

International Journal of Business and Management Technology in SocietyAvailable at <https://journal.its.ac.id/index.php/ijbmst/>**The Impact of Flexible Workspaces on Employees' Performance:
A Bibliometric Review and Future Research Directions**Syarifa Hanoum¹, Muhammad Haris Jauhari², Amilia Azzahro³, Ika Safitri⁴, Uliyatun Nikmah⁵, Mahmood Shubbak⁶^{1,2,3,4,5}Department of Business Management, Institut Teknologi Sepuluh Nopember, Indonesia^{1,6}College of Economics and Political Science, Sultan Qaboos University, Oman**Article History**

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International Journal of Business and Management Technology in Society, 2(1), 45-60.**Abstract**

Purpose – This study investigates how flexible workspaces influence employee performance, assess their advantages and disadvantages, and identify untapped research potential in this evolving field, contributing to understanding of this transformative work environment.

Methodology – This study employs a bibliometric approach and content analysis to analyze 104 full-text relevant documents from Scopus and Web of Science database.

Findings – Flexible workspaces generally enhance employee performance by improving well-being, collaboration, autonomy, and work-life balance, particularly following COVID-19, but they may also introduce challenges such as reduced face-to-face interaction and increased distractions, thus require careful implementation in organizations.

Originality – This study synthesizes studies published between 2020 and 2023 to identify dominant themes, research gaps, and future directions on the relationship between flexible workspaces and employee performance in the post-pandemic context.

Research limitations – This study is limited to bibliometric and content analysis of publications from 2020–2023, a period dominated by COVID-19–driven implementations of flexible workspaces.

Practical implications – Managers can optimize flexible workspace benefits through ergonomic, customizable designs and a balanced integration of open and private spaces to support focus and teamwork. Strategic use of technology and hybrid work policies further promote collaboration, minimize distractions, and reinforce organizational culture to lead sustained performance.

Introduction

The adoption of flexible workspaces, accelerated by the COVID-19 pandemic, has fundamentally transformed traditional work environments. Flexible workspaces are commonly defined as arrangements that provide employees with autonomy over time, location, and work structure. In recent years, this concept has become central to discussions on contemporary workplace dynamics. In the Indonesian context, the shift toward flexibility has primarily manifested through remote work, enabling employees to perform their duties virtually from any

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location. Global workspace analytics data from 2020 indicate that approximately 54.5 million Indonesian workers transitioned to remote work, with 77% reporting increased productivity. Nevertheless, the impact of this transition has not been consistent, as outcomes varied depending on job roles, personal circumstances, and individual work habits.

The growing prevalence of flexible workspaces reflects a broader transformation in conventional work arrangements and forms part of the ongoing evolution of the global workforce. This shift was further intensified by the unprecedented disruptions caused by the COVID-19 pandemic. As organizations faced mounting pressure to remain adaptable in an increasingly uncertain environment, the concept of flexible workspaces underwent substantial redefinition. Rather than being limited to physical workspace adjustments, contemporary interpretations now encompass a more holistic framework that integrates spatial flexibility, temporal autonomy, and diverse work arrangements (Tan et al., 2020). This expanded understanding highlights the role of flexible workspaces in addressing the diverse needs of a modern workforce seeking to balance professional responsibilities with personal demands (Haapakangas et al., 2018).

The global spread of COVID-19 compelled organizations to critically reassess established work practices. Large segments of the workforce were required to work remotely, prompting organizations to redefine flexibility as a strategic necessity rather than an optional benefit. Consequently, the adoption of flexible workspaces gained momentum as organizations sought to sustain productivity while safeguarding employee well-being during periods of disruption. This impact was particularly evident in Indonesia, where millions of employees transitioned from conventional office-based work to remote arrangements. Within this context, flexible workspaces, characterized by employees' ability to choose when, where, and how work is performed, emerged as a key organizational response to the challenges posed by the pandemic. Work activities were no longer confined to traditional offices but extended to homes, cafés, and other alternative locations.

According to global workspace analytics reported in 2020, approximately 54.5 million Indonesian employees worked from home during the pandemic, with a substantial proportion experiencing positive productivity outcomes. These gains have been attributed to factors such as reduced commuting time, increased autonomy in designing work environments, and greater flexibility in managing work schedules. However, it is important to recognize that such benefits were not experienced equally by all employees. The effectiveness of remote work and flexible arrangements varied considerably, influenced by factors including occupational characteristics, household conditions, and individual work preferences (Demerouti, 2023).

This study aims to investigate the impact of flexible workspaces on employee performance and to offer insights into the advantages and disadvantages of implementing flexible workspaces in Indonesia. Three main research objectives guide this study: (1) How does the use of flexible workspaces influence employee performance? (2) What are the benefits (and disadvantages) of implementing flexible workspaces in terms of their impact on employee performance? (3) What research potential can be developed from implementing flexible workspaces on employee performance? To address these objectives, this study employs a bibliometric approach, reviewing existing literature to identify key themes, trends, and gaps in the research on flexible workspaces and their impact on employee performance. The significance of adopting a bibliometric approach lies in its capacity to systematically analyze and map the scholarly landscape related to flexible workspaces and employee performance. By scrutinizing a vast array of published works, this method allows for a comprehensive understanding of the prevailing themes and trends in existing literature.

