



**RELATIONSHIP BETWEEN REMOTE WORK AND
ORGANIZATIONAL COMMITMENT: A
BIBLIOGRAPHIC STUDY**

ORKUN ORBAY

Master's Thesis

Graduate School
Izmir University of Economics
İzmir
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ABSTRACT

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Orbay, Orkun

Master's Program in Business Administration

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Remote working is the arrangement of employees to work from their home or a location outside the office. Although remote working has been around for some time, it has become one of the most popular working methods in the last couple of years. Notably, the emergence of the COVID-19 pandemic has accelerated the switch to fully remote and hybrid working schedules. The recent increase in the popularity of remote work and flexible working schedules has made this topic especially interesting among researchers. This study aims to provide researchers with a broad view of the past research and uncover the previous findings. A systematic literature review (SLR) methodology based on bibliometric network analysis is embraced to provide transparency and reproducibility. As a result, ninety-five articles were identified as closely related to the subject on hand. It has been found that 48.4% of the articles closely related to the “effects of remote working on organizational commitment” were published during and after 2020. The top five countries contributing to this topic are the United States, the United Kingdom, The Netherlands, Germany, and Italy. Over

the years, the popularity of the keywords telework and telecommuting has decreased, while the popularity of the keyword remote work has increased. The articles written jointly on this subject are generally collaborated by the authors in the same organization. The articles on different citation clusters have different takes on the subject regarding the effects of remote work. The findings of this thesis contribute to this literature by uncovering the tracks of multiple sub-themes within this emergent field of study.

Keywords: Literature Review, SLR, Remote Work, Telework, Organizational Commitment, Employee Engagement



ÖZET

UZAKTAN ÇALIŞMA İLE ORGANİZASYONEL BAĞLILIK ARASINDAKİ İLİŞKİ: BİR KAYNAKÇA ÇALIŞMASI

Orbay, Orkun

İşletme Yüksek Lisans Programı

Tez Danışmanı: Prof. Dr. Mehmet Gençer

Temmuz, 2022

Uzaktan çalışma, çalışanların evlerinden veya ofis dışındaki bir yerden çalışacak şekilde düzenlenmesidir. Uzaktan çalışma bir süredir var olmasına rağmen, son yıllarda en popüler çalışma yöntemlerinden biri haline geldi. Özellikle, COVID-19 pandemisinin ortaya çıkması, tamamen uzaktan ve hibrit çalışma programlarına geçişi hızlandırdı. Uzaktan çalışmanın ve esnek çalışma programlarının popüleritesindeki artış, bu konuyu araştırmacılar arasında özellikle ilgi çekici hale getirdi. Bu çalışma, araştırmacılara bu alanda yapılmış geçmiş araştırmaların geniş bir görünümünü sunmayı ve daha önceki bulguları ortaya çıkarmayı amaçlamaktadır. Şeffaflık ve tekrarlanabilirlik sağlamak için bibliyometrik ağ analizine dayalı sistematik bir literatür taraması (SLT) metodolojisi benimsenmiştir. Sonuç olarak, konuyla yakından ilgili doksan beş makale tespit edilmiştir. “Uzaktan çalışmanın örgütsel bağlılık üzerindeki etkileri” ile yakından ilgili makalelerin %48.4'ünün 2020 yılı ve sonrasında yayımlandığı tespit edilmiştir. Makale yayınlayan yazarların %93'ü bu konuda tek bir

makale yayınlamıştır. Bu konuya en çok katkıda bulunan beş ülke Amerika Birleşik Devletleri, Birleşik Krallık, Hollanda, Almanya ve İtalya'dır. Yıllar geçtikçe, tele-çalışma ve telekomünikasyon anahtar kelimelerinin popülaritesi azalırken uzaktan çalışmanın popülaritesi artmıştır. Bu konuda ortaklaşa yazılan makaleler genellikle aynı organizasyonda çalışan yazarlar tarafından kaleme alınmıştır. Farklı kümelerdeki makalelerin, uzaktan çalışmanın etkileri konusunda farklı bakış açılarına sahip olduğu görülmüştür. Bu tezin bulguları, ortaya çıkan bu çalışma alanındaki çoklu alt temaların izlerini ortaya çıkararak bu literatüre katkıda bulunmaktadır.

Anahtar Kelimeler: Literatür İncelemesi, SLİ, Uzaktan Çalışma, Tele-çalışma, Örgütsel Bağlılık, Çalışan Bağlılığı



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LIST OF ABBREVIATIONS

CR	: Closely Related
DOI	: Digital Object Identifier
EID	: Scopus Bibliographic Database Unique Academic Work Identifier
ICT	: Information Communication Technologies
LMX	: Leader-member Exchange
LR	: Loosely Related
NR	: Non-related
PR	: Partially Related
RA	: Restricted Access
SLR	: Systematic Literature Review
WWW	: World Wide Web

CHAPTER 1: INTRODUCTION

Remote work refers to organizational work performed outside of the normal organizational confines of space and time (Olson, 1983). Monica Elling (1985) defines remote work as the distribution of different work tasks from a workplace to various other communities and parts of the world. Today remote work is already adopted by many companies and organizations worldwide. Remote working and other flexible working schedules are still getting popular and being adopted by more organizations. Detachment from the workplace is a growing trend (Felstead and Henseke, 2017). Recent years have seen an increasing number of organizations in the UK offering a range of flexible working options to their employees (Kelliher and Anderson, 2010). It is reported that remote working is especially becoming popular among the working population aged 20 to 59. The proportion of working remotely at least one day a week was 13.3% in 1997 and 17.1% in 2014 (Felstead and Henseke, 2017). The percentage of completely remote work was 7% in 1981 and increased to 12.3% in 2015 (Felstead and Henseke, 2017). The recent emergence of the COVID-19 pandemic has also increased the speed of remote work adoption. Businesses worldwide were forced to innovate and change the way they conduct their work. As work from home became mandatory, offices have become less critical. From mid-March to the end of May 2020, millions of Italians were forced to work from home because of the lockdown provisions imposed by the Italian government to contain the COVID-19 epidemic (Toscano and Zappalà, 2020). The COVID-19 pandemic has substantially forced most organizations to adopt remote work (Galanti and Guidetti, 2021).

Though many papers are written about remote work, only a few systematic literature reviews on this subject have been published so far. This research conducts detailed systematic literature with quantitative and qualitative attributes. This research aims to fill the gap in the literature by providing a detailed map of the area, identifying the most prominent contributors, and uncovering the most significant research that has been done previously. In addition to providing a literature map, this research asks, “How does remote work affect organizational commitment?”. This research analyzes the articles and interprets their findings to answer this question.

A literature scan has been done through Scopus, an academic database and search

engine. Before scanning, various keywords were tried in academic databases such as Scopus, Google Scholar, and WebOS in order to refine the search keywords for the actual scanning. Later, this refined search keyword is used for the literature scan through Scopus. Initially, Scopus generated 3898 items as the result of the literature scan. These 3898 items were refined using a previously prepared exclusion/inclusion criteria. According to the criteria, papers must be academic articles. Due to this criterion, 1466 items are excluded because they were of different types, such as books, conference papers, notes, or letters. The remaining articles had to be in English, and their subject areas had to be “Business, Management & Accounting” to meet the criteria. Quantitative exclusion of the papers was over when both criteria were applied, and there were 267 remaining articles to be examined in later stages.

