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Virtual Teams in the Workplace: A Global Performance-Based Bibliometric Review Across Three Decades (1990–2024)

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ABSTRACT

The purpose of this study is to conduct a bibliometric analysis of workplace research on virtual teams.

The study conducted a bibliometric analysis of articles published over the last three decades (1990– 2024). The study uses bibliometric analysis by conducting performance analysis including citation analysis by looking at 413 documents that were taken from the Scopus database. The study looked at countries and institutions, the most influential papers, prolific writers, and countries. VOSviewer was employed in the study as a performance analysis tool. The most influential institutions and nations are the" United States" and the "University of Santiago De Compostela" in Spain, respectively. 2023 was the most productive year with 51 publications. Likewise, "The Academy of Management Executive" is the most influential publication, while "Team-Level Predictors of Innovation at Work: A Comprehensive Meta-Analysis Spanning Three Decades of Research" is the most cited article. This research is unique because it takes a broad approach, spanning the development of virtual team research across a thirty-year period. Particularly in topics like trust-building in virtual teams, the impact of digital platforms, and cultural diversity in global virtual teams, it emphasizes knowledge gaps and offers suggestions for future research. This study contributes to the existing literature by offering a systematic review of virtual team research, guiding scholars toward addressing under-researched areas, and providing insights for the development of virtual work environments.

1. INTRODUCTION

Virtual human resources development (VHRD) has garnered attention lately due to the growth of communication channels and the increasing demand for them in the face of global crises, like the most recent one, COVID-19. One of the most crucial methods for creating virtual human resources is the use of virtual teams (Bennett & Bierema, 2010; Alkoud *et al*., 2023b). Global virtual teams (GVTs) have emerged as the go-to method of collaboration in the global industry. Research indicates that over 70% of workers in global corporations desire to work remotely for at least some portion of their work after the pandemic, with 56% having previously held a full-time position in an office before COVID-19 (Culture Wizard, 2020). Understanding the dynamics of virtual teams is becoming more and more important as they become more relevant (Livermore, Van Dyne, & Ang, 2022; Da Costa *et al*., 2021; Ebrahim *et al*., 2009). Success in GVTs, as opposed to traditional teams, depends on individual abilities, particularly in cross-cultural and virtual contexts (Bartsch *et al*., 2021; Alkoud et al., 2024a). COVID19 pandemic boosted efforts to implement digital transformation and remote work, and virtual teams (VTs) have grown to be an important component of contemporary organizational structures. Moreover, the increase of network-based tools and growing usage of technology have enabled the emergence of alternate work arrangements such as teleworking and virtual teams (Firoz & Chaudhary, 2021). These solutions lessen the requirement for in-person face-to-face connection by enabling work to be controlled remotely and information to be transmitted over online networks (Firoz & Chaudhary, 2021; Tatar *et al*., 2024).

According to Da Costa *et al*. (2021) and Pianese *et al*. (2022), virtual teams are composed of geographically distributed workers who work together virtually via information technology to accomplish shared corporate objectives. According to Powell *et al*. (2004), GVTs are made up of geographically separated people who work together using information and communication technology. Geographically distributed groups whose work is primarily coordinated by electronic information and communication technologies (ICTs) are known as global virtual teams (GVTs). Members can work with colleagues both locally and internationally and cooperate from different locations—even when they're not in a physical office—thanks to this (Gilli *et al*., 2022; Alkoud, 2024). The capacity of GVTs to maximize the caliber of decision-making processes within firms and to utilize competent people regardless of location is what makes them special (Tavoletti *et al*., 2024). With the use of information and communication technology, the virtual team can be seen as a novel and sophisticated form of remote labor. "A form of work in which work is done in a location away from a central office or manufacturing facility, separating the employee from personal contact with colleagues; new technology permits this separation by facilitating communication" is how the "International Labor Organization" (ILO) defines teleworking (Abdamia *et al*., 2022; Alkoud *et al*., 2023a). Moreover, 'Teleworking', could be occasionally labeled 'work at home or 'homework'. Furthermore, we might refer to it as a "virtual team" since employees are able to access work through the use of information and communication technologies (Alkoud *et al*., 2023a).

2. LITERATURE REVIEW

"Virtual teams" (VTs) have become increasingly relevant, especially in the wake of the COVID-19 epidemic. Global virtual teams (GVTs) are becoming the standard in many enterprises. GVTs are composed of people who are geographically and temporally scattered and who collaborate using digital communication technology. These teams may never meet in person because they frequently work across national borders (Powell *et al*., 2004; Pervez *et al*., 2022). Thus, virtual teams are a crucial component of contemporary companies, necessitating special collaboration and communication abilities (Yousef, 2024). The advent of digital technologies (DTs) has brought about a tremendous transformation in the workplace, particularly since the COVID-19 epidemic has pushed the adoption of remote collaboration and virtual environments. It was necessary for organizations to quickly digitize their processes and transition to virtual forms of cooperation, enabling workers to use information and communication technologies (ICTs) to interact across time and distance (Davison, 2020; Bailey & Breslin, 2020; Frost & Duan, 2020). As a result, virtual teams emerged as the main form of cooperation, depending on ICTs to streamline tasks and reduce the necessity for in-person communication (Šímová *et al*., 2023). GVTs have been increasingly adopted, especially during the COVID-19 pandemic, to maintain business continuity (Gilli *et al*., 2022).

Statistics show that remote work is a virtual work method that is gaining popularity. For instance, 60% of US businesses allowed their workers to work from home, according to a 2016 poll by the "Society for Human Resources Management" (Turesky *et al.,* 2020). Moreover, 40% of workers currently work remotely or in hybrid workplaces, according to a February 2022 Gallup survey of over 12,000 US workers. Nonetheless, around 70% of respondents say they would prefer to work from home in a hybrid or fully remote environment. Furthermore, a Qualtrics Research study indicates that two thirds of UK workers are employed in hybrid workspaces (Benedic, 2023).

3. RESEARCH MOTIVATION

Despite recent studies, there is still a great deal of research to be done on virtual teams (Toro *et al*., 2020; Gonçalves *et al*., 2023). A few bibliometric studies, for example, have looked at virtual teams in the past, but they have only looked at particular aspects of them, such conflict in virtual teams (Caputo *et al*., 2023) and difficulties and barriers in virtual teams (Morrison-Smith and Ruiz, 2020). Because of this, the new study looks at virtual teams in great detail in an effort to close this gap. Furthermore, a number of studies that have previously examined virtual teams—such as those conducted by Gilbert *et al*. (2015) and Abarca *et al*. (2020)—did not take into account the time after COVID-19, which saw a significant change in the use of "virtual teams".