This variability underscores the importance of examining the relationship between flexible workspaces and employee performance. Despite the growing interest in flexible work arrangements, there remains a notable lack of focused research that systematically addresses this intersection. Bibliometric analysis offers a valuable approach for mapping existing

scholarly contributions, identifying dominant themes, and revealing underexplored areas within literature. Accordingly, this study aims to contribute to the emerging body of knowledge on flexible workspaces and employee performance by synthesizing existing research and outlining directions for future research, as well as supporting evidence-based decision-making in organizational policy and workplace design.

Literature Review

2.1 Flexible Workspaces

The COVID-19 pandemic has caused unprecedented challenges to public health systems and the global economy (McKibbin & Fernando, 2020). The impact on the world of work is the implementation of working from home. From this, the term Flexible Workspaces emerged. Flexible Workspaces are workspaces designed to meet the diverse needs of modern workers. So, Flexible Workspaces can also be called a work mechanism, where workers get more opportunities and freedom to complete their work. Where workers can be flexible in completing their work. So, employees don't have to go and do it in the office. such as remote work, working from home, and working anywhere. According to Hogarth et al. (2001), Flexible Workspaces means flexibility in working hours, the ability to take time off to meet personal goals and allow staff to work from home. According to Gibson (2003) from an organizational perspective there are three types of flexibility:

1. Contract flexibility: staff are employed on a variety of contracts including outsourced contractors, fixed term contracts and self-employed consultants.
2. Time flexibility: staff work at times that suit the employer and employee.
3. Location flexibility: staff work in the most appropriate location such as working at home, at client locations, in satellite offices, and in other non-office environments.

2.2 Employees' Performance

Employee performance is a dynamic and strategic approach to employees to maintain a high-performance culture within the organization. The goal is to bring out the best in every employee and align them with the long-term vision and mission of the organization. According to employee performance is a function of the interaction between ability and motivation (Robbins and Judge, 2009; Miftahuddin et al., 2025). Performance itself is the result of a series of activity processes carried out to achieve certain goals in the organization (Hanoum, 2021; Hanoum & Islam, 2021). So, employee performance is a result achieved by the employee in his/her work according to certain criteria that apply to a particular job (Rachmad et al., 2024).

The COVID-19 pandemic affects employee's stress that can relate to performance (Wong, 2021). There are three types of stress during the Covid-19 pandemic, namely anxiety due to traditional factors (work stress that occurred both during the pandemic and before the pandemic took place), stress due to the ongoing pandemic (worry about contracting COVID-19, increased workload). So, this research examines the state of employee performance during COVID-19.

2.3 Research Focus

Existing studies on flexible and remote work have provided valuable insights but remain fragmented in terms of focus, method, and scope. Prior research has largely examined work from home and telework in relation to employees' performance, quality of life, and COVID-19 contexts. For instance, Abiddin et al. (2022) emphasized work-from-home arrangements and quality of life using a literature review approach, while Wijegunawardhana (2022) explored remote work in the information technology industry during COVID-19 based on secondary sources. Similarly, Anuprasad et al. (2022) employed bibliometric analysis to map research trends on remote work during the COVID-19 pandemic, and Laumer and Maier (2021) focused on differences between teleworkers and non-teleworkers through a literature review. Although these studies contribute important perspectives, they tend to focus on specific work

arrangements (e.g., telework or work from home), sectoral contexts, or pandemic-related conditions, rather than offering a comprehensive view of flexible workspaces as an evolving concept. Moreover, few studies systematically integrate employees' performance as a central construct using large-scale bibliometric techniques. Addressing this gap, the present study adopts a bibliometric analysis based on Scopus and Web of Science to examine the impact of flexible workspaces on employees' performance, thereby providing a holistic mapping of the intellectual structure, research trends, and future research directions in this field.

Research Methods

This study integrates two complementary analytical approaches: bibliometric analysis and content analysis. The combination of these methods enables a comprehensive examination of the research topic by leveraging both quantitative and qualitative perspectives. Bibliometric analysis refers to a set of research techniques used for the quantitative examination of bibliographic data (Pritchard, 1969). It relies on systematically indexed publications, ensuring methodological rigor through the use of verifiable and objective data sources rather than subjective expert judgment (Zemigala, 2019; Surbakti et al., 2025).

To complement the quantitative focus of bibliometric analysis, content analysis was employed as a qualitative method to examine textual data within the selected publications. Content analysis facilitates the identification of recurring themes, patterns, and contextual insights, allowing for a deeper interpretation of the subject matter (Krippendorff, 2019).