The remaining 267 articles’ abstracts, keywords, and contexts are examined, and a qualitative elimination criterion is created. Qualitative exclusion is carried over under four categories: Restricted Access (RA), Non-Related (NR-1, NR-2, NR-3), and Loosely Related (LR). The five articles with restricted access are excluded because the author does not have access to their contexts through the organization on which this research is carried. Classifying the articles without access to their context would be against the principles of this systematic literature review. In the qualitative exclusion criteria, three reasons were identified for a paper to be counted as a non-related paper:

- Remote work is only used as an example.
- Remote work is only used in keywords.
- The word “remote” does not emphasize remote work.

One hundred twenty-seven articles were excluded due to being classified as non-related papers. The last criterion for qualitative exclusion is declared as a paper being loosely related to the subject. Articles whose definition of “remote work” is unrelated to organizational commitment, engagement, performance, or any such attribute were classified as loosely related. When the remaining articles were examined according to this criterion, 40 articles were excluded due to being loosely related. In the end, 95 articles closely related to the subject were selected for further data analysis. The information on the Scopus academic database related to these remaining 95 articles was gathered to be examined. The information gathered regarding these 95 articles includes, but is not limited to, authors, title, year, abstract, citation count, DOI number,

affiliations, keywords, references, and publisher.

These articles are analyzed under two categories: Primary data analysis and bibliometric network analysis. The primary data analysis was carried out by evaluating the data sets created by using the essential information of the articles, such as year, author, country, and subject area. This analysis examined the distribution of articles by year, the number of articles published by the authors, the distribution of articles by country, and the distribution of articles by subject area. A data analysis and network map generation tool called Vosviewer was used for the bibliometric network analysis. Vosviewer is a software tool for constructing and visualizing bibliometric networks. It specializes in analyzing academic data exported from sources such as Scopus, WebOs, Pubmed, Lens, or Dimensions. It uses advanced layout, clustering, and natural language processing techniques to create bibliometric networks. In bibliometric network analysis, bibliometric network maps in different categories were created, and data clusters on these maps were examined. The categories used in creating the bibliometric network map are “keyword co-occurrence”, “co-authorship by author”, “co-authorship by country”, and “citation of documents”. By examining the clusters in the network maps formed in these categories, information was obtained about many factors such as the affinity and relations of the concepts to each other, the reasons why the concepts are located in different clusters, the authors that are in collaboration with each other, the countries that collaborate, and the documents that refer to each other.

As a result of the primary data analysis, it has been found that 48.4% of the articles that are closely related to the “effects of remote working on organizational commitment” were published during and after 2020. This could imply that the popularity of this subject increased drastically during the COVID-19 Pandemic. 93% of the authors who have published articles on this topic only published a single article. Perhaps this topic can only be described as a passing fad for most authors. The top five countries contributing to this topic are the United States, the United Kingdom, The Netherlands, Germany, and Italy. These countries have published more than 48% of the articles on this topic. Considering the common characteristics of these five countries that contributed the most to this issue, the prominent points are that they are economically and socio-culturally developed. Adding the fact that Information Communication Technologies (ICT) is more advanced in economically developed

countries, it could be implied that the subject of remote work is more of a concern for the developed countries.

As a result of bibliometric network analysis, 8 clusters emerged on the keyword co-occurrence map. Over the years, the popularity of telework and telecommuting has decreased, while the popularity of the concept of remote work has increased. It has been observed that the keyword “autonomy” is in a close relationship with the “remote work” and “COVID-19” keywords. The “autonomy” keyword is also in close relationship with the keywords “leadership”, “digital transformation”, and “psychological well-being”. From this, it could be deduced that the increase in remote working due to COVID-19 could lead to more autonomous employees, which is supported by digital transformation. In the co-authorship network map, ten author clusters emerged. It is observed that the articles written jointly on this subject are generally created by the collaborations of the authors working at the same organization. Five document clusters emerged on the citation map. The articles on different clusters had different takes on the subject regarding the effects of remote work. While some articles mention that remote work positively affects employees, other articles argue the opposite. Articles in another cluster argue that, unlike these two groups, there cannot be a general statement on the impact of remote work on employees’ commitment, performance, well-being, and work-life balance. They argue that these effects can completely change according to the employee’s workplace, country of residence, current economic and social situation, home environment, and personality traits of the employee.

The rest of this thesis is organized as the following. Chapter 2 explains the details of the methodology carried out during the data collection, analysis, and review stages, as well as the review principles of this systematic literature review. It discusses the data collection steps and criteria. Chapter 3 presents the analysis in detail, providing the observations from the data sets acquired in the previous steps. Chapter 4 highlights the implications of the data analysis carried out previously and provides inferences. Chapter 5 concludes the paper while declaring the limitations and suggestions for further research.

CHAPTER 2: METHODOLOGY

2.1 Review Principles

Certain principles have been embraced for data collection and analysis processes to ensure the objectiveness of the research. Declaring these principles are essential to this study because they directly affect how the data is collected and refined. Thus, affecting the results of the study.

- *Explicit Search Keywords:* Search keywords have been explicitly declared in this research to ensure reproducibility and transparency of this study.
- *Explicit Inclusion and Exclusion Criteria:* The inclusion and exclusion criteria have been defined in detail for the sake of objectiveness.
- *Definitive Actions:* All actions taken in this study are recorded and included in this thesis for anyone to be able to recreate and enhance the study in the future.

2.2 Review Method

A literature scan for the related topic has been done through Scopus. Results from the initial search are saved for further filtering. An inclusion and exclusion criteria have been created to pick and choose the most relevant academic papers from Scopus results. Initial results have been skimmed through to analyze common attributes of the unrelated and related articles to generate inclusion/exclusion criteria. Initial results have been filtered through these criteria, and each paper is marked accordingly. The remaining articles have been chosen for further analysis and synthesis. A refined scope is generated from the chosen articles. Network maps and clusters of the given scope are generated. VosViewer, a software tool for constructing and visualizing bibliometric networks, has been chosen to generate the clustering and network maps of the refined scope. Generated maps and charts have formed a basis for further data analysis.

2.2.1 Data Collection

Search engines such as Scopus, WebOs, and Google Scholar have been used to refine the official search keyword(s) to query the scope of this research. After many trials, the following keywords are selected to query the scope: Remote work, telework, telecommute, organizational commitment, employee engagement, and engagement. A

definitive search string has been generated to search for these keywords on an article's title, abstract, and keywords. Further systematic filtering has been done through other criteria mentioned below.

Initial scope search has been generated through Scopus. The last access date of Scopus for generating the literature scope is December 26, 2021, 16:25:17 CET. Even though the completion of this thesis surpasses the last access date, data added to the literature after this date is not considered in this study to ensure consistency and reproducibility. The search string given below has been found to best describe the desired content, and it is used to search the literature that contains these values within its' title, abstract, or keywords. Search results are exported in CSV format for further processing.

("remote work" OR "remote working" OR "telework" OR "teleworking" OR "telecommute" OR "telecommuting") AND ("organizational commitment" OR "commitment" OR "employee engagement" OR "engagement")

A variety of data is collected regarding the literature scope search through Scopus. Collected data is formed of these sections: Title, Year, Author(s), Source(Journal), Title, Publisher, Volume, Issue, Pages, Number of Citations, Digital Object Identifier (DOI), Affiliations, Authors with Affiliations, Abstract, Author Keywords, Index Keywords, References, ISSN, Funding Details and Scopus Bibliographic Database Unique Academic Work Identifier (EID). Title, Year, Author, Keyword, and Citation information is fundamental to this research due to the nature of systematic literature reviews. This information is used to analyze the aspects, including but not limited to: The density of the research through the years, keyword co-occurrence, author co-occurrence, and research clustering through keywords and citations. DOI and EID numbers are included for the possibility of reviewing, reproducing, and expanding this study in the future.