The new study adds to the body of knowledge on "virtual teams" in the workplace in a number of ways. Initially, it creates a complete virtual team and workspace connection. Second, it is a systematic review that demonstrates how the field has changed over time in terms of the application of virtual teams in the workplace. Thirdly, the study identifies key players in the field of virtual teams research in the workplace, including writers, organizations, journals, and nations, in addition to highlighting the most significant papers in the field. The research makes a substantial addition by pointing up knowledge gaps in virtual team studies, including issues with trust-building, the effects of cultural diversity, and the efficiency of digital platforms and tools for online collaboration. Future research areas are also suggested by the study, which emphasizes the need to investigate how new technologies affect virtual teams and the psychological health of workers in these settings.

4. RESEARCH QUESTION

The current study follows a comprehensive bibliometric analysis in order to address a number of research questions (RQs) as follows:

- ***RQ1.*** *What is the current trend of research in the virtual team in the workplace?*

- ***RQ2.*** *Which are Prominent authors, organisations, and countries of virtual team research in the workplace?*
- ***RQ3.*** *Which are the Most Influential Journals (MIJ) on virtual team research in the Workplace?*
- ***RQ4.*** *Which are the Most Influential Articles (MIA) on virtual team research in the workplace?*
- ***RQ5****. What are the future research directions for virtual teams in the workplace?*

5. "BIBLIOMETRIC RESEARCH METHOD"

This study applied a systematic bibliometric approach. Inclusion criteria focused on peer-reviewed articles published in English from 1990–2024, extracted from the Scopus database. Keywords were selected through a collaborative process involving domain experts to ensure relevance and completeness. Data cleaning processes included normalization of terms, removal of duplicates, and semantic grouping to enhance analytical precision.

5.1 "Defining the appropriate search terms"

In the current study, two cross-disciplinary components were combined: the workplace and virtual teams. The keywords related to each area had to be included in order to guarantee that every facet of the virtual team and workplace was covered in this study. The two strings and keyword sets used for document selection and Scopus data extraction are displayed in Table 1. There are various types of virtual teams, including distributed teams, online teams, e-teams, digital teams, remote teams, virtual collaboration teams, and networked teams. Worksite, job site, employment location, business premises, work environment, and work setting are examples of the terminology used in the workplace. The keywords used for data extraction (e.g., "virtual team*", "remote team*") were selected based on their frequency in recent academic literature and their alignment with the study's focus on workplace collaboration in digital environments. These terms were identified through an initial scan of highly cited articles and refined to ensure relevance to the field of management. The use of the asterisk (*) allowed for inclusion of variations, while overly broad or unrelated terms were excluded to maintain thematic clarity.

Table 1. Criteria for Article Inclusion and Exclusion

Selection criteria		**Exclude**	**Include**
Database	"Scopus"		
Date of Search	"12 June 2024"		
Period of "Publications	1990-2024		
Search term	(TITLE-ABS-KEY ("virtual team*" OR "Remote Team*" OR "E-Team*" OR "Digital Team*" OR "Distributed Team*" OR "Online Team*" OR "Virtual Collaboration Team*" OR "Networked Team*") AND TITLE-ABS-KEY ("Workplace" OR "Worksite" OR "Job site" OR "Employment location" OR "Business premises" OR "Work environment" OR "Work setting")).	-	438
Subject area	all	-	438
Publication type	"Article", "Conference paper", "Book chapter", "Book", "Review".	18	420
Language screening	"Include documents published in English only"	7	413

5.2 Data collection

Since "Scopus" contains a sizable "number of double-blind, peer-reviewed articles published in highimpact factor journals", it was used to obtain the data (Groff *et al*., 2020). Although Scopus was chosen as the sole database due to its comprehensive coverage, this reliance presents a minor limitation that is acknowledged in the study. To arrive at the final total of 413 articles in Table 1, we used a systematic approach. The Keywords "virtual team*", "Remote Team*", "E-Team*", "Digital Team*", "Distributed Team*", "Online Team*", "Virtual Collaboration Team*", and "Networked Team*". AND "Workplace", "Worksite", "Job site", "Employment location", "Business premises", "Work environment", and " Work setting". were applied to incorporate only English-language publications from the range of fields shown in Table 1. Due to inaccurate bibliographical and bibliometric information arising from the inclusion of the groundbreaking publication in future papers, data extracted/downloaded from "Scopus" or any other online database is susceptible to errors (Donthu *et al*., 2021). Therefore, utilizing this extracted data without additional refining runs the risk of producing a hazardous and inaccurate diagnosis. We therefore had to go through a number of steps to clean and organize the data. This led us to follow the recommendations of Donthu *et al*. (2021) and Zupic and Cater (2015) on the visualisation and interpretation of the results, as well as the search for bibliographic and bibliometric data.

The researchers cleaned up numerous terms found in the article's "titles, abstracts, and keywords" using the "natural language processing" feature in the "VOSviewer software" to improve analysis and results. For instance, we converted a number of plural nouns—like teams to team—to singular. Additional representations of related ideas are also combined ('organization' and

'organization' are combined to form "organization," for instance). Lastly, a lot of these cleansing techniques help achieve theme evaluation homogeneity.

5.3 Selecting the techniques for analysis

A collection of tools known as bibliometric analysis uses quantitative techniques to analyze and quantify text and data (Mishra *et al*., 2018; Goyal and Kumar, 2021). This method allows for the extraction of fresh data from literature studies to be included in future research projects (Suominen *et al*., 2016; Groff *et al*., 2020). To accomplish this, it is required to write and publish biographies on themes, spot trends within a field of study, and evaluate research publications that act as a roadmap for comprehending the current status of the field (Gao *et al*., 2021; Hossain *et al*., 2022). "Authorship, citation, bibliographic coupling, co-citation, and co-word analysis are bibliometric analysis techniques used by scholars to analyse the biographic data" (Donthu *et al*. (2021).

6. FINDINGS

6.1 Performance Analysis

Performance analysis examines the contributions made to a certain topic by different research components. The descriptive aspect of the analysis is what makes bibliometric studies unique (Donthu *et al.* 2020; Donthu *et al.,* 2021). Since performance analysis is a common technique in reviews to offer the performance of numerous research constituents "(e.g., authors, institutions, nations, and journals), this study will analyze these sorts of performance".

6.2 Publication Trend

The observed spikes in publication during 2020–2021 correspond to the onset of the COVID-19 pandemic, which necessitated remote work and digital collaboration, fostering research into virtual teams. Technological advancements, including the rise of advanced communication platforms such as Zoom and Microsoft Teams, also played a significant role in driving academic interest. The publishing trends in the field of workplace research on virtual teams are shown in Figure

1. The most productive year was 2023, with 51 publications. However, Thamhain (1990) and Dede (1990) started the research path in this field. The usage of virtual teams was not previously frequent in workplace research, according to preliminary research trends, but it has started to be debated in the recent three decades, from 1990 to the present. According to studies (Massetti and Lobert, 1996; Chen *et al*., 1996; Warkentin *et al*., 1997; Pliskin, 1997), the use of virtual teams in the workplace started to rise from the end of the 1990s and has been steadily rising until the present. The majority of research on virtual teams in the workplace emerged between the end of 2019 and the beginning of 2021. This was also the time when COVID-19 spread, forcing many businesses and organizations to work virtually. Since then, their annual production rate has increased significantly. Generally speaking, research in this area will rise in the upcoming years based on the current year's pattern. It is important to note that, unlike previous years, there was not an anticipated rise in publications (20 publications) in 2024. This is due to the fact that the study's Scopus search process ended on June 12, 2024, thus there is still time to expand the quantity of publications in other months.