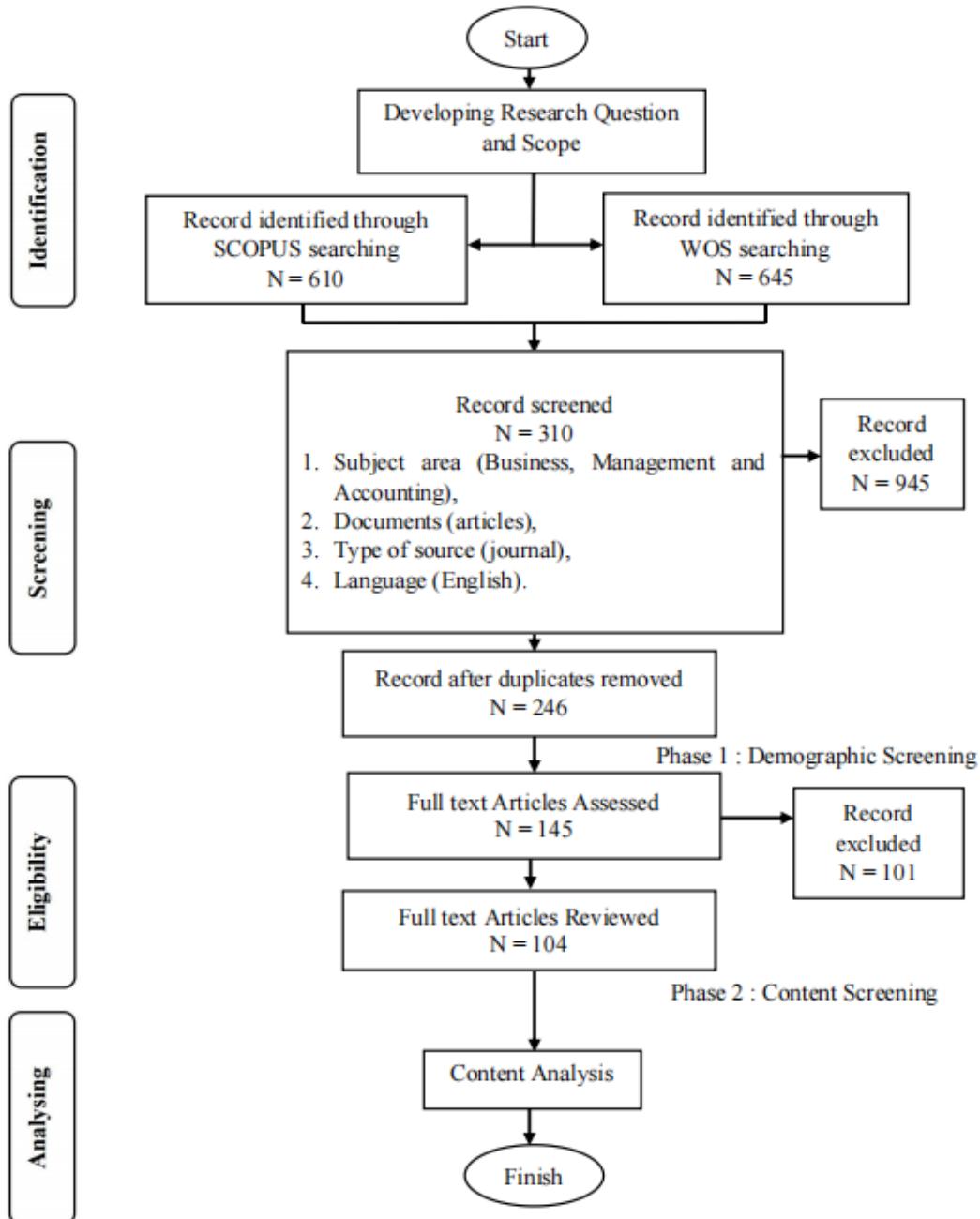
The integration of bibliometric and content analyses provides a robust research framework that captures both the structural characteristics of literature and the substantive insights embedded within it. This combined approach enhances the depth and coherence of the analysis, supporting a more holistic understanding of the research domain and strengthening the reliability of the study's findings.

The following three dimensions are analyzed: 1) Bibliometric citation analysis; 2) Co-authorship bibliometric analysis; 3) Content analysis. The analysis was carried out utilizing the "Bibliometrix" package in RStudio in conjunction with "Biblioshiny" (Aria & Cuccurullo, 2017). By using this package, visualizations are also produced, which can later be interpreted further. This research includes all papers related to flexible workspaces and employee performance. The data sources we use come from two databases, namely Scopus and Web of Science (WoS). To find relevant literature, we used appropriate keywords. The keyword search criteria we use are Flexible Workspace and Employee Performance. Apart from that, the keyword COVID-19 was also added because the emergence of flexible workspaces is closely related to work adaptation to unexpected conditions, namely COVID-19.

In the keyword search process, we applied various possible alternatives (synonyms) to obtain more comprehensive results, so the keywords we use are: ("Flexible Workspaces" OR "Work from Home" OR "Work from Anywhere" OR "Remote Work" OR "Remote Working" OR "Remote Workspaces" OR "work-from-anywhere" OR "Telecommuting" OR "Telework" OR "Mobile Work" OR "Virtual Work" OR "Distributed Work" OR "Home Office" OR "Flex Work" OR "Telecommuter" OR "Anywhere work" OR "Location-independent work" OR "Nomadic work" OR "Borderless work" OR "Remote-anywhere work" OR "Untethered work" OR "Flexible location work" OR "Anyplace employment" OR "Boundaryless work") AND ("Performance" OR "Employee Performance" OR "Staff Performance" OR "Work Performance" OR "Job Performance" OR "Employee Productivity" OR "Labor Performance" OR "Job Efficiency" OR "Employee Effectiveness" OR "Work Contribution" OR "Staff Output" OR "Personnel Achievement" OR "Workforce Effectiveness" OR "Staff Efficiency") AND ("COVID-19" OR "Covid 19" OR "Corona").

Results and Discussion

This section explains the stages of the research using the Systematic Literature Review with reference to the PRISMA Flowchart. There are 4 stages of the review process that must be carried out, including: 1) identification; 2) screening; 3) eligibility; and 4) analysis.