An Inclusion and exclusion criteria have been generated to ensure the most closely related articles are selected for further analysis and synthesis. Inclusion and exclusion criteria are developed objectively to ensure the scientific approach of this study.

The last access date of the scope is December 26, 2021, 16:25:17 CET. On the last

access date, Scopus generated a total of 3898 results. Out of which, 1466 papers are excluded due to not being an article (DOCTYPE), 109 are excluded due to language filter (LANG), and 2056 are excluded due to their subject of study (SUBJ). Two hundred sixty-seven articles remained after the systematic filtering process.

The remaining 267 articles' title, abstract, introduction, and conclusion parts are carefully read and analyzed to determine whether the articles were closely related to the subject of this study. One hundred twenty-seven articles were eliminated due to being non-related articles (NR). Five articles were eliminated due to restriction access (RA). 40 Articles were eliminated due to being loosely related (LR). As a result, 95 articles closely related to this study's subject were chosen for further analysis.

Table 1. Inclusion and Exclusion Criteria

Type	Criteria	Description
Exclusion	Document Type (DOCTYPE)	A paper is excluded if it's not an academic article
Exclusion	Language (LANG)	A paper is excluded if its content is not in English
Exclusion	Subject (SUBJ)	A paper is excluded if its subject is not "Business, Management, and Accounting"
Exclusion	Restricted Access (RA)	A paper's full text and references are not accessible
Exclusion	Non-related (NR)	<p>NR-1 Remote work is only used as an example</p> <p>NR-2 Remote work is only used in keywords</p> <p>NR-3 The word "remote" is not emphasizing remote work</p>

Table 1 (continued). Inclusion and Exclusion Criteria

Exclusion	Loosely Related (LR)	Remote work is not related to any attribute of employees
Inclusion	Partially Related (PR)	PR-1 Remote working is used as a supportive argument
		PR-2 Remote working is indirectly associated with organizational commitment
Inclusion	Closely Related (CR)	A paper is closely related to the subject of the study

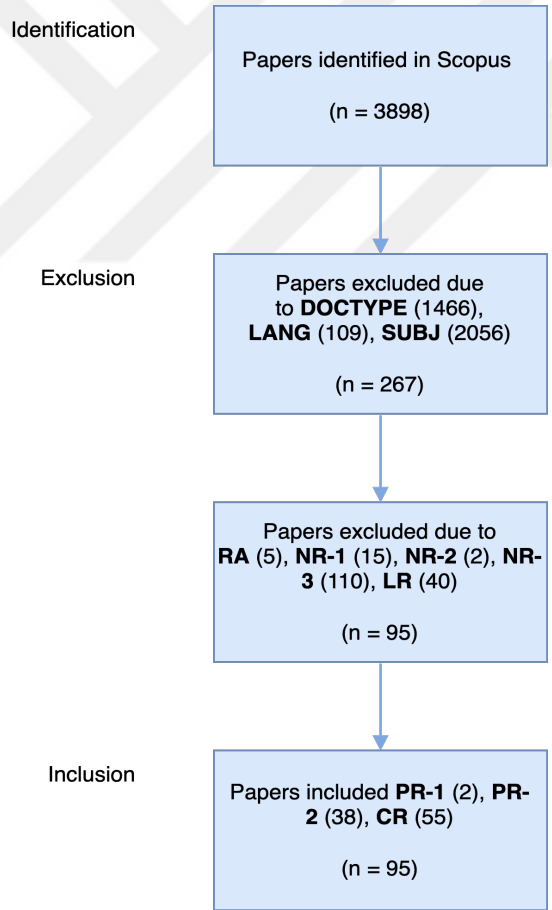


Figure 1. Systematic Review Methodology

The complete list of included and excluded articles at this stage is provided in Appendix A.

2.2.2 Data Analysis

Data denoising was used in this research in order to create more reliable data sets and data maps such as keyword co-occurrence and keyword clustering. Since the articles on the subject of this research use their keywords, data denoising was applied to standardize the data. In order to achieve data denoising, author keywords and index keywords were grouped according to previously determined objective criteria.

After applying the exclusion and inclusion criteria, 95 articles remained for further analysis. Distinct keywords used within these 95 articles are indexed for the keyword co-occurrence analysis. It has been found that some author and indexed keywords have only conjugation differences between them. These keywords are combined and grouped to reduce the number of individual clusters generated for the keywords with the same meaning and usage. These keyword groups include “COVID-19” and “COVID 19”, “remote work” and “remote working”, “telework” and “teleworking”, and “well-being” and “wellbeing”. Besides these keywords mentioned, there were more similar indexed keywords such as; “telecommute”, “telework” and “remote work”; “organizational commitment” and “employee engagement”. It has been understood that different scientific communities may have different word use for the keywords with similar meanings. As a result, these similar keywords are not grouped to the value of analysis for these keywords. The complete list of grouped keywords is provided in Table 2.

Table 2. Grouped Keywords

Keywords	Grouped as
COVID 19, COVID-19	COVID-19
remote work, remote working	remote work
telework, teleworking	telework
well-being, wellbeing	well-being

After the keywords are grouped, data clustering is done through VosViewer, a software tool for constructing and visualizing bibliometric networks. Exported data from

Scopus is fed into Vosviewer, and bibliometric network maps are generated under three categories: Keyword co-occurrence, co-authorship, and citation of documents. The clusters identified in each category are used in bibliometric network analysis, where the proximity of the concepts, the collaboration between authors, and the conclusions advocated by the articles are analyzed.

The data analysis phase is divided into primary data analysis and bibliometric network analysis. Primary data analysis was carried out on fundamental metrics of documents such as author, year, subject area, affiliation, and country. In the primary data analysis section, the data is transferred to this thesis as it is. Additionally, the most striking features of the data are explained without personal interpretation in this section. In the bibliometric network analysis section, bibliometric network maps were created using data analysis and a network map generation tool called Vosviewer. The prominent features of the data, along with the data obtained from these bibliometric network maps, are presented in this section.

CHAPTER 3: DATA ANALYSIS

In the analysis section, the primary data analysis and the bibliometric network analysis, which are based on the data of the published articles on this subject obtained from the Scopus academic database, are explained in detail.

3.1 Primary Data Analysis

The primary data analysis was conducted in light of the information in the Scopus academic database in order to provide an overview of the selected articles on the subject. The primary data analysis was carried out by evaluating the data sets created using the articles' essential information, such as year, author, country, and subject area. In this section, the data used for primary data analysis is also presented as tables.

3.1.1 Documents by Year

The primary data analysis of the included papers shows that 31 out of 95 articles closely related to the subject were published in 2021. This situation makes 2021 the year with the most articles published. It is found that the first article on this subject was written in 1984. It was also found that 48.42% of the articles closely related to the “effects of remote working on organizational commitment” were published during and after 2020. Although 38 years have passed since the first published article on this research topic, only 24 of the past 38 years have published articles on this topic.

