

Flexible Work Arrangements: A Bibliometric Review

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ABSTRACT

This study presents a comprehensive bibliometric analysis of Flexible Work Arrangements (FWAs) to explore the intellectual structure, research trends, and thematic evolution within the field. Using data retrieved from the Scopus database covering the period 2000–2026, this study applies bibliometric techniques including co-authorship, citation analysis, keyword co-occurrence, and visualization using VOSviewer. The findings reveal a significant increase in FWA-related publications, particularly after the COVID-19 pandemic, indicating the growing importance of flexible work in contemporary organizational contexts. The results identify key research clusters centered on work–life balance, job satisfaction, employee well-being, and remote work practices. Additionally, the analysis highlights the dominance of developed countries such as the United States and China in knowledge production, while emerging economies show increasing participation. The thematic evolution demonstrates a shift from traditional human resource management perspectives toward multidisciplinary approaches incorporating digital transformation, mental health, and workplace sustainability. This study contributes to the literature by providing a structured overview of FWA research, identifying influential contributions, and highlighting future research directions, particularly in cross-cultural and long-term organizational impacts of flexible work systems.

Keywords: *Flexible Work Arrangements, Bibliometric Analysis, Remote Work, Work–Life Balance, VOSviewer*

1. INTRODUCTION

The nature of work has undergone profound transformation over the past two decades, driven by rapid advancements in digital technologies, globalization, and evolving workforce expectations. Among the most significant developments is the increasing adoption of Flexible Work Arrangements (FWAs), which encompass practices such as remote work, telecommuting, flexible scheduling, compressed workweeks, and hybrid work models [1], [2]. These arrangements have shifted traditional conceptions of work from rigid, location-bound systems to more adaptive and employee-centered configurations. Initially implemented as a means to enhance work–life balance and employee satisfaction, FWAs have evolved into strategic organizational tools aimed at improving productivity, talent retention, and operational resilience [3], [4].

The relevance of FWAs has been further amplified by global disruptions, most notably the COVID-19 pandemic, which accelerated the widespread adoption of remote and hybrid work models across industries [5], [6]. Organizations worldwide were compelled to rapidly reconfigure their work structures, leading to an unprecedented natural experiment in flexible working. This shift has not only transformed organizational practices but has also stimulated a surge in academic research examining the implications of FWAs on employee well-being, organizational performance, leadership dynamics, and digital collaboration [3], [4]. As a result, the body of literature on FWAs has expanded significantly, reflecting diverse disciplinary perspectives including management, human resource development, psychology, and information systems.

Despite this growing volume of research, the existing literature remains fragmented, with studies often focusing on specific dimensions of FWAs without providing a comprehensive overview of the field. Prior research has predominantly adopted empirical or conceptual approaches, investigating isolated relationships such as the impact of flexible work on job satisfaction,

performance outcomes, or work–life balance [7], [8], [9]. While these studies offer valuable insights, they do not collectively map the intellectual structure, thematic evolution, and collaborative networks that define the broader research landscape. Consequently, there is a need for a systematic and integrative approach to synthesize the existing body of knowledge and identify emerging research directions [10], [11], [12].

Bibliometric analysis offers a robust methodological framework to address this gap by quantitatively analyzing large volumes of scholarly data. Through techniques such as citation analysis, co-authorship mapping, and keyword co-occurrence analysis, bibliometric methods enable researchers to uncover patterns of knowledge production, influential contributions, and evolving research themes. In the context of FWAs, such an approach is particularly valuable for understanding how the field has developed over time, which topics have gained prominence, and where future research opportunities lie. Moreover, bibliometric analysis provides an objective and replicable means of evaluating the structure and dynamics of academic research, making it well-suited for comprehensive literature reviews in rapidly evolving domains.

Although several review studies have explored aspects of flexible work, most have relied on traditional narrative or systematic review methods, which may be limited in capturing the full complexity of the research landscape. Few studies have employed bibliometric techniques to examine FWAs comprehensively, especially over an extended time horizon that includes recent developments in hybrid work and digital transformation. This gap underscores the necessity of a bibliometric review that not only synthesizes existing knowledge but also visualizes the intellectual structure and identifies key research clusters within the field.

