practices.

4 Bibliometric analysis

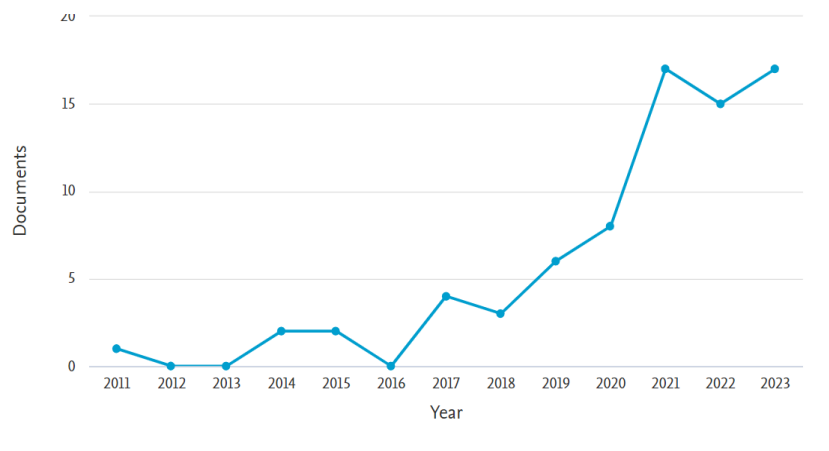


Fig. 1. Annual Publication Trends in Digital Talent Management (2011-2023)

The depicted graph illustrates the publication trend of documents from 2011 to 2023 related to 'digital' and 'talent management'. A notable uptick in publications begins in 2016, marking increased scholarly attention to these areas. The sharp rise in 2021 suggests a peak of interest or a response to particular industry developments or technological breakthroughs. Although there is a slight dip in 2022, the overall trend suggests that the topics remain of significant interest to the academic community, maintaining a relatively high publication count in 2023. This enduring interest highlights the ongoing relevance of digital capabilities within talent management strategies as critical areas of study and practice in the evolving digital economy.

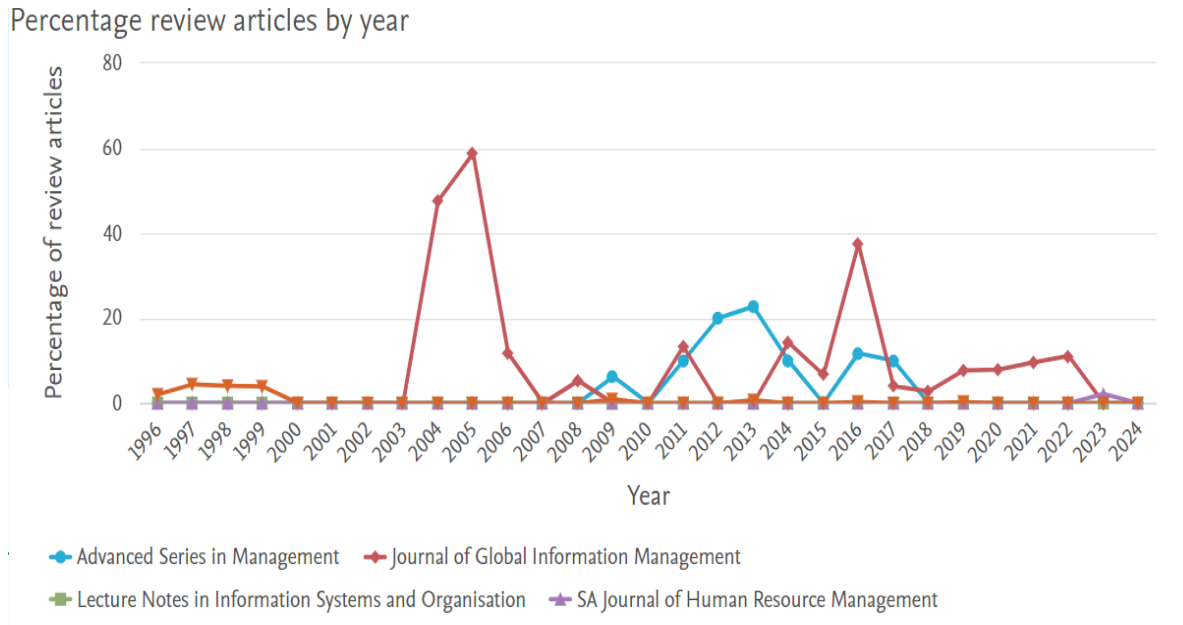


Fig. 2. Proportion of Review Articles in Key Journals on Digital Transformation and Talent Management

This line graph depicts the percentage of review articles published by year across various academic journals from 1996 to 2024. It reveals notable fluctuations in the proportion of review articles over time. A significant peak is observed in the Journal of Global Information Management around the year 2005, indicating a period where review articles constituted a dominant share of the journal's publications. This could suggest a concentrated scholarly effort to synthesize existing knowledge or assess the state of research in the field during that time.