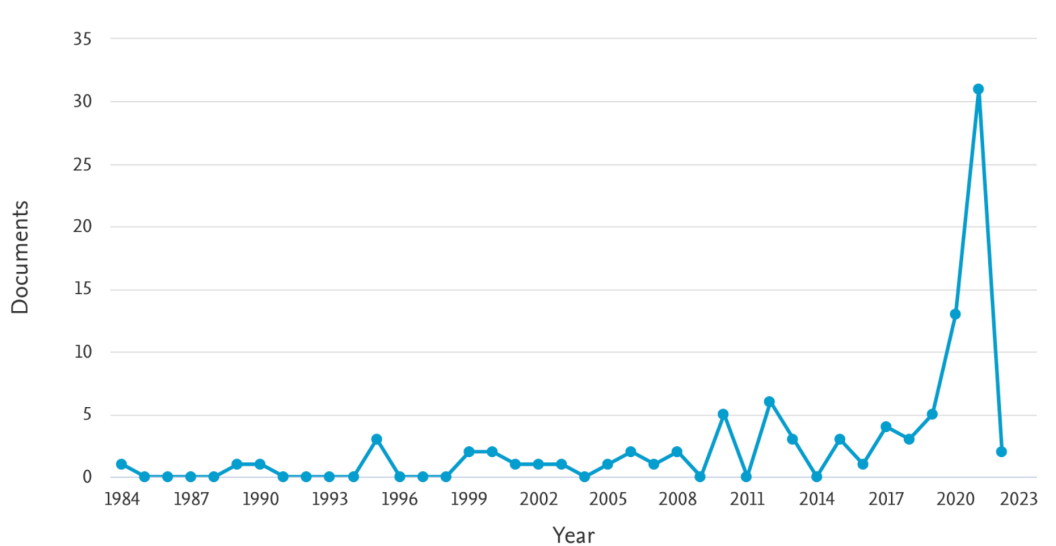


Figure 2. Documents by Year

Table 3. Documents by Year

Year	Documents	Year	Documents	Year	Documents
2022	2	2013	3	2002	1
2021	31	2012	6	2001	1
2020	13	2010	5	2000	2
2019	5	2008	2	1999	2
2018	3	2007	1	1995	3
2017	4	2006	2	1990	1
2016	1	2005	1	1989	1
2015	3	2003	1	1984	1

3.1.2 Documents by Author

In this analysis, a total of 160 authors who contributed to this research topic by writing articles were identified. Among 160 authors, the authors who have published the most articles on this topic have four articles. Those authors are Golden, T.D., and Grant, C.A. A total of 11 authors contributed to more than one article on this topic. Out of the 160 authors who have published articles on this subject, 11 have published 29.47% of the total. It was observed that 93.13% of the authors who contributed to the articles written on this topic contributed to only one article. Of the authors who contributed to this topic, 4.37% contributed to two articles, 1.25% contributed to three articles, and the other 1.25% contributed to 4 articles. The standard deviation for the number of documents by authors is 0.44293. On average, each author contributed 1.10625 articles. The complete list of authors that have published research on this topic is given below in this study's scope.

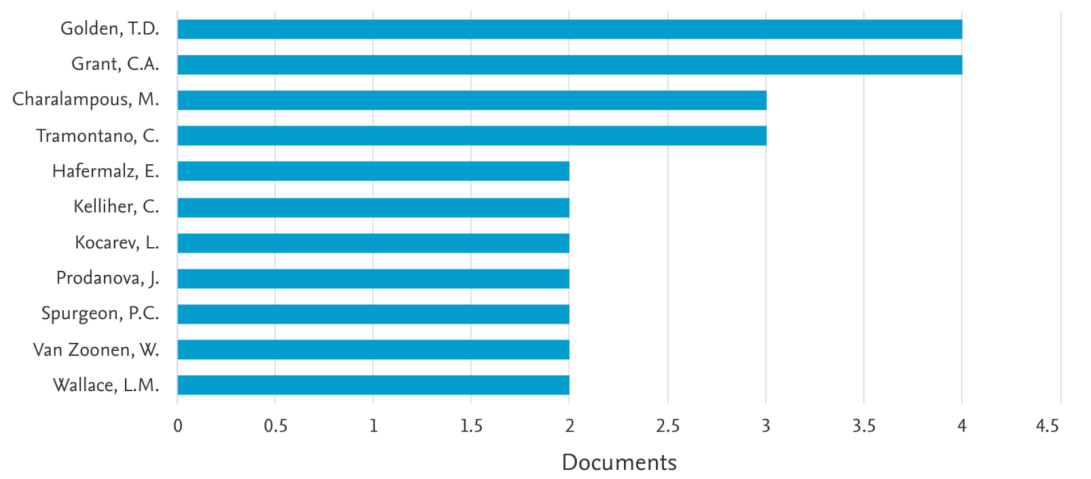


Figure 3. Documents by Author

Standard Deviation, s : **0.44293013773985**
 Count, N : 160
 Sum, Σx : 177
 Mean, \bar{x} : 1.10625
 Variance, s^2 : 0.19618710691824

Table 4. The Frequency of the Number of Documents Published by Authors

Value	Frequency
1	149 (93.125%)
2	7 (4.375%)
3	2 (1.25%)
4	2 (1.25%)

Table 5. The Number of Documents Published by Authors

Author	Doc	Author	Doc	Author	Doc	Author	Doc
Golden, T.D.	4	Canavesi, A.	1	Grima, S.	1	Long, S.D.	1
Grant, C.A.	4	Cavallone, M.	1	Guimaraes, T.	1	Low, M.P.	1
Charalampous, M.	3	Cecez-Kecmanovic, D.	1	Gursoy, D.	1	Lutz, C.	1
Tramontano, C.	3	Chai, D.S.	1	Gálvez, A.	1	Lyons, E.	1
Hafermalz, E.	2	Chatterjee, S.	1	Hamarat, B.	1	MacDonnell, R.	1
Kelliher, C.	2	Chaudhuri, R.	1	Hamblin, H.	1	Madera, J.M.	1