Source: (Data processing)

Figure 2. PRISMA Flow Chart

4.1. Identification process

This research covers all papers related to merger and acquisition strategies in technology companies. The first step is related to the choice of database to extract data for bibliometric analysis. For this review, we used two databases from Scopus and Web of Science. In the second step, we searched for relevant literature using appropriate keywords. There are two criteria for our keyword search, namely mergers and acquisitions plus technology companies. From the keywords used, we obtained 610 articles from Scopus and 645 articles from the Web of Science. For details of the strings that we use can be seen in the following table.

Table 2. Flexible Workspaces, Employees' Performance, and Covid-19 keyword search

Topic	String
Flexible Workspaces	("Flexible Workspaces" OR "Work from Home" OR "Work from Anywhere" OR "Remote Work" OR "Remote Working" OR "Remote Workspaces" OR "work-from-anywhere" OR "Telecommuting" OR "Telework" OR "Mobile Work" OR "Virtual Work" OR "Distributed Work" OR "Home Office" OR "Flex Work" OR "Telecommuter" OR "Anywhere work" OR "Location-independent work" OR "Nomadic work" OR "Borderless work" OR "Remote-anywhere work" OR "Untethered work" OR "Flexible location work" OR "Anyplace employment" OR "Boundaryless work")
Employees' Performance	("Performance" OR "Employee Performance" OR "Staff Performance" OR "Work Performance" OR "Job Performance" OR "Employee Productivity" OR "Labor Performance" OR "Job Efficiency" OR "Employee Effectiveness" OR "Work Contribution" OR "Staff Output" OR "Personnel Achievement" OR "Workforce Effectiveness" OR "Staff Efficiency")
Covid-19	AND ("COVID-19" OR "Covid 19" OR "Corona")
	Full String ("Flexible Workspaces" OR "Work from Home" OR "Work from Anywhere" OR "Remote Work" OR "Remote Working" OR "Remote Workspaces" OR "work-from-anywhere" OR "Telecommuting" OR "Telework" OR "Mobile Work" OR "Virtual Work" OR "Distributed Work" OR "Home Office" OR "Flex Work" OR "Telecommuter" OR "Anywhere work" OR "Location-independent work" OR "Nomadic work" OR "Borderless work" OR "Remote-anywhere work" OR "Untethered work" OR "Flexible location work" OR "Anyplace employment" OR "Boundaryless work") AND ("Performance" OR "Employee Performance" OR "Staff Performance" OR "Work Performance" OR "Job Performance" OR "Employee Productivity" OR "Labor Performance" OR "Job Efficiency" OR "Employee Effectiveness" OR "Work Contribution" OR "Staff Output" OR "Personnel Achievement" OR "Workforce Effectiveness" OR "Staff Efficiency") AND ("COVID-19" OR "Covid 19" OR "Corona")

Source: (Data processing)

4.2 Screening Process

All results obtained from the identification of data are 364 articles in total, that are further filtered and entered based on the criteria. There are six criteria used in this study, namely subject area (Business, Management and Accounting), documents (articles), type of source (journal), language (English). After the screening process, 138 articles were obtained from Scopus and 172 articles from the Web of Science. The information to be exported includes citation information, bibliographical information, abstracts & keywords, and other information. From these two data sources, it was processed using *R Studio* software to remove duplicate data, so that the data obtained was 246 articles.

4.3 Eligibility Process

At this stage a re-check was carried out regarding the literature that has been downloaded, this check is carried out by filtering the data manually by carrying out a thorough abstract understanding. At this stage there are two steps, namely for the first step reviewing the title, abstract, and keywords. In final, 104 full text reviewed articles are analyzed.

4.4 Analysis

4.4.1 Main Information

The data employed can be elucidated by the findings presented in Figure 3.



Source: (Data processing)

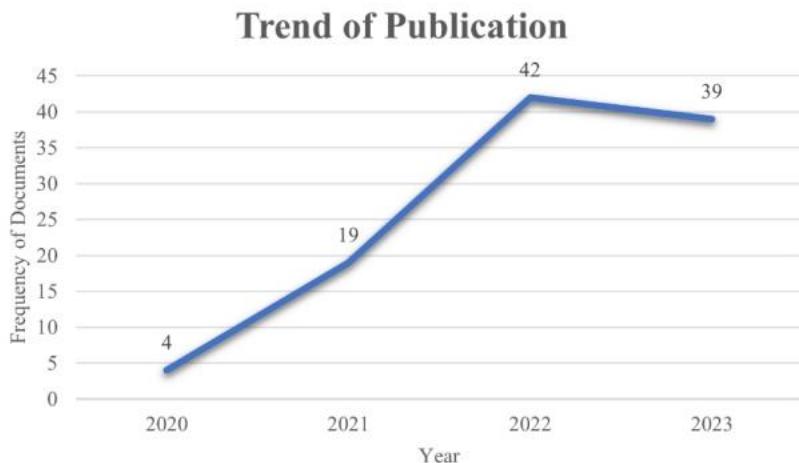
Figure 3. Main Information Data

The bibliometric analysis of the study titled "The Impact of Flexible Workspaces on Employees' Performance: A Bibliometric Review and Future Research Directions" provides a comprehensive overview of the scholarly landscape from 2020 to 2023. The research draws upon 82 diverse sources, including journals, books, and other academic materials, comprising a corpus of 104 documents. Notably, the annual growth rate of 113.63% reflects a heightened interest and productivity in this research domain during the specified timeframe. The average age of documents is 0.885 years, underscoring a focus on recent and contemporary contributions to literature. The average citation rate of 12.77 citations per document suggests a substantive impact, indicating the study's influence within the scholarly community. With 2,841 references, the analysis is firmly grounded in an extensive bibliographic foundation, reflecting the depth and breadth of the literature considered.