From 2011 onwards, the percentage of review articles generally trends downwards across the journals, suggesting a potential shift towards empirical or original research in recent years or a broader diversification in article types. The South African Journal of Human Resource Management maintains a relatively stable, though minor, presence throughout the observed period, implying a consistent contribution to the review literature without significant variance.

Rank	Document Title	Authors	Source	Year	Citations
1	How does the digital transformation affect organizations? Key themes of change in work design and leadership	Schwarz Müller, T., Brosi, P., Duman, D., Welp, I.M.	Management Revue	2018	196
2	Creating an innovative digital project team: Levers to enable digital transformation	Guinan, P.J., Parise, S., Langowitz, N.	Business Horizons	2019	103
3	Mastering the digital transformation process: Business practices and lessons learned	Ivančić, L., Vukšić, V.B., Spremić, M.	Technology Innovation Management Review	2019	80
4	Strategic sustainable development of Industry 4.0 through the lens of social responsibility	Mukhuty, S., Upadhyay, A., Rothwell, H.	Business Strategy and the Environment	2022	71
5	Intelligent recruitment: How to identify, select, and retain talents using artificial intelligence	Allal-Chérif, O., Yela Aránega, A., Castaño Sánchez, R.	Technological Forecasting and Social Change	2021	46
6	Managing digital transformation: The view from the top	Fernandez-Vidal, J., Antonio Perotti, F., Gonzalez, R., Gasco, J.	Journal of Business Research	2022	43
7	Business innovation and critical success factors in the era of digital transformation and turbulent times	Florek-Paszkowska, A., Ujwary-Gil, A., Godlewska-Dzioboń, B.	Journal of Entrepreneurship, Management and Innovation	2021	40
8	Elevating talents' experience through innovative artificial intelligence-mediated knowledge sharing	Malik, A., De Silva, M.T.T., Budhwar, P., Srikanth, N.R.	Journal of International Management	2021	39
9	Practical insights for sales force digitalization success	Zoltners, A.A., Sinha, P., Sahay, D., Shastri, A., Lorimer, S.E.	Journal of Personal Selling and Sales Management	2021	34
10	Managing digital enterprise: Ten essential topics	Xu, J.	Managing Digital Enterprise: Ten Essential Topics	2014	32

Table 1. Top cited publications on Talent management in the digital transformation era

Documents by country or territory

Compare the document counts for up to 15 countries/territories.

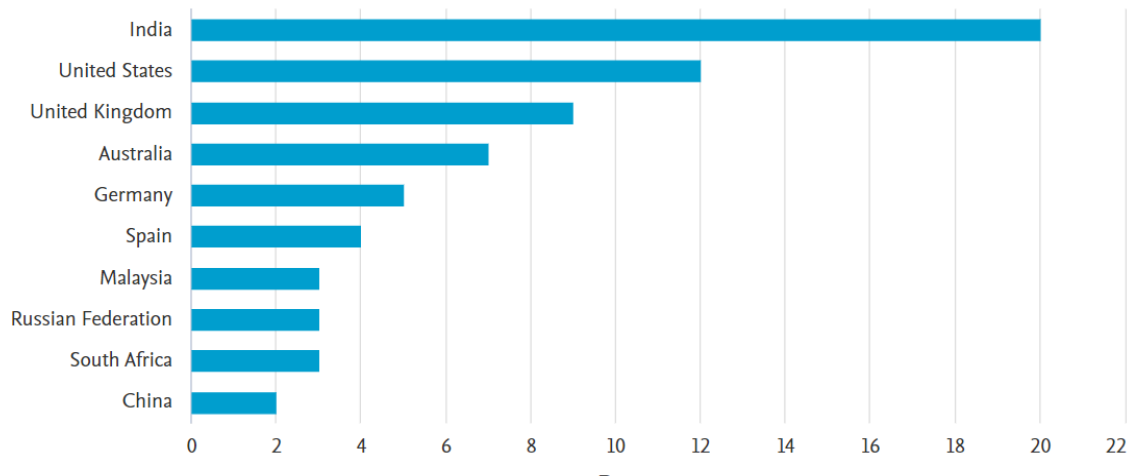


Fig. 3. Distribution of Research Documents by Country in Digital Talent Management

The bar graph displays the distribution of documents by country or territory, showcasing the global contributions to the research on 'digital' and 'talent management'. India emerges as the leading contributor, followed closely by the United States, with both countries exceeding 20 documents. The United Kingdom, Australia, and Germany also show significant scholarly output, indicating a strong research interest in these regions. Spain, Malaysia, the Russian Federation, South Africa, and China demonstrate a moderate level of contributions.