Table 5 (continued). The Number of Documents Published by Authors

Kocarev, L.	2	Chebelyon, E.	1	Henseke, G.	1	Madero Gómez, S.	1
Prodanova, J.	2	Chi, O.H.	1	Henttonen, K.	1	Maghlaperidze, E.	1
Spurgeon, P.C.	2	Child, J.T.	1	Higa, K.	1	Maneethai, D.	1
Van Zoonen, W.	2	Choudhury, P.	1	Higgins, C.A.	1	Mangipudi, M.R.	1
Wallace, L.M.	2	Conradie, W.J.	1	Holtschlag, C.	1	Manna, R.	1
Abdala, E.C.	1	Corvino, F.	1	Hornung, S.	1	Margheritti, S.	1
Abdullah, H.	1	Crowston, K.	1	Horwitz, F.M.	1	Marinho, M.	1
Albert, L.	1	Cucciniello, M.	1	Huber, A.	1	Martin, B.H.	1
Alcaraz, J.M.	1	Dahlander, L.	1	Huff Mac Pherson, A.	1	Masuda, A.D.	1
Amorim, L.	1	Dahlstrom, T.R.	1	Hulland, J.S.	1	McDowall, A.	1
Anderson, D.	1	Daniels, K.	1	Hunter, E.M.	1	Mele, V.	1
Anwar, I.	1	De Menezes, L.M.	1	Hunton, J.E.	1	Menezes, A.C.	1
Appel- Meulenbroek, R.	1	DeSanctis, G.	1	Hübler, O.	1	Menezes, I.	1
Arentze, T.	1	Delanoetje, J.	1	Igbaria, M.	1	Michailidis, E.	1
Atwater, L.E.	1	Delfino, G.F.	1	Ismail, N.	1	Miglioretti, M.	1
Aussems, R.	1	Diogo, A.	1	Jacobs, G.	1	Minelli, E.	1
Bartsch, S.	1	Donnelly, R.	1	Jamal, M.T.	1	Minervini, M.S.	1
Batenburg, R.	1	Endeshaw, A.	1	Jena, L.K.	1	Moen, P.	1
Bekkers, V.	1	Fan, W.	1	Jensen, N.	1	Mohamed el Subbaugh, S.	1
Belle, S.M.	1	Fang, Y.	1	Jeong, S.	1	Moraes, E.	1
Bellmann, L.	1	Felstead, A.	1	Johns, J.	1	Morais, G.G.	1
Bellé, N.	1	Fenner, G.H.	1	Kahnweiler, W.	1	Muralidhar, B.	1
Blomqvist, K.	1	Fieseler, C.	1	Khan, N.A.	1	Mustafa, M.	1
Boell, S.K.	1	Ford, R.C.	1	Kharadze, N.	1	Narasimhan, S.	1
Bommer, W.	1	Fritz, M.E.W.	1	Kinman, G.	1	Neirotti, P.	1
Bras, R.L.	1	Gamal Aboelmaged, M.	1	Kowalski, K.B.	1	Neufeld, D.J.	1
Bravington, D.	1	Gashi, A.	1	Kröll, C.	1	Newman, S.A.	1
Bu, M.	1	George, T.J.	1	Kuc-Czarnecka, M.	1	Nicklin, J.M.	1
Bucher, E.	1	Glaser, J.	1	Kuruzovich, J.	1	Nordbäck, E.S.	1
Burley, D.L.	1	Gold, M.	1	Kuspliak, H.	1	Norman, C.S.	1

Table 5 (continued). The Number of Documents Published by Authors

Burrell, D.N.	1	Gomes, C.	1	Kutllovci, E.	1	Nüesch, S.	1
Büttgen, M.	1	Goodarzi, S.	1	Lamond, D.	1	Olivas-Luján, M.R.	1
Camara, R.	1	Gragnano, A.	1	Le Blanc, P.	1	Oliveira, B.R.	1
Campbell, J.	1	Griffith, T.L.	1	Lim, V.K.G.	1	Olson, M.H.	1

3.1.3 Documents by Affiliation

As a result of the primary data analysis, it was seen that a total of 160 universities and institutes had contributed to the literature on this subject. The top five affiliations that contributed to this subject are Coventry University with four articles, Rensselaer Polytechnic Institute with four articles, Lally School of Management with four articles, University of Western Ontario with three articles, and Erasmus Universiteit Rotterdam with three articles. Five percent of the affiliations that contributed to the publication of the articles on this subject have contributed to 28% of the total published articles. The standard deviation for the number of documents by affiliation is 0.59293. On average, each affiliation contributed 1.10625 articles. Below is a list of affiliations that have published research on this topic.

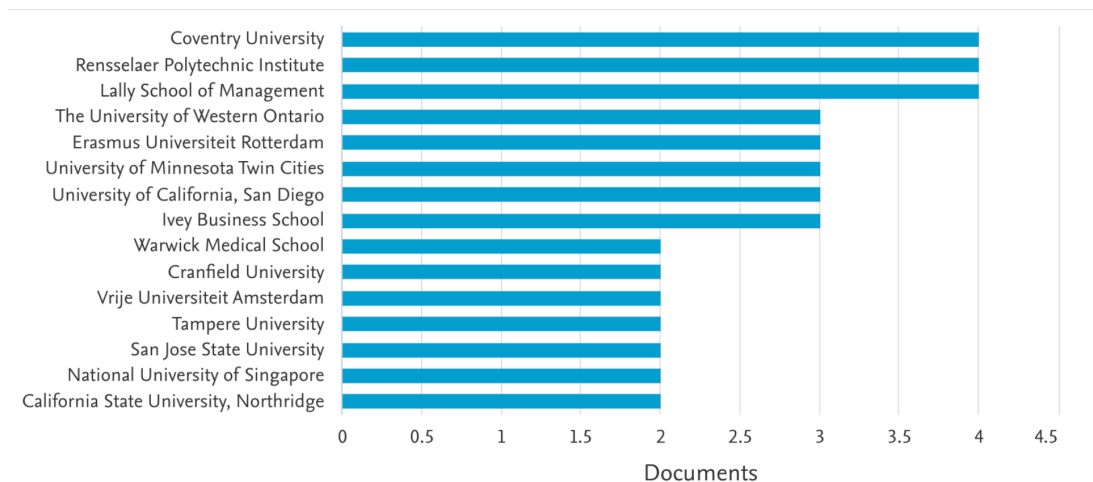


Figure 4. Documents by Affiliation

Standard Deviation, s: **0.5929353481148**
 Count, N: 160
 Sum, Σx : 196
 Mean, \bar{x} : 1.225

Variance, s^2 :

0.35157232704402

Table 6. The Frequency of the Number of Documents Published per Affiliation

Value	Frequency
1	135 (84.375%)
2	17 (10.625%)
3	5 (3.125%)
4	3 (1.875%)

Table 7. The Number of Documents Published per Affiliation

Affiliation	# Doc	Affiliation	# Doc	Affiliation	# Doc	Affiliation	# Doc
Coventry University	4	University of Illinois Urbana-Champaign	1	College of DuPage	1	University of Liverpool	1
Rensselaer Polytechnic Institute	4	Friedrich-Alexander-Universität Erlangen-Nürnberg	1	The University of Arizona	1	Stonehill College	1
Lally School of Management	4	Universidade Federal Rural de Pernambuco	1	Florida Institute of Technology	1	University of Arizona College of Medicine – Tucson	1
The University of Western Ontario	3	Pennsylvania State University	1	Santa Clara University	1	New York University	1
Erasmus Universiteit Rotterdam	3	Stellenbosch University	1	Università Carlo Cattaneo	1	Università Bocconi	1
University of Minnesota Twin Cities	3	Florida State University	1	Baylor University	1	National Institute of Industrial Engineering	1
University of California, San Diego	3	University of Calgary	1	Politecnico di Torino	1	University of Connecticut	1

Table 7 (continued). The Number of Documents Published per Affiliation

Ivey Business School	3	State University of New York System	1	Università degli Studi di Milano-Bicocca	1	University of Delaware	1
Warwick Medical School	2	Virginia Commonwealth University	1	Georgia State University	1	Universitat Autònoma de Barcelona	1
Cranfield University	2	Universitat Oberta de Catalunya	1	University of Bedfordshire	1	Menoufia University	1
Vrije Universiteit Amsterdam	2	The George Washington University	1	University of Hawai'i at Mānoa	1	UNITEC Institute of Technology	1
Työterveyslaitos	2	Claremont Graduate University	1	University of Florida	1	KU Leuven	1
Tampere University	2	Arizona State University	1	City University of Hong Kong	1	Universiti Putra Malaysia	1
The Open University	2	Cleveland State University	1	AT&T Inc.	1	Utkal University	1
San Jose State University	2	Bolu Abant İzzet Baysal Üniversitesi	1	LUT University	1	The University of Sydney	1
National University of Singapore	2	The University of Waikato	1	University of Hartford	1	Gdańsk University of Technology	1
California State University, Northridge	2	Indian Institute of Technology Kharagpur	1	Drexel University	1	Virginia Polytechnic Institute and State University	1
University of Warwick	2	Gottfried Wilhelm Leibniz Universität Hannover	1	University of Nottingham	1	Università degli Studi di Roma Tor Vergata	1
Universidad de Burgos	2	Munich Business School	1	Brandeis University	1	UNSW Sydney	1
Sant'Anna Scuola Universitaria Superiore Pisa	2	Università degli Studi di Bergamo	1	Louisiana Tech University	1	Polytechnic Institute of Leiria	1