The exploration of 299 Keywords Plus (ID) and 340 Author's Keywords highlights the nuanced and multidimensional aspects of the research topic. Involving 287 authors, the collaborative nature of the research is evident, with 10 documents authored by a single individual and an average of 2.85 co-authors per document. The international co-authorship percentage of 11.54% signifies a degree of global collaboration, contributing to a diverse and comprehensive perspective. The document types predominantly consist of articles (95), with additional variations such as "article article" (1) and "article; early access" (8), emphasizing a scholarly focus in literature. Overall, the bibliometric analysis unveils a robust and dynamic landscape, showcasing increasing interest, collaborative efforts, and a rich diversity of sources contributing to the understanding of flexible workspaces and their impact on employee performance.

4.4.2 Publication Trend

Analyzing the trends in publications involves examining shifts and developments in scientific articles within a specific subject or field over a designated timeframe. The findings depicted in Figure 4 illustrate the publication patterns concerning flexible workspaces and their impact on employees' performance from 2020 to 2023, based on a compilation of 104 collected documents.



Source: (Data processing)

Figure. 4 Trends of Publication

The publication trend analysis of the research on "The Impact of Flexible Workspaces on Employees' Performance" reflects a discernible evolution in scholarly output over the specified years. In 2020, there were 4 articles dedicated to this topic, suggesting a relatively modest initiation of research interest. Subsequent years witnessed a substantial growth in publications, with 19 articles in 2021, indicating an increasing attention to the subject. The momentum continued to surge in 2022, with 42 articles contributing to the expanding discourse on flexible workspaces. However, the following year, 2023, saw a slight decline to 39 articles. This fluctuation in output might signify a nuanced shift in research focus, indicating a potential stabilization or reevaluation of the topic. The observed pattern underscores the dynamic nature of scholarly engagement with the impact of flexible workspaces on employees' performance and provides valuable insights into the evolving trends within this research domain.

4.4.3 Trend Topics and Co-word analysis of high-frequency keywords

The sub-chapter on Trend Topics and Co-word Analysis of High-frequency Keywords reveals noteworthy patterns and themes within the research landscape of "The Impact of Flexible Workspaces on Employees' Performance." The analysis, as presented in Table 3 and Table 4, identifies the most prevalent topics and frequently occurring words in the literature.

Table 3. Trend Topic

Topic	Frequency
performance	37
impact	17
metaanalysis	11
job-satisfaction	7
management	6
model	6

Source: (Data processing)

Table 3 presents the frequency distribution of various research topics within the bibliometric analysis. The term "Performance" is the most frequently explored topic, appearing in 37 studies. Following closely is the topic of "Impact," which is the focus of 17 studies. "Meta-analysis" is the subject of 11 studies, indicating a notable interest in this methodological approach. Additionally, "Job Satisfaction" is the central theme in 7 studies, while both "Management" and "Model" have been investigated in 6 studies each. This analysis provides a snapshot of the current landscape of bibliometric research, highlighting the prominence of

certain themes within scholarly literature. It's worth noting that these findings can guide further research directions and provide insights into the current academic discourse within the chosen field. Researchers may find these trends valuable for identifying gaps, determining popular areas of investigation, and shaping the trajectory of future studies in bibliometrics.

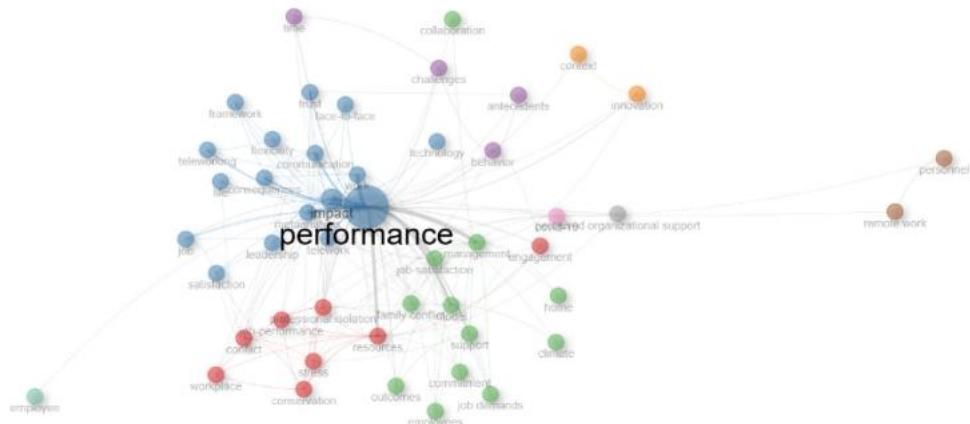
In Table 4, the most frequent words further accentuate the key elements in the research. "Performance" maintains its prominence with 37 occurrences, followed by "impact" with 17, "metaanalysis" with 11, "resources" with 9, and "covid-19" with 8 occurrences. Additional noteworthy terms include "job-satisfaction," "communication," "conflict," "job demands," and "management," each contributing to the rich vocabulary characterizing the research domain.