This geographical distribution reflects a diverse international interest in the subject, with the highest concentration of research emanating from India. This may suggest a particular emphasis or developmental focus within these regions on integrating digital innovations within talent management practices. Such a distribution underscores the universal relevance and multifaceted perspectives that characterize the research in this area.

Documents by funding sponsor

Compare the document counts for up to 15 funding sponsors.

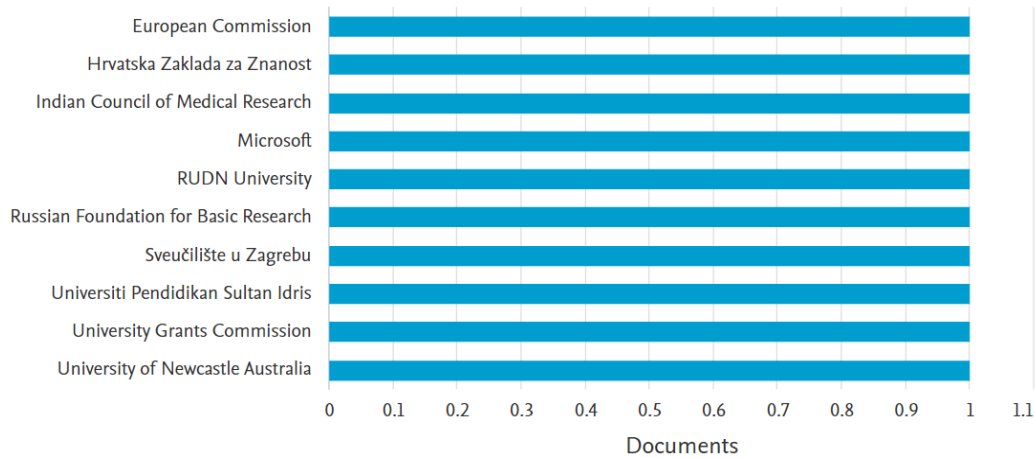


Fig. 4. Research Funding Sources for Digital Talent Management Studies

The analysis reveals the European Commission as the foremost sponsor in research related to 'digital' and 'talent management,' indicating its significant commitment to fostering innovation within this domain. Additionally, substantial contributions from organizations such as Hrvatska Zaklada za Znanost, the Indian Council of Medical Research, and Microsoft highlight the cross-sectoral interest and investment in these research areas.

Educational institutions such as RUDN University, Sveučilište u Zagrebu, Universiti Pendidikan Sultan Idris, and University of Newcastle Australia, alongside research bodies like the Russian Foundation for Basic Research and the University Grants Commission, also contribute to this research landscape. This diversity in funding sources demonstrates a collective acknowledgment of the significance of digital transformation and talent management across different domains and geographical regions.



Fig. 5. Co-occurrence Map of Key Terms in Digital Talent Management Literature

The co-occurrence network depicted highlights 'talent management' as the central node, indicating its pivotal role in the researched literature. Strongly linked to this are nodes representing 'digital transformation' and 'human resource management,' reflecting a tight integration of digital technology within traditional talent management frameworks. The robust interconnectivity between 'talent management' and 'digital' suggests that the discourse is heavily centered on how digitalization reshapes talent strategies. Surrounding nodes, including emerging technologies like 'blockchain' and data-centric themes such as 'big data', demonstrate the field's evolution toward incorporating technological advancements. The vibrant links signify a field in dynamic conversation with itself, constantly integrating new digital dimensions into the talent management narrative.



Fig. 6. Co-authorship mapping in the field of Digital Talent Management via VOSViewer

In this co-authorship network, the proximity of authors indicates collaborative ties, with the size of each node reflecting the volume of their contributions to the field of digital talent management. Central and larger nodes represent authors with a higher number of co-authored works, suggesting they are key influencers or hubs within this research community. The dense clusters of authors signify concentrated collaborations, likely representing research groups or institutions with a strong focus on this interdisciplinary field. The visible paths connecting different author nodes across the network indicate cross-collaborative efforts, which are essential for the diffusion of ideas and the advancement of knowledge in the dynamic area of digital talent management.