Table 7 (continued). The Number of Documents Published per Affiliation

University of Jyväskylä	2	Nanyang Technological University	1	Saint Mary's University	1	University of Memphis	1
SS Cyril and Methodius University	2	Tel Aviv University	1	Radboud Universiteit	1	Ludwig-Maximilians-Universität München	1
Macedonian Academy of Sciences and Arts	2	UCL Institute of Education	1	Ain Shams University	1	University of California, Santa Barbara	1
Aalto University	2	Delft University of Technology	1	St. Cloud State University	1	Tennessee Technological University	1
Cranfield School of Management	2	La Trobe University	1	Florida Atlantic University	1	University of Southern California	1
Center for People and Buildings	1	The University of North Carolina at Charlotte	1	Washington State University Pullman	1	University of Hull	1
Trident University International	1	Louisiana State University	1	Universität Hohenheim	1	Syracuse University	1
Karvy Stockbroking Limited	1	Cornell University	1	Virginia Tech, Pamplin College of Business	1	California State University, Los Angeles	1
Cyprus Institute of Marketing	1	Clarion University	1	Instituto Superior de Ciencias Empresariais e de Turismo	1	Boston College	1
Allen Institute for Artificial Intelligence	1	Tecnologico de Monterrey	1	Çanakkale Onsekiz Mart Üniversitesi	1	University of South Australia	1
Hopkins-Nanjing Center	1	Universiteit Utrecht	1	International Crops Research Institute for the Semi-Arid Tropics	1	Aligarh Muslim University	1

Table 7 (continued). The Number of Documents Published per Affiliation

Fraym	1	Handelshøyskolen BI	1	Macquarie University	1	North Dakota State University	1
vbt Vastgoedmanage ment bv	1	Universidade de São Paulo	1	Georgia Institute of Technology	1	Arkansas State University	1
University of Arkansas	1	NIVEL - The Netherlands Institute for Health Services Research	1	Harvard Business School	1	Instituto Superior de Gesto - ISG	1
Feira de Santana State University	1	Hong Kong University of Science and Technology	1	Technical University of Munich	1	Technische Universiteit Eindhoven	1
Universidade Federal do Rio de Janeiro	1	Hong Kong Polytechnic University	1	Bayes Business School, City University of London	1	Nanjing University	1
Case Western Reserve University	1	The Australian National University	1	Copenhagen Business School	1	Universiteit Gent	1
University of Cape Town	1	Birkbeck, University of London	1	Binghamton University State University of New York	1	Shri Ramdeobaba College of Engineering and Management, Nagpur	1
Westfälische Wilhelms- Universität Münster	1	University of Massachusetts Dartmouth	1	Royal Holloway, University of London	1	International Livestock Research Institute Nairobi	1
University of Johannesburg	1	Colorado State University	1	University of Bristol	1	Universiteti i Prishtines	1

3.1.4 Documents by Country

It has been observed that the total number of countries contributing to the articles published on this subject is 35. The country that has contributed the most articles to this subject was the United States, with 30 articles. Other top contributors are the

United Kingdom, the Netherlands, Germany, Italy, Australia, and Canada. The standard deviation for the number of documents by country is 5.29753. On average, each country contributed 3.62857 articles. Below is a list of countries that have contributed to research on this topic.

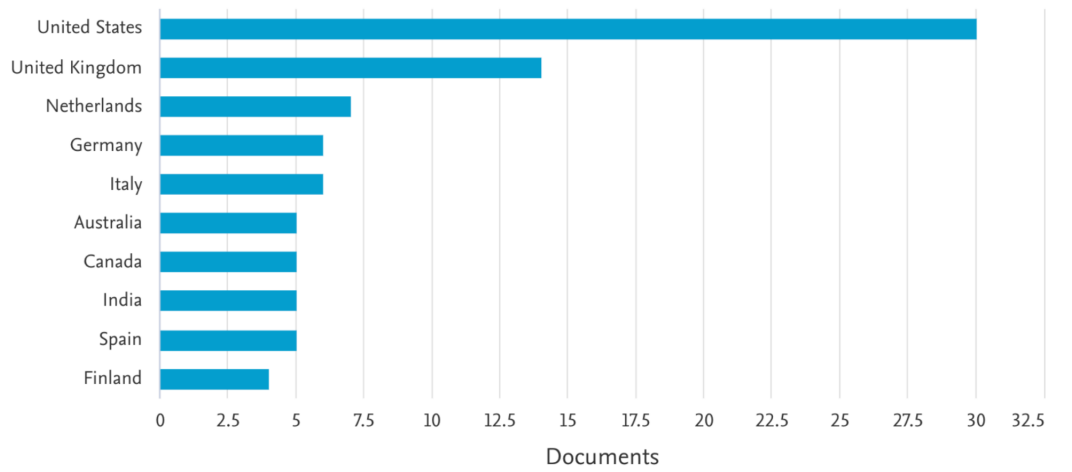


Figure 5. Documents by Country

Standard Deviation, s : **5.297539117573**
 Count, N : 35
 Sum, Σx : 127
 Mean, \bar{x} : 3.628571428571
 Variance, s^2 : 28.06386554621

Table 8. The Number of Articles Contributed per Country

Country	Doc	Country	Doc	Country	Doc	Country	Doc
1. United States	30	10. Finland	4	19. Turkey	2	28. Mexico	1
2. United Kingdom	14	11. Singapore	4	20. United Arab Emirates	2	29. New Zealand	1
3. Netherlands	7	12. Brazil	3	21. China	1	30. Norway	1
4. Germany	6	13. Hong Kong	3	22. Denmark	1	31. Peru	1
5. Italy	6	14. South Africa	3	23. Egypt	1	32. Poland	1
6. Australia	5	15. Belgium	2	24. Georgia	1	33. Portugal	1
7. Canada	5	16. Cyprus	2	25. Israel	1	34. Serbia	1
8. India	5	17. Malaysia	2	26. Kenya	1	35. Ukraine	1
9. Spain	5	18. North Macedonia	2	27. Malta	1	Unknown	4

3.1.5 Documents by Subject Area

It has been determined that the number of articles written on this subject without applying scientific field limitations is 196. It has been observed that those 196 articles written on this subject have spread to 12 different scientific fields. The scientific field with the most articles is “Business, Management, and Accounting”, with 49.2% of the written content. Contributions to this research subject of other scientific fields are respectively “Social Sciences” with 16.1%, “Decision Sciences” with 8.3%, “Psychology” with 7.8%, “Economics, Econometrics and Finance” with 5.7%, “Computer Science” with 4.7%, “Arts and Humanities” with 4.1%, “Engineering” with 1.6%, “Environmental Science” with 1.0%, “Biochemistry, Genetics and Molecular Biology” with 0.5%. The standard deviation for the number of documents by subject area is 26.3627. On average, there are 16.08 articles per subject area. Below is a complete list of subject areas with articles written on this topic. Out of 196 articles written so far, only 95 articles in the scientific field of “Business, Management and Accounting” are selected in this study.