In response to this need, the present study conducts a bibliometric review of FWAs using data from the Scopus database, covering publications from 2000 to 2026. By applying advanced bibliometric techniques and visualization tools such as VOSviewer, this study aims to map the evolution of FWA research, identify influential authors and journals, and uncover dominant and emerging themes. Specifically, the study addresses the following research objectives: (1) to analyze the growth and distribution of publications on FWAs; (2) to identify key contributors and collaboration networks; (3) to examine the intellectual structure through citation and co-citation analysis; and (4) to explore thematic trends using keyword co-occurrence analysis.

The contributions of this study are threefold. First, it provides a comprehensive and systematic overview of the FWA research landscape, offering insights into its development and current state. Second, it identifies research gaps and emerging themes that can inform future scholarly inquiry. Third, it offers practical implications for organizations and policymakers by highlighting the evolving priorities and challenges associated with flexible work. By integrating quantitative bibliometric techniques with a critical interpretation of the findings, this study seeks to advance the understanding of FWAs and support the development of more effective and sustainable work practices in the digital era.

2. METHODS

This study employs a bibliometric analysis approach to systematically examine the scientific landscape of Flexible Work Arrangements (FWAs). Bibliometric analysis is widely recognized as a robust quantitative method for evaluating large volumes of academic literature by identifying patterns in publication output, citation structures, and thematic development [13], [14]. The data for this study were retrieved from the Scopus database, chosen due to its comprehensive coverage of high-quality, peer-reviewed journals across multiple disciplines. The search was conducted using a

combination of keywords such as “flexible work arrangements,” “remote work,” “telecommuting,” “hybrid work,” and related terms, focusing on publications from 2000 to 2026. Inclusion criteria were limited to journal articles written in English to ensure consistency and relevance, while conference papers, book chapters, and non-peer-reviewed sources were excluded. The final dataset was exported in CSV format for further analysis.

The analytical process consisted of several stages, including data cleaning, normalization, and bibliometric mapping. Duplicate records and irrelevant entries were removed to ensure data accuracy. Subsequently, the dataset was analyzed using VOSviewer to construct and visualize networks of co-authorship, citation, and keyword co-occurrence [15], [16], [17]. Co-authorship analysis was conducted to identify collaboration patterns among researchers and countries, while citation and co-citation analyses were used to determine the most influential authors, journals, and documents within the field. In addition, keyword co-occurrence analysis was performed to uncover major research themes and track their evolution over time. These techniques enable the identification of intellectual structures and thematic clusters that characterize the development of FWA research.

To enhance the reliability and interpretability of the findings, this study adopts a descriptive and exploratory research design. The results are presented through network visualizations and supported by narrative interpretation to explain the relationships among variables and emerging trends. Threshold values, such as minimum number of documents or citations, were applied in the visualization process to focus on the most significant contributions and avoid noise in the data. While bibliometric analysis provides a comprehensive overview of the research field, it is important to acknowledge its limitations, including database dependency and potential bias toward highly cited publications. Nevertheless, this methodological approach offers a systematic and replicable framework for understanding the evolution, structure, and future directions of research on Flexible Work Arrangements.