Table 4. Most Frequent Words

Words	Occurrences
performance	37
impact	17
metaanalysis	11
resources	9
covid-19	8
job-satisfaction	7
communication	6
conflict	6
job demands	6
management	6

Source: (Data processing)

Furthermore, the co-occurrence network mapping of keywords are shown in Figure 5.



Source: (Data processing)

Figure 5. The co-occurrence network mapping

The Co-occurrence Network Mapping, depicted in the exported data, visually represents the relationships among key terms. Notably, "performance" and "impact" emerge as central nodes within the network, indicating their pivotal roles in connecting various thematic clusters. The data provides additional insights through metrics such as betweenness, closeness, and PageRank, highlighting the significance of certain terms, including the unexpected prominence of "covid-19" and its strong influence in the network. This co-word analysis contributes valuable insights into the prevalent themes and interconnectedness of high-frequency keywords in the research on flexible workspaces and employee performance, paving the way for a nuanced understanding of the current research landscape and potential directions for future investigations.

4.4.4 Local and Global Citations Analysis

The sub-chapter on Local and Global Citations Analysis provides a detailed examination of the scholarly impact of key publications within the research domain of "The Impact of Flexible Workspaces on Employees' Performance." The data, featuring prominent authors and their respective publications, reveals a comprehensive overview of local and global citations. The results of the local and global citations analysis data are presented in Table 5 below.

Table 5. Local and Global Cited Documents

Author	Year	Local Citations	Global Citations
FENG Z, 2020, GEND MANAG	2020	0	138
TØNNESSEN, 2021, TECHNOL FORECAST SOC			
CHANGE	2021	0	81
TAVARES F, 2020, J ENTERPRISING			
COMMUNITIES	2020	0	79
JAMAL MT, 2021, ASIA-PAC J BUS ADM	2021	1	70
TONILO-BARRIOS M, 2021, BUS HORIZ	2021	0	63
DARABA D, 2021, COGENT BUS MANAG	2021	1	46
WHILLANS A, 2021, INF ORGAN	2021	0	46
GRAVES LM, 2020, IEEE ENG MANAGE REV	2020	0	42
AFRIANTY TW, 2022, ASIA PAC MANAGE			
REV	2022	0	40
STOKER JI, 2022, J LEADERSH ORGAN STUD	2022	0	40

Source: (Data processing)

The analysis of Table 5, showcasing local and global citation data for selected documents in the context of bibliometric research, reveals interesting patterns in the scholarly impact of these works. Notably, the local citations, indicative of the number of times a document is referenced within a specific community or context, consistently hover at low values, predominantly ranging from 0 to 1. This suggests that within the defined scope or community, these documents are not extensively cited, possibly due to factors such as specialized content, a niche research focus, or recent publication.

The relatively low local citations can also be attributed to the novelty and contemporaneity of the research topic explored in the study titled "The Impact of Flexible Workspaces on Employees' Performance." As the investigation delves into the relatively emerging area of flexible workspaces, it is plausible that the local academic community may still be in the process of familiarizing itself with and adopting these novel findings. Research on innovative subjects often requires time for scholars within a specific community to fully comprehend the implications and incorporate these insights into their own work. Given the evolving nature of flexible workspaces and their effects on employee performance, the local academic reception may experience a delay in recognizing and citing this research. Therefore, the observed low local citations can be seen as a characteristic pattern for a study addressing a contemporary and groundbreaking theme within academic discourse.

Conversely, the global citations present a contrasting picture, exhibiting a broad and varied impact across different contexts. For instance, documents authored by FENG Z, TØNNESSEN, and TAVARES boast substantially higher global citations, with counts of 138, 81, and 79, respectively. The disparity between local and global citations implies that these works have gained widespread recognition and influence beyond the specific community initially considered in the local context. This comprehensive analysis provides valuable insights into the nuanced citation patterns of these documents, shedding light on their impact within a specific community and their broader influence in the wider academic landscape.

4.4.5 Countries Production Analysis

The Countries Production Analysis sheds light on the distribution of scholarly output across different nations concerning the research topic "The Impact of Flexible Workspaces on Employees' Performance." Table 6 presents a comprehensive overview of the articles produced by countries.