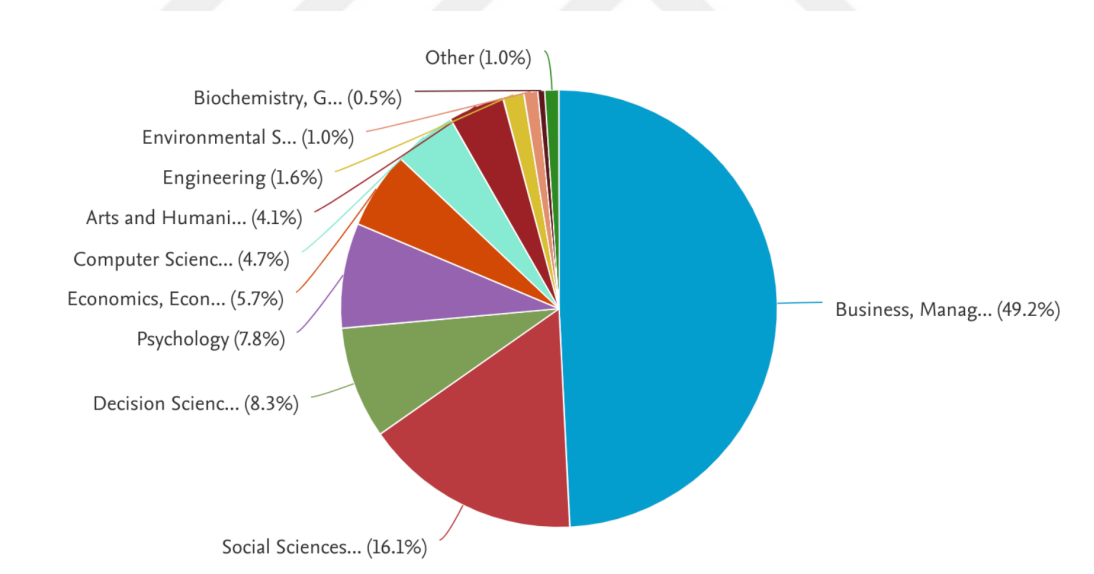


Figure 6. Documents by Subject Area

Standard Deviation, s :	26.362708970104
Count, N :	12
Sum, Σx :	193
Mean, \bar{x} :	16.0833333
Variance, s^2 :	694.992424

Table 9. Number of Documents Published per Subject Area

Subject Area	Docs	Subject Area	Docs
1. Business, Management and Accounting	95	7. Arts and Humanities	8
2. Social Sciences	31	8. Engineering	3
3. Decision Sciences	16	9. Environmental Science	2
4. Psychology	15	10. Biochemistry, Genetics and Molecular Biology	1
5. Economics, Econometrics and Finance	11	11. Chemical Engineering	1
6. Computer Science	9	12. Earth and Planetary Sciences	1

3.2 Bibliometric Network Analysis

A data analysis and network map generation tool called Vosviewer was used for the bibliometric network analysis. Vosviewer analyzes academic data exported from sources such as Scopus, WebOs, Pubmed, Lens, or Dimensions. Vosviewer successfully creates different types of network maps such as keyword co-occurrence and co-authorship from the data. Vosviewer uses advanced layout, clustering, and natural language processing techniques to create bibliometric networks. Vosviewer is still being developed and improved by Leiden University in the Netherlands.

In order to create an academic network map with Vosviewer, exported paper data and various parameters must be provided to it. Data clusters were created using this tool according to specific parameters. Parameters and values for each network map are given in each category so that the research is transparent and can be repeated.

3.2.1 Keyword Co-occurrence

Keyword co-occurrence maps provide visualization of relationships between concepts from keywords. The most mentioned keywords, that is, the keywords with the most substantial relationship to each other, and the relationship strengths of keywords can be visualized with keyword co-occurrence maps. These keyword co-occurrence maps show keywords and links between them. If two keywords are found together in at least one article, a link is created between those keywords. If two keywords are in an article simultaneously, the strength of the link between these keywords increases by one. The total link strength of the link between two keywords is equivalent to the number of

articles containing those two keywords.

In this research, a keyword co-occurrence map was created using the data from 95 articles discussed. The complete set of parameters and their values used during the creation of this map is given below.

Table 10. Parameters for Keyword Co-occurrence Map

Type of Analysis	Co-occurrence
Unit of Analysis	All Keywords (Index Keywords + Author Keywords)
Counting Method	Full Counting
Minimum number of occurrences of a keyword	2
Keywords matching criteria	50
Number of keywords to be selected	50

According to the analysis result of Vosviewer, eight clusters emerged on this keyword co-occurrence map. The keywords included in these clusters are given below as a complete list.

Table 11. Co-occurrence Keywords and Clusters

Cluster	Item	Links	Total link strength	Occurrence
Cluster 1 (9 items)				
Cluster 1	autonomy	8	14	4
Cluster 1	career development	2	2	2
Cluster 1	crisis	6	11	3
Cluster 1	cronbach alpha	4	8	2
Cluster 1	digital transformation	6	7	2
Cluster 1	ethnography	4	4	2
Cluster 1	leadership	8	8	3
Cluster 1	psychological well being	5	10	3
Cluster 1	remote work	32	81	34

Table 11 (continued). Co-occurrence Keywords and Clusters

Cluster 2 (9 items)				
Cluster 2	attitudes	4	4	2
Cluster 2	employee well-being	3	3	2
Cluster 2	field experiment	3	3	2
Cluster 2	home office	1	1	2
Cluster 2	job satisfaction	18	28	9
Cluster 2	lmx	4	6	2
Cluster 2	organizational commitment	10	17	7
Cluster 2	telecommuting	26	44	21
Cluster 2	virtual work	6	7	3
Cluster 3 (8 items)				
Cluster 3	anxiety	10	10	2
Cluster 3	control	3	3	2
Cluster 3	efficacy	9	10	2
Cluster 3	employment	15	16	4
Cluster 3	epidemic	10	12	2
Cluster 3	human resource management	10	12	2
Cluster 3	job performance	10	10	2
Cluster 3	performance	13	14	4
Cluster 4 (8 items)				
Cluster 4	burnout	6	9	3
Cluster 4	e-work	4	7	2
Cluster 4	engagement	9	11	5
Cluster 4	health	6	6	2
Cluster 4	motivation (psychology)	2	2	2
Cluster 4	telework	31	62	27
Cluster 4	turnover intentions	6	6	2
Cluster 4	work design	3	3	2
Cluster 5 (6 items)				
Cluster 5	belonging	8	8	2
Cluster 5	information technology	3	3	2
Cluster 5	personnel	9	11	4
Cluster 5	remote workers	9	10	3

Table 11 (continued). Co-occurrence Keywords and Clusters

Cluster 5	telecommunication	3	4	2
Cluster 5	virtual organizations	4	5	3
Cluster 6 (4 items)				
Cluster 6	productivity	16	24	6
Cluster 6	quality of life	6	7	2
Cluster 6	satisfaction	5	7	2
Cluster 6	work-life balance	14	21	8
Cluster 7 (4 items)				
Cluster 7	employees	3	3	2
Cluster 7	strain	4	5	2
Cluster 7	stress	5	10	4
Cluster 7	well-being	14	32	11
Cluster 8 (2 items)				
Cluster 8	COVID-19	31	64	20
Cluster 8	employee engagement	1	1	3

When the total link strength is considered, the top five most vital keywords are “remote work” with 81, “COVID-19” with 64, “telework” with 62, “telecommuting” with 44, and “well-being” with 32 link strength. The most influential keywords within clusters 1, 2, 3, 4, 5, 6, 7, and 8 are “remote work”, “telecommuting”, “employment”, “telework”, “personnel”, “productivity”, “well-being”, and “COVID-19”, respectively. These eight keywords are the most binding keywords of each cluster and are also linked to each other to a certain degree. A list of links and their strengths is provided in Appendix B.