3. RESULT AND DISCUSSION

3.1 Author Collaboration Analysis

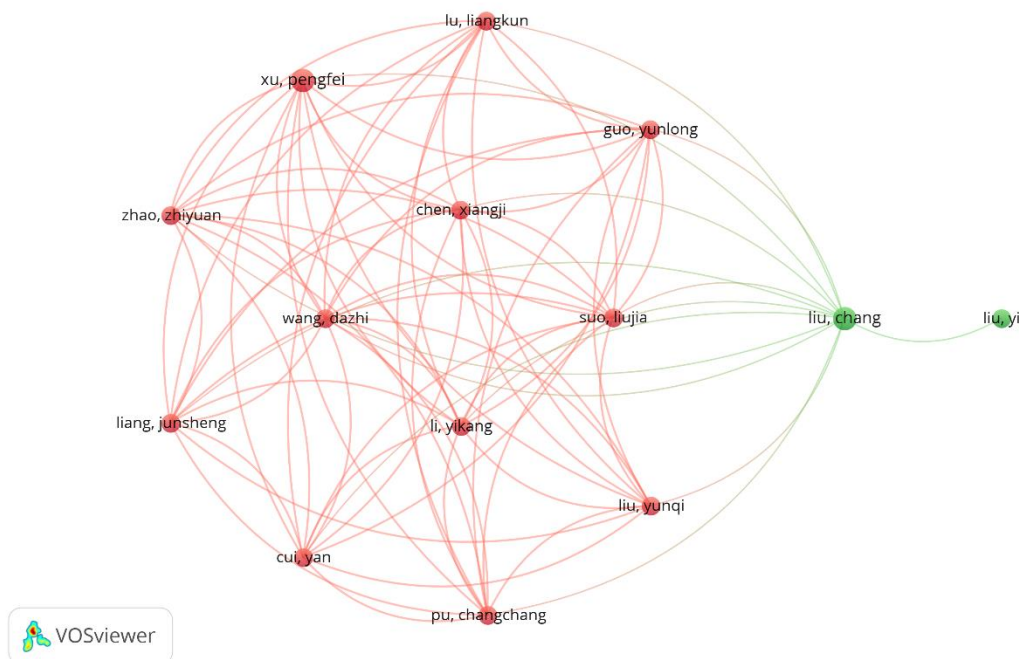


Figure 1. Author Visualization

Source: Data Analysis

Figure 1 illustrates the co-authorship network among researchers in the field of Flexible Work Arrangements, revealing a densely interconnected cluster dominated by authors in the red group. This central cluster indicates a high level of collaboration among core researchers, suggesting the presence of an established and active scholarly community contributing significantly to the development of the field. Authors such as Liu, Liangkun; Chen, Xiangji; and Wang, Dazhi appear as key nodes with multiple connections, highlighting their influential roles in collaborative research networks. In contrast, the smaller green cluster, represented by authors like Liu, Chang and Liu, Yi, shows a more limited and peripheral collaboration pattern, indicating either emerging contributors or more specialized research groups. The overall structure suggests that while the field is strongly interconnected, there are still opportunities to expand cross-cluster collaboration, particularly by integrating less-connected authors into the broader research network to enhance knowledge exchange and global research diversity.