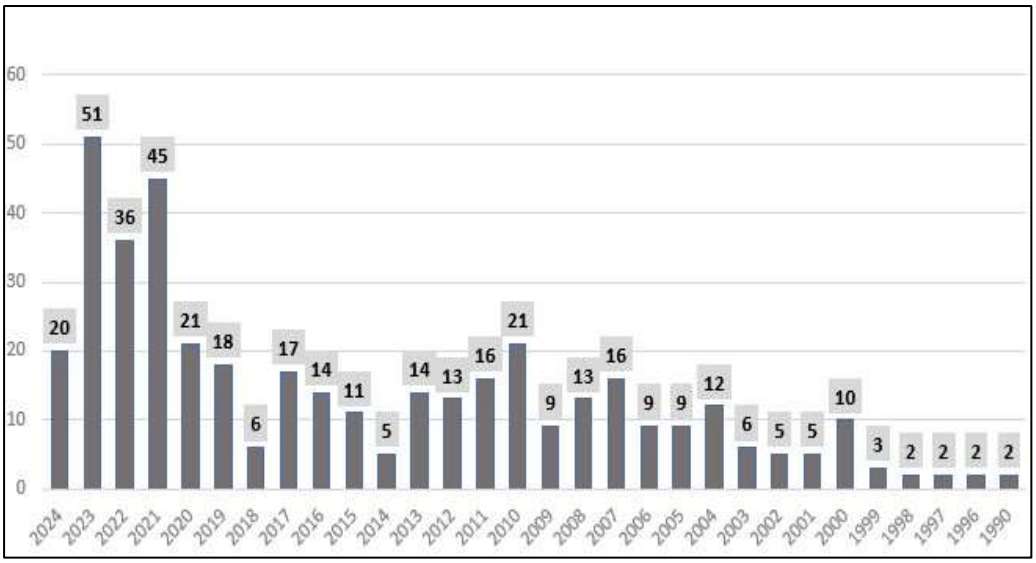

Figure 1. The Trend of Virtual Team Research in the Workplace

6.3 "Prominent authors, organisations, and countries for virtual teams in the workplace"

The most significant writers, organizations, and nations in virtual team research are highlighted in Table 2. With two publications and 756 citations, Anthony M. Townsend stands off among authors. Doug Vogel and Matti Vartiainen follow closely behind with

three publications and 112 and 75 citations, respectively. With one publication receiving 1058 citations, the University of Santiago de Compostela in Spain is the institution with the greatest influence. With one article apiece and the same amount of citations, the Dutch universities University of Amsterdam and the University of Maastricht are tied for first place. Other renowned universities are Southern Illinois University Edwardsville (USA), which has one publication and 928 citations, and Cornell University (USA), which has two publications and 954 citations.

With 182 publications and 2098 citations, the United States leads the pack among nations. Sweden has seven publications with 1116 citations, followed by Pakistan with two publications and 2015 citations. Other significant nations are Australia (19 publications, 1039 citations), and Spain (11 publications, 1062 citations). The high effect of their publications as determined by the total number of citations is highlighted in this table, which highlights the noteworthy contributions and influence of particular authors, organizations, and nations in the field of virtual team research in the workplace.

Table 2. Prominent Authors, Organisations, and Countries of Virtual Team Research in the Workplace"

Author	TP	TC	Institution	TP	TC	Country	TP	TC
Townsend, Anthony M.	2	756	Uni. of Santiago De Compostela, Spain	1	1058	United States	182	2098
Vogel, Doug	3	112	Uni. of Amsterdam, Netherlands	1	1058	Pakistan	2	2015
Vartiainen, Matti	3	75	Uni. of Maastricht , Netherlands	1	1058	Sweden	7	1116
Minacori, Patricia	3	51	Uni. of Cornell, USA	2	954	Spain	11	1062
Ruppel, Cynthia P.	2	47	Southern Illinois University Edwardsville, USA	1	928	Australia	19	1039
Tworoger, Leslie C.	2	47	Uni. of Houston, USA	1	928	Canada	14	1005
Aritz, Jolanta	2	42	Stanford University, USA	1	769	France	13	945
Fleischmann, Carolin	2	42	Massachusetts Institute of Technology, USA	1	769	Turkey	4	886
Stapp, James	2	42	Uni. of Nevada, USA	1	743	Italy	12	822
Isohella, Suvi	2	41	Iowa State University, USA	1	743	Germany	36	603
Maylath, Bruce	2	41	San Francisco State University, USA	1	462	Netherlands	12	378
Moisten, Birthe	2	41	Northeastern University, USA	1	462	Finland	13	238
Vandepitte, Sonia	2	41	Kansas State University, USA	1	462	United Kingdom	39	234
Casey, Valentine	2	33	Uni. of Illinois, USA	1	336	Portugal	6	208
Moore, Sarah	2	33	Florida State University, USA	1	336	Denmark	9	154
Richardson, Ita	2	33	Intel Corporation, USA	1	336	India	23	129
Zage, Dolores	2	33	Intel Corporation, UK	1	336	Switzerland	6	122
Sheehan, Anne	2	30	Luiss Guido Carli University, Italy	1	305	Hong Kong	8	108
Sullivan, Daniel K.	2	30	Ca' Foscari University, Italy	1	305	Ireland	8	103
Swartz, Stephanie	3	17	Carnegie Mellon University, USA	1	214	China	9	98

"Note(s): TC = total citations, **TP** = total number of article(s) publications"

6.4 Most Influential Journals (MIJ) on virtual team research in the workplace

The most important journals for "virtual team research" in the workplace between 1990 and 2024 are shown in Table 3. The total number of publications (TP) and total citations (TC) that each journal has published are shown in the table. Four time periods are covered by the data: 1990–2000, 2001–2010, 2011–2020, and 2021–2024. Two publications from the "Academy of Management

Executive" hold the top spot with 1170 citations. Three papers and 1144 citations from the "Journal of Applied Psychology" are shown after that. Each of the two journals in "Decision Sciences" and "Frontiers in Psychology" has 520 and 512 citations, respectively. Two works that were published in the "Information Systems Journal" received 433 citations.