Table 6. Countries Production

Country	Articles
USA	39
INDIA	25
PORTUGAL	15
ITALY	14
GERMANY	12
AUSTRALIA	11
UK	10
CHINA	9
BRAZIL	7
FRANCE	7

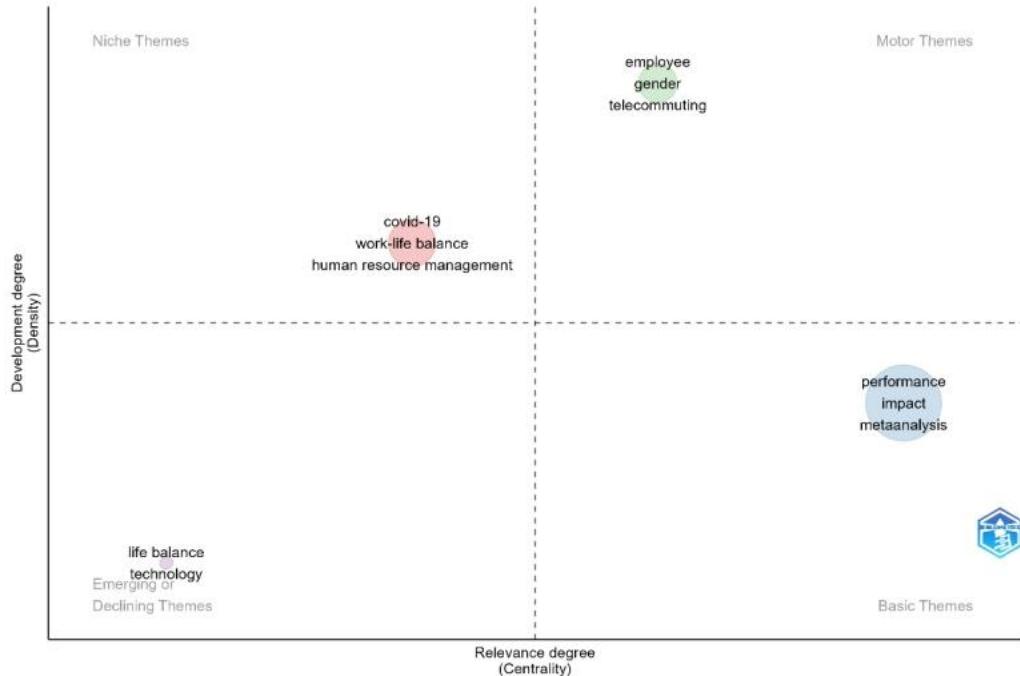
Source: (Data processing)

Table 6 presents the distribution of scholarly articles across different countries, providing insights into the production of research within the specified bibliometric analysis. The United States emerges as the leading contributor, producing a substantial 39 articles, underscoring its significant role in the academic landscape. India follows closely behind, contributing 25 articles, highlighting the growing influence of Indian research output. Portugal, Italy, and Germany exhibit notable participation, producing 15, 14, and 12 articles, respectively, reflecting the diverse geographic representation of research endeavors. Australia and the United Kingdom are also prominent contributors with 11 and 10 articles, respectively, underlining the robust academic contributions from these regions.

China, Brazil, and France, while producing fewer articles in comparison, still make valuable contributions to the global scholarly discourse, with 9, 7, and 7 articles, respectively. The distribution of articles across these countries illustrates the collaborative and multifaceted nature of the international research landscape. The varying levels of research output could be influenced by factors such as the size and resources of academic communities, research infrastructure, and regional research priorities. This analysis of countries' production provides a comprehensive overview of the geographic distribution of research efforts within the bibliometric study, enriching our understanding of the global academic contributions in the chosen field.

4.4.6 Thematic maps analysis

The Thematic Map Analysis in Figure 6 provides a visual representation of the occurrences and thematic clusters within the research on "The Impact of Flexible Workspaces on Employees' Performance." Utilizing occurrences and centrality metrics, thematic maps offer insights into the interconnectedness and prominence of key terms within specific clusters.



Source: (Data processing)

Figure 6. Thematic Maps

The thematic map analysis unveils a nuanced landscape of research themes, categorizing them into distinct quadrants that shed light on their significance and interconnections. In the realm of Motor Themes, "Employee" and "Telecommuting" take center stage, portraying moderate occurrences and notable betweenness centrality. These themes emerge as driving forces, intricately linking various concepts within the dataset and signifying their influential roles in scholarly discussions. Niche Themes, characterized by higher occurrences and substantial betweenness centrality, include focal points such as "Covid-19," "Work-life balance," and "Human Resource Management." These themes exhibit a central position in connecting diverse aspects of research, reflecting their prominence and importance within the dataset. They represent specific areas of concentrated interest, possibly indicating ongoing and impactful discussions within the scholarly community.

Within the quadrant of Emerging or Declining Themes, "Life Balance" and "Technology" stand out. These themes showcase varying levels of occurrences and betweenness centrality, hinting at dynamic shifts or emerging trends in the research landscape. The evolving nature of these themes suggests that they may be gaining prominence or undergoing changes in scholarly attention over time. Lastly, Basic Themes, including "Performance," "Impact," and "Meta Analysis," display lower occurrences and betweenness centrality values. Positioned at the periphery, these themes contribute to the overall thematic map but may not act as central drivers of connections within the dataset. They provide foundational concepts, supporting the broader context of the research but not necessarily acting as primary connectors.

The thematic map offers a comprehensive portrayal of the research landscape, unveiling the centrality and occurrences of different thematic clusters. The classification into Motor, Niche, Emerging or Declining, and Basic Themes provides researchers with a valuable framework for navigating and understanding the intricate relationships among various research concepts within their study domain.

The Influence of Flexible Workspaces on Employee Performance

As depicted in the thematic maps on Figure 6, at the outset of its emergence, the adoption of flexible workspaces gained significant traction, particularly within the manufacturing sector. This trend further intensified, especially following the onset of the COVID-19 phenomenon.

The flexibility of the workplace has become a crucial aspect in the modern work environment and can have a significant impact on employee performance. Firstly, flexible workspaces create an environment that supports comfort and well-being. Workspace designs that consider ergonomic aspects and provide employees with the option to customize their work environment can reduce stress and enhance well-being, factors directly linked to improved performance (Prodanova & Kocarev, 2021).