3.2 Country Contribution Analysis

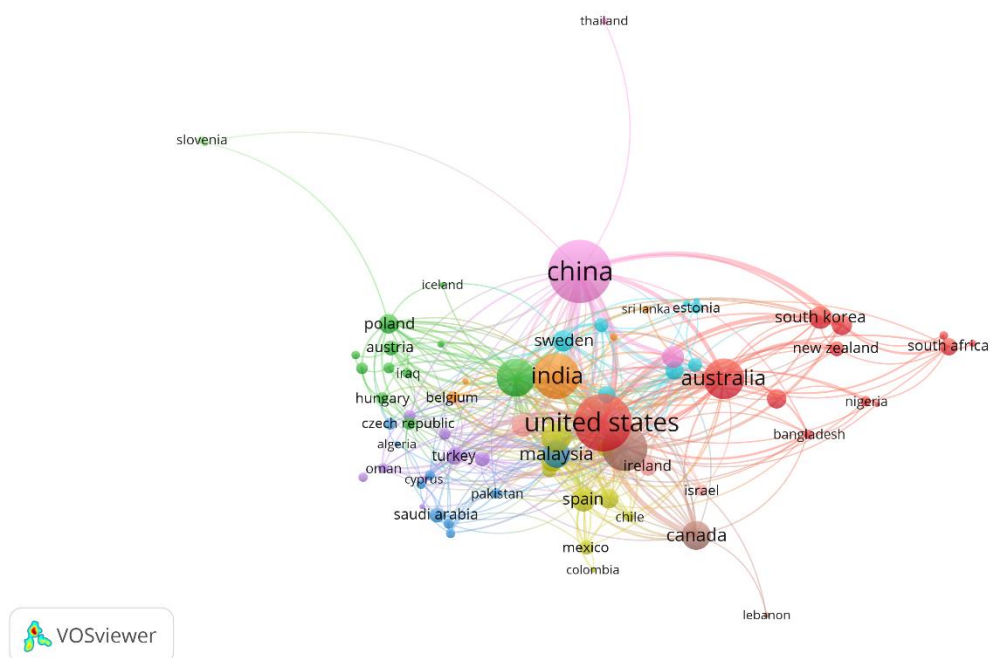


Figure 2. Country Visualization

Source: Data Analysis

Figure 2 presents the country-level collaboration network in Flexible Work Arrangements research, highlighting a globally interconnected structure with several dominant hubs. The United States appears as the most central and influential node, indicating its leading role in knowledge production and international collaboration. It is closely connected with countries such as Australia, Canada, and South Korea, forming a strong collaborative cluster. China also emerges as a major contributor with extensive linkages, particularly bridging collaborations between Asian and Western countries. Meanwhile, India shows a growing presence, reflecting increasing research activity from emerging economies. European countries such as Sweden, Poland, and Spain form smaller but interconnected clusters, suggesting regional collaboration patterns. Additionally, countries like Malaysia, Turkey, and Saudi Arabia indicate expanding participation from developing regions, although their network density remains relatively lower. Overall, the visualization demonstrates that while FWA research is globally distributed, it is still largely driven by a few dominant countries, with increasing contributions and collaboration from emerging economies enhancing the diversity and global reach of the field.

3.3 Citation Analysis: Influential Publications

Table 1. The Most Impactful Literatures

Citations	Authors and year	Title
790	Han, M., Shuck, C.E., Rakhmanov, R., ... Friedman, G., Gogotsi, Y. (2020)	Beyond Ti ₃ C ₂ Tx: MXenes for Electromagnetic Interference Shielding
582	Spreitzer, G.M., Cameron, L., Garrett, L. (2017)	Alternative Work Arrangements: Two Images of the New World of Work
473	Chung, H., van der Lippe, T. (2020)	Flexible Working, Work–Life Balance, and Gender Equality: Introduction
428	<u>Lehdonvirta, V. (2018)</u>	Flexibility in the gig economy: managing time on three online piecework platforms
331	Liu, Y., Aziguli, H., Zhang, B., ... Bernholc, J., Wang, Q. (2018)	Ferroelectric polymers exhibiting behaviour reminiscent of a morphotropic phase boundary
330	Spurk, D., Straub, C. (2020)	Flexible employment relationships and careers in times of the COVID-19 pandemic
254	Alkhatib, I.I., Garlisi, C., Pagliaro, M., Al-Ali, K., Palmisano, G. (2020)	Metal-organic frameworks for photocatalytic CO ₂ reduction under visible radiation: A review of strategies and applications
253	<u>Vyas, L. (2022)</u>	“New normal” at work in a post-COVID world: work–life balance and labor markets
232	Keith Chen, M., Chevalier, J.A., Rossi, P.E., Oehlsen, E. (2019)	The value of flexible work: Evidence from uber drivers
222	<u>Saks, A.M. (2022)</u>	Caring human resources management and employee engagement

Source: Scopus, 2026

Table 1 shows that the most impactful literature in this bibliometric dataset is dominated by studies discussing alternative work arrangements, flexible working, gig work, work–life balance, and post-pandemic employment changes. Spreitzer et al. (2017), Chung and van der Lippe (2020), Lehdonvirta (2018), Spurk and Straub (2020), Vyas (2022), Chen et al. (2019), and Saks (2022) represent the core intellectual foundation of flexible work arrangement research because their works directly address flexibility, employment relationships, employee engagement, labor markets, and work–life balance. These highly cited studies indicate that the field is strongly connected to human resource management, organizational behavior, career studies, and digital labor platforms. However, the presence of several unrelated high-citation articles, such as Han et al. (2020), Liu et al. (2018), and Alkhatib et al. (2020), suggests that the dataset may contain noise caused by broad keyword selection or overlapping terms such as “flexible” in other scientific fields. Therefore, while the table confirms the strong influence of flexibility-related employment literature, it also highlights

the need for careful data cleaning to ensure that the bibliometric analysis accurately reflects the research domain of Flexible Work Arrangements.