With six articles, the "Conference on Human Factors in Computing Systems – Proceedings" has the most, despite having 388 citations. In a similar vein, six papers with 104 citations were contributed to the "Proceedings of the ACM Conference on Computer Supported Cooperative Work, CSCW". Four papers published in the "IEEE Transactions on Professional Communication" received 93 citations. Other journals with 227, 208, and 206 citations each were "Information and Management", "International Journal of Networking and Virtual Organizations", and "Trust and Distrust in Organizations: Dilemmas and Approaches". These journals each published two papers. Two to three papers, with citation counts ranging from 189 to 59, were submitted by the remaining listed journals. The influence and contribution of several journals to the field of virtual team research are highlighted in table 3, which also shows the volume of publications and citations that each article has received.

Table 3. Most Influential Journals (MIJ) on Virtual Team Research in the Workplace

Journal	TP	TC	1990-2000	2001-2010	2011-2020	2021-2024
Academy of Management Executive	2	1170	2			
Journal of Applied Psychology	3	1144		1	1	1
Decision Sciences	2	520	1		1	
Frontiers In Psychology	2	512			2	
Information Systems Journal	2	433		1	1	
Conference on Human Factors in Computing Systems – Proceedings	6	388	2	2	1	1
Information And Management	2	227		2		
International Journal of Networking and Virtual Organisations	2	208		2		
Trust And Distrust in Organizations: Dilemmas and Approaches	2	206		2		
Group Decision and Negotiation	3	189		3		
Organizational Dynamics	2	110				2
Proceedings of The ACM Conference on Computer Supported Cooperative Work, CSCW	6	104		1	4	1
IEEE Transactions on Professional Communication	4	93		1	3	
Group and Organization Management	2	84		1	1	
Proceedings of The International ACM Siggroup Conference on Supporting Group Work	2	82	2	2		
Journal of Business Research	2	73				2
Business Horizons	2	70		1	1	
International Journal of Engineering Education	2	70		2		
Journal of Business and Psychology	2	63			1	1
Journal of Business and Technical Communication	2	59		1	1	
"**Note(s): TC** = total citations, **TP** = total number of article(s) publications"						

6.5 Most Influential Articles (MIA) on virtual team research in the workplace

The most important papers on virtual teams in the workplace between 1990 and 2024 are shown in
Table 4, with total citations (TC) indicating the extent of their influence. "Team-Level Predictors of Innovation at Work: A Comprehensive Meta-Analysis Spanning Three Decades of Research", written by Hülsheger (2009), has received 1058 citations, making it the most cited article. Next in line are two publications by Powell (2004) and Kniffin (2021): "Virtual Teams: A Review of Current Literature and Directions for Future Research", with 928 and 812 citations, respectively, and "COVID-19 and the workplace: Implications, issues, and insights for future research and action", with 812 citations. Other noteworthy contributions include from Townsend (1998), whose work on the future of virtual teams has 743 citations, and Hinds (2005), whose piece on

conflict in teams located in different placeshas 769 citations. An exploratory study comparing face-to-face and virtual teams was carried out by Warkentin (1997), who received 462 citations.

Other noteworthy works are Cortellazzo (2019), which examines the function of leadership in a digitalized environment, with 305 citations; Cascio (2000), which manages a virtual workplace, with 427 citations; and Chudoba (2005), which measures virtuality in global enterprises, with 336 citations. With 214 citations, Lee (2011) "addresses social norms for mobile remote presence in the workplace". Among the recent studies are Contreras (2020), with 207 citations, on "e-leadership and teleworking" during COVID-19, and Bartsch (2021), with 192 citations, on leadership during crisis-induced digital transformation. With citation counts ranging from 200 to 161, prior noteworthy works include Hull (2007) on digital entrepreneurship, Grover (2005) on trust in organizations, and Herbsleb (2002) on instant messaging in the workplace. The chart highlights how important these publications have been in helping us comprehend virtual teams. It covers a wide range of subjects, from leadership and creativity to the effects of digitalization and the COVID-19 epidemic on workplace dynamics.

Table 4. The Most Influential Articles (MIA) on Virtual Team Research in the Workplace"

Author(s)	Title	TC
Hülsheger (2009)	"Team-Level Predictors of Innovation at Work: A Comprehensive Meta-Analysis Spanning Three Decades of Research"	1058
Powell (2004)	"Virtual Teams: A Review of Current Literature and Directions for Future Research"	928
Kniffin (2021)	"COVID-19 and the workplace: Implications, issues, and insights for future research and action"	812
Hinds (2005)	"Understanding conflict in geographically distributed teams: The moderating effects of shared identity, shared context, and spontaneous communication"	769
Townsend (1998)	"Virtual teams: Technology and the workplace of the future"	743
Warkentin (1997)	"Virtual teams versus face-to-face teams: An exploratory study of a Web-based conference system"	462
Cascio (2000)	"Managing a virtual workplace"	427
Chudoba (2005)	"How virtual are we? Measuring virtuality and understanding its impact in a global organization"	336
Cortellazzo (2019)	"The role of leadership in a digitalized world: A review"	305
Lee (2011)	"Now, I have a body": Uses and social norms for mobile remote presence in the workplace"	214
Patel (2012)	"Factors of collaborative working: A framework for a collaboration model"	209
Contreras (2020)	"E-Leadership and Teleworking in Times of COVID-19 and Beyond: What We Know and Where Do We Go"	207
Hull (2007)	"Taking advantage of digital opportunities: A typology of digital entrepreneurship"	200
Bartsch (2021)	"Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic"	192
Grover (2004)	"Trust and distrust in organizations: Dilemmas and approaches"	185
Herbsleb (2002)	"Introducing instant messaging and chat in the workplace"	161
Thatcher (2007)	"Internet anxiety: An empirical study of the effects of personality, beliefs, and social support"	149
Berry (2011)	"Enhancing Effectiveness on virtual teams: Understanding why traditional team skills are insufficient"	130
Newman (2021)	"Five Steps to Leading Your Team in the Virtual COVID-19 Workplace"	110
May (2001)	"A case study of virtual team working in the European automotive industry"	98
Note(s): TC = Total Citations		

7. FUTURE RESEARCH DIRECTIONS

There are still a number of unanswered questions in the field of virtual team research, despite tremendous strides in the field. Research on how computer-mediated communication fosters and preserves trust in virtual teams is lacking. Furthermore, a better

comprehension of the ways in which different technologies and collaboration tools affect the productivity and efficacy of virtual teams is required. Research on the dynamics of cultural diversity in international virtual teams is also lacking, which could help create efficient methods for handling cultural diversity. Furthermore, further research is needed to determine how virtual work affects employees' mental health and general well-being as well as work-life balance.

Future studies could concentrate on a number of topics to improve our understanding and practical implementation of virtual teams in light of these knowledge gaps. It would be beneficial to look into the processes that lead to and maintain trust in virtual teams, with a focus on the particular attitudes and deeds that support it. Furthermore, it is imperative to investigate the effects of new digital platforms and collaboration tools on the functioning of virtual teams. In addition, research ought to focus on how cultural variations affect the dynamics of virtual teams and create practical approaches to managing diversity. Another crucial topic is knowing how to establish and preserve a psychologically secure environment in virtual teams to promote creativity and cooperation. Finally, to assist firms in better evaluating and managing the efficacy and efficiency of their virtual workforce, future research might concentrate on creating performance indicators tailored specifically for virtual teams. Virtual work environments that are more inventive, productive, and efficient may result from these research projects. Future research directions on virtual teams in the workplace are depicted in Figure 2.