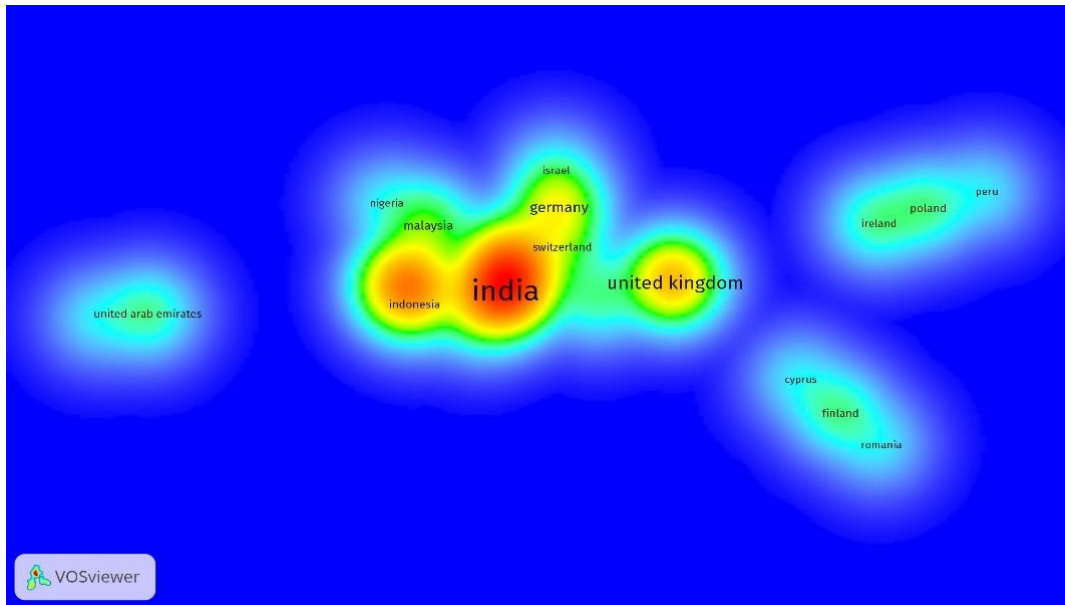


Fig. 7. Co-authorship Patterns by Country in Digital Talent Management Research

The density visualization map highlights India as a focal point of collaboration in digital talent management research, with the United Kingdom and Germany also showing significant scholarly networks. The intensity of the color indicates the strength of co-authorship, with warmer colors signifying more dense and active research clusters. Regions represented in cooler colors, like the United Arab Emirates and Peru, point to developing research activities. This visualization underscores the global collaboration in the field and identifies key regions contributing to the growth of knowledge in digital talent management.

5 Discussion and conclusion

This bibliometric analysis offers a panoramic view of the burgeoning nexus between talent management and digital transformation within the scholarly landscape from 2011 to 2023. The ascendant publication trend observed underscores a palpable shift in organizational priorities, delineating the rising importance of digital competencies amidst the ever-evolving business paradigms.

Central to our findings is the revelation that talent management, a field traditionally focused on human-centric strategies, is increasingly intertwined with digital technology's transformative potential. The research corpus suggests a dual trajectory where digitalization is not only influencing talent acquisition and retention but also necessitating a reconfiguration of leadership roles to navigate the complexities of the digital era.

The interplay of digital technologies such as artificial intelligence, blockchain, and data analytics with talent management practices has catalyzed innovative approaches to human resource strategies. These technologies are reshaping the talent landscape, yielding new insights into employee experience enhancement, talent development, and intelligent recruitment.

Notably, the geographical dispersion of research, with a preeminent focus stemming from India, indicates a global acknowledgment of the digital revolution's impact on talent management. This implies that the digital shift transcends boundaries, demanding attention from both academia and industry worldwide.

In conclusion, our bibliometric exploration reveals that the integration of digital transformation within talent management is not merely a trend but a strategic imperative. Organizations and leaders must therefore embrace this synergy, fostering a culture that is agile, technologically adept, and strategically poised for continuous innovation. Future research should aim to delineate best practices and frameworks that operationalize this integration, ensuring that the human element of organizations evolves in harmony with technological advancements.

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