3.4 Keyword Co-Occurrence and Research Themes

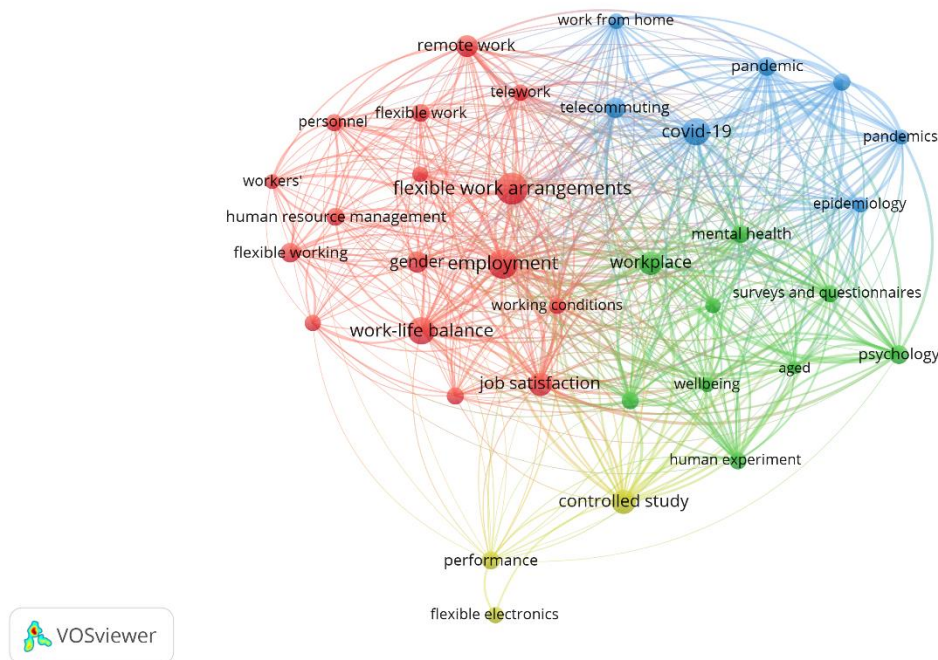


Figure 3. Network Visualization

Source: Data Analysis

Figure 3 presents the keyword co-occurrence network, revealing the intellectual structure of Flexible Work Arrangements research through several interconnected thematic clusters. The red cluster represents the core of the field, centered on “flexible work arrangements,” and strongly linked to themes such as work–life balance, job satisfaction, human resource management, and gender employment, indicating a dominant focus on organizational and employee-related outcomes. The blue cluster highlights the impact of external shocks, particularly the COVID-19 pandemic, with keywords such as remote work, telework, telecommuting, and work from home, showing how the pandemic has accelerated research on digital and location-independent work practices. Meanwhile, the green cluster reflects psychological and health-related dimensions, including mental health, wellbeing, workplace, and psychology, emphasizing the growing concern for employee well-being in flexible work contexts. Lastly, the yellow cluster, although smaller, connects to performance and experimental approaches, suggesting emerging interest in measuring productivity and evaluating flexible work through empirical methods. Overall, the network demonstrates that FWA research is multidisciplinary and evolving, shifting from traditional HR-focused themes toward a more integrated perspective that includes digital transformation, health, and performance outcomes.