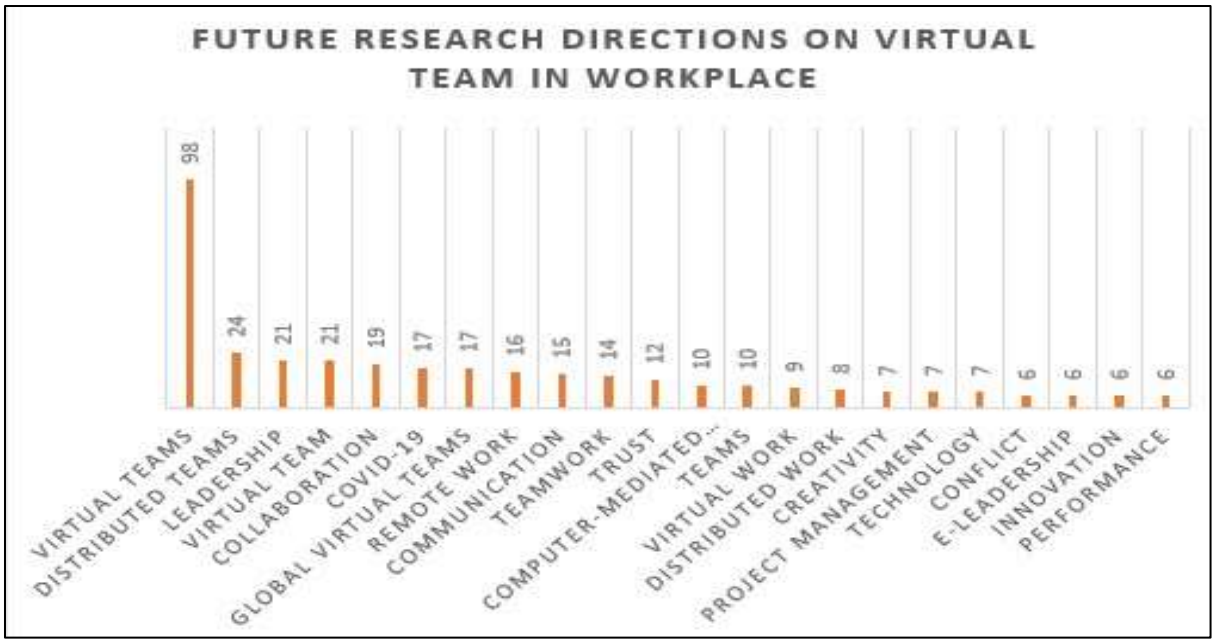

Figure 2. Future Research Directions on Virtual Team in the Workplace"

In conclusion, there is a lot of exciting research potential in the future for virtual team research in the workplace. Researchers can gain a better understanding of how virtual teams can succeed in a world that is becoming more digital and interconnected by concentrating on topics like global virtual teams, the effects of pandemics, remote and hybrid work models, leadership in virtual settings, technological advancements, and the psychological aspects of virtual work. Organizations trying to maximize their virtual team tactics and guarantee the prosperity and welfare of their remote workers will find these insights to be quite beneficial.

8. CONCLUSION

"The purpose of this study is to provide a bibliometric analysis of workplace research on virtual teams. A bibliometric analysis of publications published within the last three decades (1990–2024) was carried out by the study. By looking at 413 documents that were obtained from the Scopus database, the study employs bibliometric analysis by performing performance analysis which includes citation analysis". The study looked at countries and institutions, the most influential papers, prolific writers, country collaboration, and scientific production of publications. VOSviewer was employed in the study as a tool for science mapping and performance analysis. With 51 articles, 2023 was the most productive year. The "United States" and the "University of Santiago de Compostela" in Spain are the two most influential countries and institutes, respectively. In a similar vein, the most referenced article is "TeamLevel Predictors of Innovation at Work: A Comprehensive Meta-Analysis Spanning Three Decades of Research", and the most influential publication is "Academy of Management Executive". To enhance virtual team effectiveness, organizations should focus on structured digital tool training, develop remote leadership competencies, and establish clear communication frameworks. Prioritizing psychological safety and trust within teams can foster greater collaboration and innovation.

9. THEORETICAL CONTRIBUTIONS

The journey of virtual team research in the workplace has been documented in this paper. offers potential paths for scholars' future research. “Researchers might do research in the recently emerging area of virtual teams in the workplace, which could provide more useful data to practitioners and decision-makers. In this way, the present study has contributed to our comprehension of the development, boundaries, and potential paths of workplace virtual team research such as the following areas; global virtual teams and cultural dynamics, impact of COVID-19 and future pandemics, remote work and hybrid models, leadership in virtual settings, technological advancements and collaboration tools, psychological and social aspects of virtual work”. Moreover, the current study has a number of ramifications for academics, researchers, marketers, and business owners. They ought to gain a general understanding of the current research in this field. They can use these articles to address the current issues in academia and business by being aware of the significant and well-known contributions in this field of study and the factors that led them to become such. Additionally, it would help them identify gaps in the literature and prospective study directions that will help them carry out further investigations. Additionally, the scholar will benefit from having their work published in highly influential journals.

10. PRACTICAL IMPLICATIONS

This study offers practical recommendations derived from the key topic areas identified through bibliometric analysis—namely: virtual leadership, team collaboration, digital communication tools, and employee well-being. In the area of virtual leadership, organizations should invest in flexible leadership training that focuses on trust-building, inclusive decision-making, and conflict resolution across remote settings. practical example can be seen in companies like GitLab, where asynchronous leadership practices and transparency dashboards support large-scale virtual collaboration. For team collaboration, agile frameworks such as Scrum or Kanban can be embedded into virtual workflows to promote clarity and accountability. Bi-weekly retrospectives and virtual team-building activities also enhance group cohesion and innovation. Regarding digital tools, organizations should adopt integrated platforms like Microsoft Teams or Slack for streamlined communication, combined with AI-powered task management systems such as Click Up or Trello. Providing ongoing training in the ability to use digital tools effectively and cybersecurity safeguards both productivity and information integrity. Lastly, the cluster on employee well-being highlights the importance of a safe and open work environment and support systems. Organizations are encouraged to implement flexible work policies, offer mental health resources, and foster open feedback environments to sustain motivation and prevent burnout. By aligning management strategies with these thematic insights, organizations can better navigate the evolving dynamics of virtual team environments.