Furthermore, workplace flexibility often involves an increase in collaboration and communication (Ng et al., 2022). Open spaces and collaborative areas can facilitate the exchange of ideas and enhance team engagement. Improved interaction among employees can expedite the flow of information, promote collaboration, and boost creativity, all of which can contribute to the enhancement of both individual and group performance (Nyanhongo et al., 2023).

In addition, workplace flexibility offers employees greater autonomy over time and location. Opportunities to work outside the traditional office setting or to adopt flexible working hours can support more effective time management. Such flexibility not only contributes to improved work-life balance but also enables employees to align work schedules with individual productivity rhythms, thereby enhancing job satisfaction and overall performance.

The Advantages and Disadvantages of Implementing Flexible Workspaces on Employee Performance

Implementing flexible workspaces has both advantages and disadvantages that can impact employee performance. One of the primary benefits is the creation of a more comfortable and conducive working environment. Flexible workspaces often incorporate ergonomic designs, allowing employees to customize their surroundings. This can lead to reduced stress levels and improved well-being, directly influencing employee performance positively (Shipman et al., 2021).

Moreover, flexible workspaces frequently foster increased collaboration and communication among team members. Open-plan layouts and collaborative areas facilitate the exchange of ideas, enhancing team engagement. Improved interaction can accelerate the flow of information, encourage collaboration, and stimulate creativity, ultimately contributing to higher individual and group performance (Eismann et al., 2022). Additionally, the flexibility of the workplace extends to time and mobility, offering employees greater autonomy in managing their work schedules. The option to work remotely or adopt more flexible hours can enhance efficiency in time management. This not only promotes a healthier work-life balance but also allows employees to align their work schedules with their individual rhythms, potentially increasing overall satisfaction and performance.

However, the implementation of flexible workspaces also presents challenges and disadvantages. One notable concern is the potential for decreased face-to-face interaction and a sense of isolation among remote workers. The lack of physical proximity may hinder spontaneous communication and impede the development of a strong team culture, potentially affecting collaboration and, consequently, performance. Furthermore, distractions may arise in flexible workspaces, particularly when employees work remotely. Home environments or public spaces may not always provide the same level of focus as a traditional office setting. Distractions can impact concentration and productivity, counteracting the intended benefits of flexible work arrangements (Gandini & Garavaglia, 2023).

While flexible workspaces offer several advantages in terms of comfort, collaboration, and autonomy, they also come with potential drawbacks such as decreased face-to-face interaction and the risk of distractions. Successful implementation requires a thoughtful balance, considering the specific needs of the organization and its employees to optimize the positive impacts on employee performance.

Managerial Implications

Flexible workspaces exert a significant influence on employee performance by supporting productivity, comfort, and employee well-being. Managers can enhance performance outcomes by prioritizing ergonomic design and customizable workspaces that reduce physical strain and promote job satisfaction, thereby fostering a supportive work environment. In addition, flexible workspace configurations can facilitate collaboration and communication, contributing to more efficient exchange of information, increased creativity, and stronger teamwork.

However, to maximize these benefits, managers should carefully balance open and shared spaces with private or quiet areas to address potential challenges such as distractions and reduced face-to-face interaction. The strategic use of digital technologies to support remote collaboration, combined with periodic in-person meetings, can help maintain team cohesion and organizational culture. By implementing well-designed workspace policies that integrate flexibility with structure, organizations can sustain performance improvements while mitigating the potential drawbacks associated with flexible work environments.

Conclusion

The adoption of flexible workspaces has become a significant trend, especially in the context of the manufacturing sector and has grown more rapidly following the emergence of the COVID-19 pandemic. Workplace flexibility has a positive impact on employee performance through several mechanisms such as, flexible workspace creates an environment that supports employee comfort and well-being. Ergonomic design and options for customizing the work environment can reduce stress and improve well-being, which is directly related to improved performance. Additionally, increased collaboration and communication through open spaces and collaborative areas can accelerate the flow of ideas, increase team engagement, and stimulate creativity, all of which contribute to individual and group performance.

Although there are significant benefits, implementing flexible workspaces also poses several risks and challenges. Key concerns involve a decline in face-to-face interactions and a potential sense of isolation among remote workers. Additionally, distractions in a flexible work environment can hinder employee concentration and productivity. The importance of a thoughtful balance in the implementation of flexible workspaces is emphasized, considering the specific needs of the organization and employees. Successful implementation depends on efforts to optimize positive benefits while addressing challenges that may arise. Thus, this conclusion underscores the need for a careful and measured approach in adopting flexible workspaces to maximize the potential for improving employee performance.

The limitation of this research is that it only focuses on reviewing previous research using bibliometric methods and content analysis related to flexible workspaces, employees' performance, and COVID-19. The articles reviewed in this research are limited to publications during 2020 to 2023, where COVID-19 that peaks during the period thus yield more implementation of flexible workspaces.

Future research may further examine the effects of flexible workspaces on employee motivation, job satisfaction, and mental and emotional well-being. Exploring these dimensions would provide a more comprehensive understanding of how flexible work arrangements influence employee outcomes beyond performance indicators. Additionally, the role of technology in enabling flexible workspaces represents a promising avenue for further investigation. Future studies could assess how digital tools and platforms shape collaboration, communication, and employee performance within flexible work environments, thus informing the development of effective organizational policies and workspace designs.

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