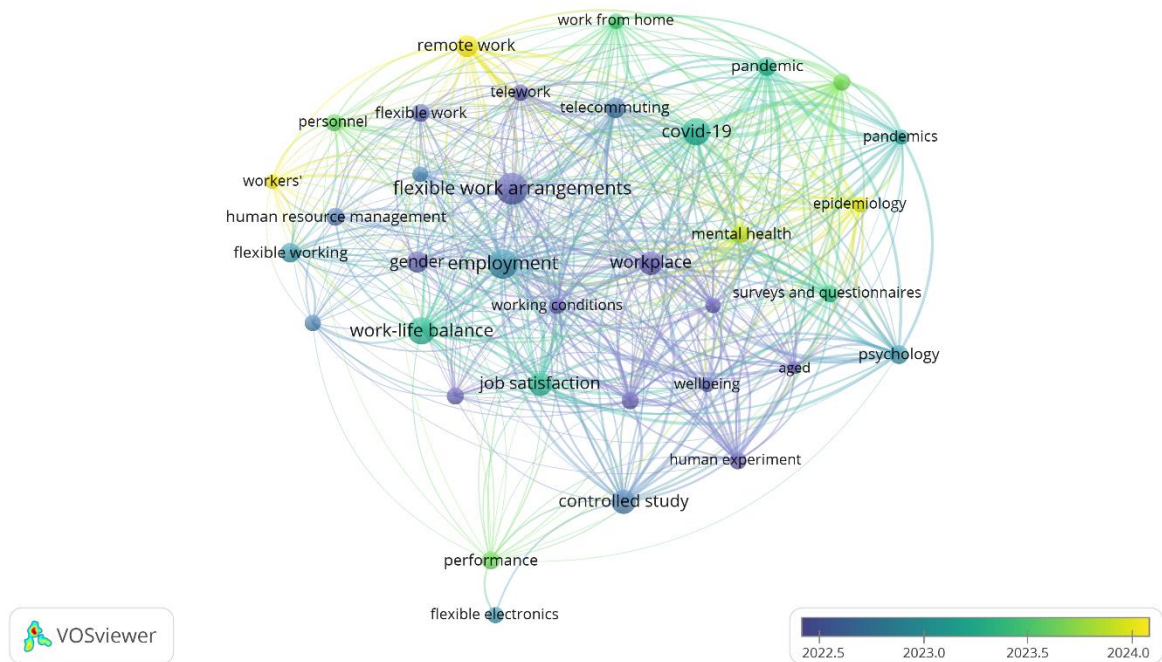


Figure 4. Overlay Visualization

Source: Data Analysis

Figure 4 presents the overlay visualization, which illustrates the temporal evolution of research themes in Flexible Work Arrangements based on average publication year. Earlier studies (indicated by darker blue tones) are primarily associated with foundational topics such as job satisfaction, work–life balance, human resource management, and flexible working, reflecting the initial focus on employee outcomes and organizational practices. As the field progresses (green tones), there is a noticeable shift toward themes like workplace, wellbeing, mental health, and telecommuting, indicating growing attention to psychological and environmental aspects of flexible work. More recent studies (yellow tones) are strongly linked to keywords such as COVID-19, pandemic, remote work, and work from home, highlighting the significant impact of global disruptions in reshaping research priorities. This temporal pattern demonstrates that FWA research has evolved from traditional HR-focused discussions into a more dynamic and multidisciplinary domain, increasingly influenced by digital transformation and global crises. It also suggests that future research will likely continue to explore hybrid work models, long-term wellbeing, and the sustainability of flexible work systems in a post-pandemic world.