A practical example from the civil engineering field is the UK Crossrail project, which relied on virtual collaboration across teams located in different places using tools like BIM and Microsoft Teams. These platforms enabled real-time coordination and digital document sharing among contractors. This reflects how digital leadership and communication tools—key clusters identified in this study—are applied in large-scale engineering projects, demonstrating the practical value of our findings for industry professionals.

11. LIMITATIONS

Even though the bibliometric analysis provides a comprehensive picture of virtual team research over the past three decades, there are still several information gaps and limitations. For example, the scope of this work is limited to the bibliometric examination of biographical information retrieved solely from the Scopus database. Future studies could employ merged bibliographical data from both sources because many high-quality papers are only listed in one of Web of Science or Scopus. Future studies addressing these gaps will advance our knowledge of virtual teams and make it more complex and nuanced. As a result, businesses will be able to fully utilize virtual workplaces and guarantee the welfare and output of their remote personnel.

REFERENCES

1. Abarca, V. M. G., Palos-Sanchez, P. R., & Rus-Arias, E. (2020). Working in virtual teams: a systematic literature review and a bibliometric analysis. *IEEE access*, *8*, 168923-168940. Available at: https://doi.org/10.1109/ACCESS.2020.3023546
2. Abdamia, N., Md Sharif, N. F. binti, Abdul Kadar, N. S., Anyau, E., Abd Aziz, A., & Xavier, J. A. (2022). Motivators and Demotivating Factors for Work From Home. *International Journal of Academic Research in Business and Social Sciences*, *12*(9), 1315–1331. Available at: https://doi.org/10.6007/ijarbss/v12-i9/14629
3. Alkoud, S., Zainudin, D., & Sarif, S. M. (2023a). Challenges, Barriers, and Obstacles Facing Virtual Teams: a Conceptual Study. *Sciences*, *13*(4), 1473-1487. Available at: http://dx.doi.org/10.6007/IJARBSS/v13-i4/16723
4. Alkoud, S., Zainudin, D., & Sarif, S. M. (2023b). Exploring the Roles of Social Presence Practices in Enhancing Virtual Teams Performance in the Higher Education Sector in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, *13*(4), 1462-1473. Available at: http://dx.doi.org/10.6007/IJARBSS/v13-i4/16722
5. Alkoud, S., Zainudin, D., & Sarif, S. M. (2024). Virtual Team Performance Research: A Bibliometric Analysis Using VOSviewer. International Journal of Academic Research in Economics and Management Sciences, 13(4), 660–680. Available at: http://dx.doi.org/10.6007/IJAREMS/v13-i4/23961

6. Alkoud, S. (2024). The role of social presence and virtual leadership in enhancing virtual teams' performance among administrators in the higher education sector in Malaysia: Knowledge sharing as a mediator and media richness as a moderator (Doctoral dissertation, International Islamic University Malaysia). Kulliyyah of Economics and Management Sciences. https://studentrepo.iium.edu.my/handle/123456789/32732
7. Bailey, K., & Breslin, D. (2021). The COVID-19 pandemic: what can we learn from past research in organizations and management? International Journal of Management Reviews, 23(1), 3-6. Available at: https://doi.org/10.1111/ijmr.12237
8. Baker, H. K., Kumar, S., & Pandey, N. (2020). A bibliometric analysis of Managerial Finance: A retrospective. *Managerial Finance*, 46(11), 1495–1517. Available at: https://doi.org/10.1108/MF06-2019-0277
9. Baker, H. K., Kumar, S., & Pandey, N. (2021). Forty years of the Journal of Futures Markets: A bibliometric overview. *Journal of Futures Markets*, *41*(7), 1027-1054. Available at: https://doi.org/10.1002/fut.22211
10. Bartsch, S., Weber, E., Büttgen, M., & Huber, A. (2021). Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *Journal of service management*, *32*(1), 71-85. Available at: https://doi.org/10.1108/JOSM-05-2020-0160
11. Benedic, M. (2023). Hybrid work for small businesses: strategies for reaping benefits. *Journal of Business Strategy*. https://doi.org/10.1108/jbs-09-2022-0163.
12. Bennett, E. E., & Bierema, L. L. (2010). The ecology of virtual human resource development. *Advances in Developing Human Resources*, *12*(6), 632–647. Available at: https://doi.org/10.1177/1523422310394789
13. Berry, G. R. (2011). Enhancing effectiveness on virtual teams: Understanding why traditional team skills are insufficient. *The Journal of Business Communication (1973)*, *48*(2), 186-206. Available at: https://doi.org/10.1177/0021943610397270
14. Blak Bernat, G., Qualharini, E. L., Castro, M. S., Barcaui, A. B., & Soares, R. R. (2023). Sustainability in project management and project success with virtual teams: A quantitative analysis considering stakeholder engagement and knowledge management. *Sustainability* (Switzerland)., 15(12), 9834. Available at: https://doi.org/10.3390/su15129834
15. Breideband, T., Moulder, R. G., Martinez, G. J., Caruso, M., Mark, G., Striegel, A. D., & D'Mello, S. (2023). 'Location, Location, Location': An Exploration of Different Workplace Contexts in Remote Teamwork during the COVID-19 Pandemic. *Proceedings of the ACM on Human-Computer Interaction*, *7*(CSCW1), pp. 1–22. Available at: https://doi.org/10.1145/3579504
16. Cai, Y. L. (2023). Strengthening perceptions of virtual team cohesiveness and effectiveness in new normal: A hyperpersonal communication theory perspective. *Asian Business & Management*, *22*(4), 1649-1682. Available at: https://doi.org/10.1057/s41291-023-00225-6
17. Caputo, A., Kargina, M., & Pellegrini, M. M. (2023). Conflict in virtual teams: a bibliometric analysis, systematic review, and research agenda. *International Journal of Conflict Management*, *34*(1), 1-31. Available at: https://doi.org/10.1108/IJCMA-07-2021-0117
18. Cascio, W. F. (2000). Managing a virtual workplace. *Academy of Management Perspectives*, *14*(3), 81-90. Available at: https://doi.org/10.5465/ame.2000.4468068
19. Chen, C. R., Meliksetian, D. S., & Chang, M. C. S. (1996, January). Collaboration systems for classroom instruction. In *Multimedia: Full-Service Impact on Business, Education, and the Home* (Vol. 2617, pp. 44-55). SPIE. Available at: https://doi.org/10.1117/12.230410
20. Chudoba, K. M., Wynn, E., Lu, M., & Watson-Manheim, M. B. (2005). How virtual are we? Measuring virtuality and understanding its impact in a global organization. *Information systems journal*, *15*(4), 279-306. Available at: https://doi.org/10.1111/j.1365-2575.2005.00200.x
21. Contreras, F., Baykal, E., & Abid, G. (2020). E-leadership and teleworking in times of COVID-19 and beyond: What we know and where do we go. *Frontiers in psychology*, *11*, 590271. Available at: https://doi.org/10.3389/fpsyg.2020.590271
22. Cortellazzo, L., Bruni, E., & Zampieri, R. (2019). The role of leadership in a digitalized world: A review. *Frontiers in psychology*, 10:1938. Available at: https://doi.org/10.3389/fpsyg.2019.01938
23. Culture Wizard (2020). Trends in Global Virtual Work, Metamorphosis of the Global Workplace.
24. Da Costa, R., Miguel, J., Dias, A., Pereira, L., & Santos, J. (2021). Exploring the Cultural, Managerial and Organizational Implications on Mergers and Acquisitions Outcomes. *Organizacija*, 54(1). Available at: https://doi.org/10.2478/orga-2021-0002
25. Davidow, W.H. and Malone, M.S. (1992), The Virtual Corporation: Structuring and Revitalizing the Corporation for the 21st Century, Harper Collins, New York, NY.
26. Davison, R. M. (2020). The transformative potential of disruptions: A viewpoint. International Journal of Information Management, Vol. 55, 102149. Available at: https://doi.org/10.1016/j.ijinfomgt.2020.102149
27. Dede, C. J. (1990). The evolution of distance learning: Technology-mediated interactive learning. *Journal of Research on Computing in Education*, *22*(3), 247-264. Available at: https://doi.org/10.1080/08886504.1990.10781919

28. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, *133*, 285-296. Available at: https://doi.org/10.1016/j.jbusres.2021.04.070
29. Donthu, N., Reinartz, W., Kumar, S., & Pattnaik, D. (2020). A retrospective review of the first 35 years of the International Journal of Research in Marketing. *International Journal of Research in Marketing*, *38*(1), 232-269. Available at: https://doi.org/10.1016/j.ijresmar.2020.10.006
30. Ebrahim, A.N., Ahmed, S., & Taha, Z. (2009). Virtual Teams: a Literature Review. [Review paper]. *Australian Journal of Basic and Applied Sciences*, 3(3), 2653-2669.Available at: doi:10.6084/M9.FIGSHARE.103369
31. Firoz, M., & Chaudhary, R. (2022). The impact of workplace loneliness on employee outcomes: what role does psychological capital play?. *Personnel Review*, *51*(4), 1221-1247. Available at: https://doi.org/10.1108/PR-03-2020-0200
32. Frost, M., & Duan, S. X. (2020). Rethinking the role of technology in virtual teams in light of COVID-19. *Australasian Conference on Information Systems*, 2020, Wellington. Available at: https://aisel.aisnet.org/acis2020/94/
33. Gao, P., Meng, F., Mata, M. N., Martins, J. M., Iqbal, S., Correia, A. B., ... & Farrukh, M. (2021). Trends and future research in electronic marketing: A bibliometric analysis of twenty years. *Journal of Theoretical and Applied Electronic Commerce Research*, *16*(5), 1667-1679. Available at: https://doi.org/10.3390/jtaer16050094
34. Gilli, K., Veglio, V., Gunkel, M., & Taras, V. (2022). In search of the Holy Grail in global virtual teams: The mediating role of satisfaction on performance outcomes. *Journal of Business Research*, *146*, 325-337. Available at: https://doi.org/10.1016/j.jbusres.2022.03.056
35. Gilson, L. L., Maynard, M. T., Jones Young, N. C., Vartiainen, M., & Hakonen, M. (2015). Virtual teams research: 10 years, 10 themes, and 10 opportunities. *Journal of management*, *41*(5), 1313-1337. Available at: https://doi.org/10.1177/0149206314559946
36. Goyal, K., & Kumar, S. (2021). Financial literacy: A systematic review and bibliometric analysis. *International Journal of Consumer Studies*, *45*(1), 80-105. Available at: https://doi.org/10.1111/ijcs.12605
37. Groff, M. L., Offringa, M., Emdin, A., Mahood, Q., Parkin, P. C., & Cohen, E. (2020). Publication trends of pediatric and adult randomized controlled trials in general medical journals, 2005–2018: a citation analysis. *Children*, *7*(12), 293. Available at: https://doi.org/10.3390/children7120293
38. Grover, S.L. (2005), "Trust and Distrust in Organizations: Dilemmas and Approaches", Personnel Review, Vol. 34 No. 4, pp. 507-509. https://doi.org/10.1108/00483480510600083
39. Herbsleb, J. D., Atkins, D. L., Boyer, D. G., Handel, M., & Finholt, T. A. (2002, April). Introducing instant messaging and chat in the workplace. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 171-178). Available at: DOI: 10.1145/503376.503408
40. Hinds, P. J., & Mortensen, M. (2005). Understanding conflict in geographically distributed teams: The moderating effects of shared identity, shared context, and spontaneous communication. *Organization science*, *16*(3), 290-307. Available at: https://doi.org/10.1287/orsc.1050.0122
41. Hossain, M. R., Akhter, F., & Sultana, M. M. (2022). SMEs in covid-19 crisis and combating strategies: a systematic literature review (SLR) and A case from emerging economy. *Operations research perspectives*, *9*. Available at: https://doi.org/10.1016/j.orp.2022.100222
42. Hull, C. E. K., Hung, Y. T. C., Hair, N., Perotti, V., & DeMartino, R. (2007). Taking advantage of digital opportunities: a typology of digital entrepreneurship. *International Journal of Networking and Virtual Organisations*, *4*(3), 290-303. Available at: https://doi.org/10.1504/IJNVO.2007.015166
43. Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: a comprehensive meta-analysis spanning three decades of research. *Journal of Applied psychology*, *94*(5), 1128. Available at: https://doi.org/10.1037/a0015978
44. Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organization science*, *10*(6), 791-815. Available at: https://doi.org/10.1287/orsc.10.6.791
45. Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., ... & Vugt, M. V. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American psychologist*, *76*(1), 63. Available at: https://ink.library.smu.edu.sg/lkcsb_research/6594
46. Lee, M. K., & Takayama, L. (2011, May). Now, i have a body" uses and social norms for mobile remote presence in the workplace. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 33-42). Available at: https://doi.org/10.1145/1978942.1978950
47. Livermore, D.; Van Dyne, L.; & Ang, S. (2022). Organizational CQ: Cultural intelligence for 21stcentury organizations, *Business Horizons*, 65(5), 671-680Available at: https:// doi.org/10.1016/j.bushor.2021.11.001
48. Massetti, B., & Lobert, B. M. (1996, January). Developing IS competence during cross-cultural collaboration in ad hoc virtual teams: a tale of one case analysis project. In *Proceedings of HICSS29: 29th Hawaii International Conference on System Sciences* (Vol. 3, pp. 303-312). IEEE. Available at: https://doi.org/10.1109/HICSS.1996.493201