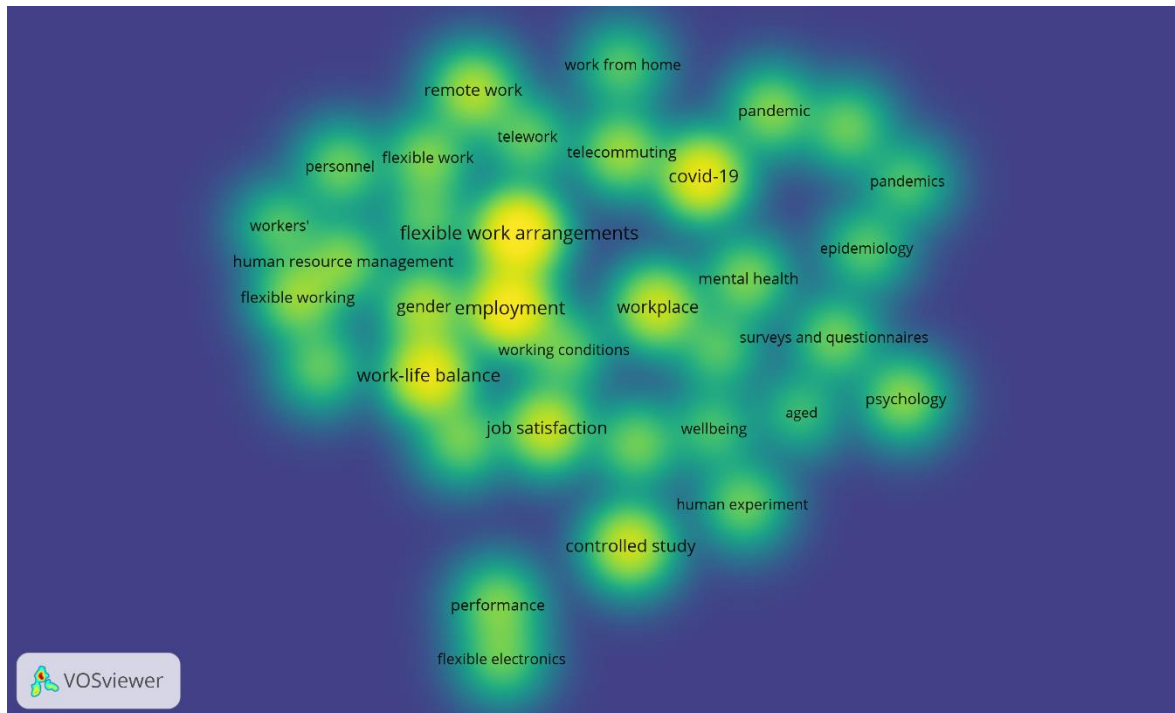


Figure 5. Density Visualization

Source: Data Analysis

Figure 5 presents the density visualization, highlighting the most intensively researched and frequently occurring keywords within the Flexible Work Arrangements literature. Areas with brighter yellow intensity indicate higher concentration and significance, with “flexible work arrangements,” “work-life balance,” “gender employment,” and “job satisfaction” emerging as the core focus of the field. This suggests that the literature is heavily centered on employee-related outcomes and organizational implications of flexibility. Surrounding these core themes, moderately dense areas (green tones) include topics such as “remote work,” “telecommuting,” “workplace,” and “mental health,” reflecting the integration of digital work practices and psychological well-being into the research agenda. Notably, terms like “COVID-19” and “pandemic” also appear with relatively high density, confirming their strong influence in recent studies. In contrast, less dense (blue-green) areas such as “performance,” “human experiment,” and “flexible electronics” indicate emerging or less explored topics. Overall, the visualization demonstrates that while the field is anchored in traditional HR and work–life balance discussions, it is progressively expanding toward multidisciplinary themes, particularly those related to digital transformation and employee well-being.

Discussion

The findings of this bibliometric analysis demonstrate that research on Flexible Work Arrangements (FWAs) has evolved into a dynamic and multidisciplinary field, driven by both technological advancements and global disruptions. The significant growth in publications, particularly after the COVID-19 pandemic, confirms that flexible work is no longer a peripheral topic but a central issue in organizational and labor studies. The dominance of themes such as work–life balance, job satisfaction, and employee well-being reflects the continued importance of human-centered perspectives in understanding FWAs [5], [6], [18]. At the same time, the emergence of remote work, telecommuting, and hybrid models indicates a structural shift toward digital and location-independent work systems.

Furthermore, the co-authorship and country collaboration analyses reveal that knowledge production in this field is still concentrated in developed countries, particularly the United States,

China, and several European nations. These countries act as central hubs in global research networks, facilitating collaboration and shaping the direction of scholarly discourse. However, the increasing participation of emerging economies such as India and Malaysia suggests a gradual diversification of research contributions. This trend is important, as it enables the inclusion of different socio-economic and cultural contexts, which are essential for understanding the global applicability of FWAs. Nevertheless, the relatively lower network density in developing regions highlights the need for more inclusive and collaborative international research efforts [3], [4].

The keyword network and density visualizations further indicate that the intellectual structure of FWA research is strongly anchored in organizational and psychological outcomes, while also expanding into new areas influenced by external factors such as the pandemic. The prominence of mental health, wellbeing, and workplace-related terms suggests that researchers are increasingly concerned with the long-term sustainability of flexible work practices. In addition, the presence of experimental and performance-related keywords indicates a growing interest in measuring the effectiveness of FWAs using empirical approaches. This shift reflects a maturation of the field, moving from conceptual discussions toward more rigorous and evidence-based analyses.

Finally, the overlay visualization highlights the temporal evolution of research themes, showing a clear transition from traditional HR-focused topics to more contemporary issues such as digital transformation and crisis-driven work adaptation. This evolution suggests that future research will likely focus on hybrid work models, digital fatigue, organizational resilience, and the role of emerging technologies such as artificial intelligence in shaping flexible work environments. Overall, this study not only maps the current state of FWA research but also provides a forward-looking perspective, emphasizing the need for integrative, cross-disciplinary, and globally inclusive studies to better understand the complexities of flexible work in the modern era.

CONCLUSION

This study provides a comprehensive bibliometric overview of Flexible Work Arrangements research, demonstrating its rapid growth and increasing relevance in the modern work environment. The findings confirm that FWAs have evolved from a focus on work-life balance and employee satisfaction to a broader, multidisciplinary field encompassing digital transformation, mental health, and organizational performance. The dominance of developed countries in research output highlights existing disparities in knowledge production, while the growing contribution of emerging economies suggests a shift toward more globally inclusive perspectives. Furthermore, the identification of key research clusters and thematic trends indicates that future studies will likely focus on hybrid work models, long-term employee well-being, and the integration of advanced technologies in flexible work systems. Despite its contributions, this study acknowledges limitations related to database selection and potential data noise, emphasizing the need for further research using diverse data sources and refined methodologies. Overall, this study offers valuable insights for academics, practitioners, and policymakers, providing a foundation for future research and strategic decision-making in the evolving landscape of flexible work.

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