49. Miles, R. E., & Snow, C. C. (1986). Organizations: New concepts for new forms. *California management review*, *28*(3), 62-73. Available at: https://doi.org/10.2307/41165202
50. Mishra, D., Gunasekaran, A., Papadopoulos, T. and Dubey, R. (2018), "Supply chain performance measures and metrics: a bibliometric study", *Benchmarking: An International Journal*, *25*(3), 932-967. Available at: https://doi.org/10.1108/BIJ-08-2017-0224
51. Morrison-Smith, S., & Ruiz, J. (2020). Challenges and barriers in virtual teams: a literature review. *SN Applied Sciences*, *2*(6), 1-33. Available at: https://doi.org/10.1007/s42452-020-28015
52. Murphy, L. (2024) 'Wellbeing in the age of virtual teams and workplace automation – a systematic review and future research agenda', *International Journal of Organizational Analysis* [Preprint]. Available at: https://doi.org/10.1108/IJOA-08-2023-3938
53. Mutha, P. and Srivastava, M. (2023) 'Decoding leadership to leverage employee engagement in virtual teams', *International Journal of Organizational Analysis*, 31(3), pp. 737–758. Available at: https://doi.org/10.1108/IJOA-07-2021-2856
54. Newman, S. A., & Ford, R. C. (2020). Five steps to leading your team in the virtual COVID-19 workplace. *Organizational Dynamics*, 50(1). Available at: https://doi.org/10.1016/j.orgdyn.2020.100802
55. Orhan, M. A. (2017). The evolution of the virtuality phenomenon in organizations: A critical literature review. *Entrepreneurial Business and Economics Review*, 5(4), 171–188. Available at: https://doi.org/10.15678/EBER.2017.050408
56. Patel, H., Pettitt, M., & Wilson, J. R. (2012). Factors of collaborative working: A framework for a collaboration model. *Applied ergonomics*, *43*(1), 1-26. Available at: https://doi.org/10.1016/j.apergo.2011.04.009
57. Pereira, L., Jerónimo, C., Simões, F., Dias, Á., Costa, R. L. D., & Gonçalves, R. (2023). Project virtual teams: systematic literature review. International Journal of Agile Systems and Management, 17(1), 15-45. Available at: https://doi.org/10.1504/ijasm.2023.10059205
58. Pervez, A., Lowman, G.H. & Mills, M.J. (2022). Mindfulness as Facilitating Expatriate Development: Advancing Knowledge Sharing and Promoting Cultural Adjustment Abroad. *Management International Review,* 62, 427–447. Available at: https://doi.org/10.1007/s11575022-00471-4
59. Pliskin, N. (1997). The telecommuting paradox. *Information technology & people*, *10*(2), 164-172. Available at: https://doi.org/10.1108/09593849710175002
60. Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: a review of current literature and directions for future research. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, *35*(1), 6-36. Available at: https://doi.org/10.1145/968464.968467
61. Proell, C.A. *et al.* (2024) 'How workplace identities and team management practices affect distributed team auditors' willingness to speak up', *Contemporary Accounting Research*, 41(1), pp. 562–590. Available at: https://doi.org/10.1111/1911-3846.12909
62. Raghuram, S., Hill, N. S., Gibbs, J. L., & Maruping, L. M. (2019). Virtual work: Bridging research clusters. *The Academy of Management Annals*, 13(1), 308–341. Available at: https://doi.org/10.5465/annals.2017.0020
63. Selimović, J., Pilav-Velić, A., & Krndžija, L. (2021). Digital workplace transformation in the financial service sector: Investigating the relationship between employees' expectations and intentions. *Technology in Society*, 66,101640. Available at: https://doi.org/10.1016/j.techsoc.2021.101640
64. Šímová, T., & Zychová, K. (2023). Who and What is Driving Remote Working Research? A Bibliometric Study. *Vision*, 09722629221139064. Available at: https://doi.org/10.1177/09722629221139064
65. Šímová, T., Zychová, K. and Fejfarová, M. (2024) 'Metaverse in the Virtual Workplace', *Vision*, 28(1), pp. 19–34. Available at: https://doi.org/10.1177/09722629231168690
66. Suominen, A., Li, Y., Youtie, J., & Shapira, P. (2016). A bibliometric analysis of the development of next generation active nanotechnologies. *Journal of Nanoparticle Research*, *18 (9)*, 1-18. Available at: https://doi.org/10.1007/s11051-016-3578-8
67. Tatar, B., Müceldili, B. and Erdil, O. (2024) 'How do employees maintain their well-being during loneliness? The power of organizational nostalgia', *Management Research Review*, 47(4), pp. 622–642. Available at: https://doi.org/10.1108/MRR-12-2022-0842
68. Tavoletti, E. *et al.* (2024) 'Revisiting equity theory in the global virtual teams', *Management Research Review*, 47(5), pp. 840–858. Available at: https://doi.org/10.1108/MRR-05-2023-0334
69. Tavoletti, E., & Taras, V. (2023). From the periphery to the centre: a bibliometric review of global virtual teams as a new ordinary workplace. *Management Research Review*, *46*(8), 1061-1090. Available at: https://doi.org/10.1108/MRR-12-2021-0869
70. Tavoletti, E., Cohen, E. D., Dong, L., & Taras, V. (2024). Revisiting equity theory in the global virtual teams. *Management Research Review*, *47*(5), 840-858. Available at: https://doi.org/10.1108/MRR-05-2023-0334

71. Thamhain, H. J. (1990). Innovative performance in research, development, and engineering. *Engineering Management Journal*, *2*(1), 3-12. Available at: https://doi.org/10.1080/10429247.1990.11414554
72. Toro, M. M., Elguezabal, I. Z., & Anacabe, G. G. (2020). Engaging global virtual teams: a theoretical framework proposal on employee engagement predictors in global virtual settings. *International Journal of Networking and Virtual Organisations*, *23*(1), 17-38. Available at: https://doi.org/10.1504/IJNVO.2020.107953
73. Townsend, A. M., DeMarie, S. M., & Hendrickson, A. R. (1998). Virtual teams: Technology and the workplace of the future. *Academy of Management Perspectives*, *12*(3), 17-29. Available at: https://doi.org/10.5465/ame.1998.1109047
74. Tunger, D., & Eulerich, M. (2018). Bibliometric analysis of corporate governance research in German-speaking countries: Applying bibliometrics to business research using a custom-made database. Scientometrics, 117(3), 2041–2059. Available at: https://doi.org/10.1007/s11192-0182919-z
75. Warkentin, M. E., Sayeed, L., & Hightower, R. (1997). Virtual teams versus face-to-face teams: an exploratory study of a web-based conference system. *Decision sciences*, *28*(4), 975-996. Available at: https://doi.org/10.1111/j.1540-5915.1997.tb01338.x
76. Yousef, K. (2024) 'Intercultural Communicative Competence in Virtual and Face-to-Face Teamwork: A Quantitative Analysis of Culturally Diverse Teams', *Organizacija*, 57(2), pp. 139– 150. Available at: https://doi.org/10.2478/orga-2024-0010
77. Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational research methods*, *18*(3), 429-472. Available at: https://doi.org/10.1177/1094428114562629