Examining the average publication year per cluster, the most recent clusters are clusters 8, 7, and 6, respectively. Interpreting this table, it can be said that the newest cluster is number 8, and the oldest cluster is cluster number 5, with an average publication year of 2008. Based on keywords, the most recent five keywords are satisfaction, employee, job performance, human resource management, and epidemic, respectively. Again, based on keywords, the oldest five keywords are telecommunication, attitudes, information technology, virtual work, and telecommuting, respectively. A list of keyword co-occurrence items and their

attributes that are used to interpret this data is given in Appendix C.

Table 12. Keyword Co-occurrence Clusters and Average Publication Years

Cluster	Avg. Pub. Year	Cluster	Avg. Pub. Year
8	2020.6	1	2017.9
7	2019.3	4	2016
6	2018	2	2011.5
3	2018	5	2008.6

The following table emerges when remote work and keywords close to it are examined. Among the keywords used in the articles examined by this study, the oldest keyword used to define remote work is “telecommuting”. The most recent keywords considering the average publication year are e-work and remote work.

Considering the keywords used as remote work and its substitution, the most commonly used keywords in the articles in this literature review are remote work, telework, telecommuting, virtual work, and most recently, e-work. Among these keywords, virtual work and e-work were used only in 2 and 3 articles, respectively. It is safe to say that there are three generally accepted keywords in the literature for the concept of remote work. These are “telecommuting”, “telework”, and “remote work”. When the average publication years are evaluated, the most popular keywords describing the concept of remote work are “telecommuting” around 2008, “telework” around 2012, and “remote work” around 2016. Today, the most accurate keyword to define remote and flexible work schedules seems to be remote work.

Regarding the average citation information of remote work and the keywords used in its place in this literature review, the keyword with the highest citation is virtual work. When the average citation information of remote work and the keywords used in its place is evaluated, it is seen that “virtual work” is the keyword with the highest citation. The virtual work keyword is also the oldest keyword used for the concept of remote work in this literature scan. It can be deduced from here that most of the articles published on this subject refer to the oldest articles written about the concept of remote

work.

Table 13. Five Keywords to Define Remote Work

Label	Links	Total Link Strength	Occurrence	Avg. Pub. Year	Avg. Citations
virtual work	6	7	3	2006.6667	94
telecommuting	26	44	21	2008.5714	36.0952
telework	31	62	27	2012.963	38.8889
remote work	32	81	34	2016.1176	29.6176
e-work	4	7	2	2020	30

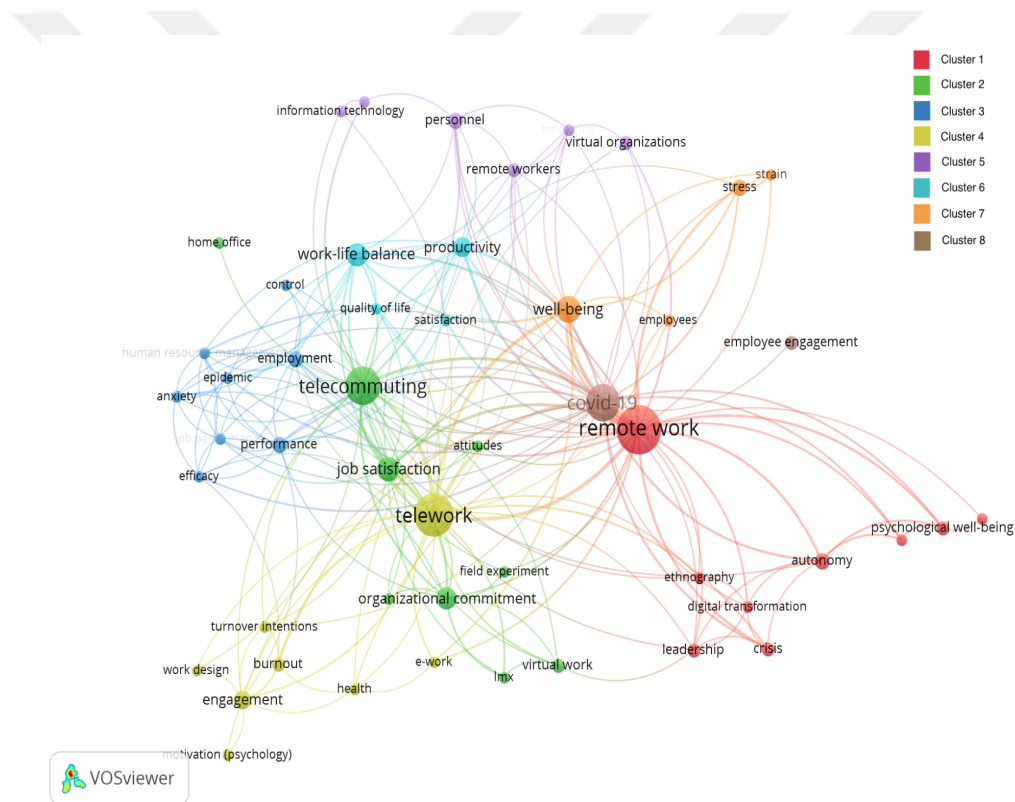


Figure 7. Keyword Co-occurrence Map

3.2.2 Co-Authorship

3.2.2.1 Co-Authorship by Author

A co-authorship network map is created by Vosviewer using the following parameters. Articles written by 25 or more authors were excluded from the analysis in order to consider the articles to which the authors contributed significantly. To not miss the collaborations of the authors who have only published one article, there is no limit to

the minimum number of documents for an author. The minimum number of documents per author has been taken as 1. Since the whole network map of 160 authors who have published on this topic is quite complex, the minimum number of citations of an author is taken as 25. Having a minimum citation amount also helped show the most influential authors in this field.

Table 14. Parameters for the Co-authorship Map by Authors

Type of Analysis	Co-authorship
Unit of Analysis	Authors
Counting Method	Full Counting
Ignore documents with large number of authors	Yes
Maximum number of authors per document	25
Minimum number of documents of an author	1
Minimum number of citations of an author	25
Minimum total link strength	2

In this network map, the size of the circles is associated with the number of articles published by the authors. Similarly, the strength of the links between the authors is related to the number of articles published together by the authors at both ends of the link.

From this map, it can be seen that Grant C.A., Charalampous M., and Tramontano C. published many articles together. This cluster constitutes the largest cluster in terms of the number of authors and published articles among the co-authorship clusters in this literature review. Golden T.D., one of the authors who has published many articles, Sardeshmukh S.R., and Sharma D. together form a cluster. The links of this cluster are weaker than the cluster in which Grant C.A. is located. It can be said that these three authors are much less collaborative than Grant C.A.'s set.

Considering the overall literature, authors who have published articles on this subject only form small clusters. Ten small clusters of authors were observed in the co-authorship network map. However, most authors who have published articles on this

subject have remained outside these clusters. The main reason is that most authors who have published articles on this subject have only one article published and the map parameters eliminate them due to it.

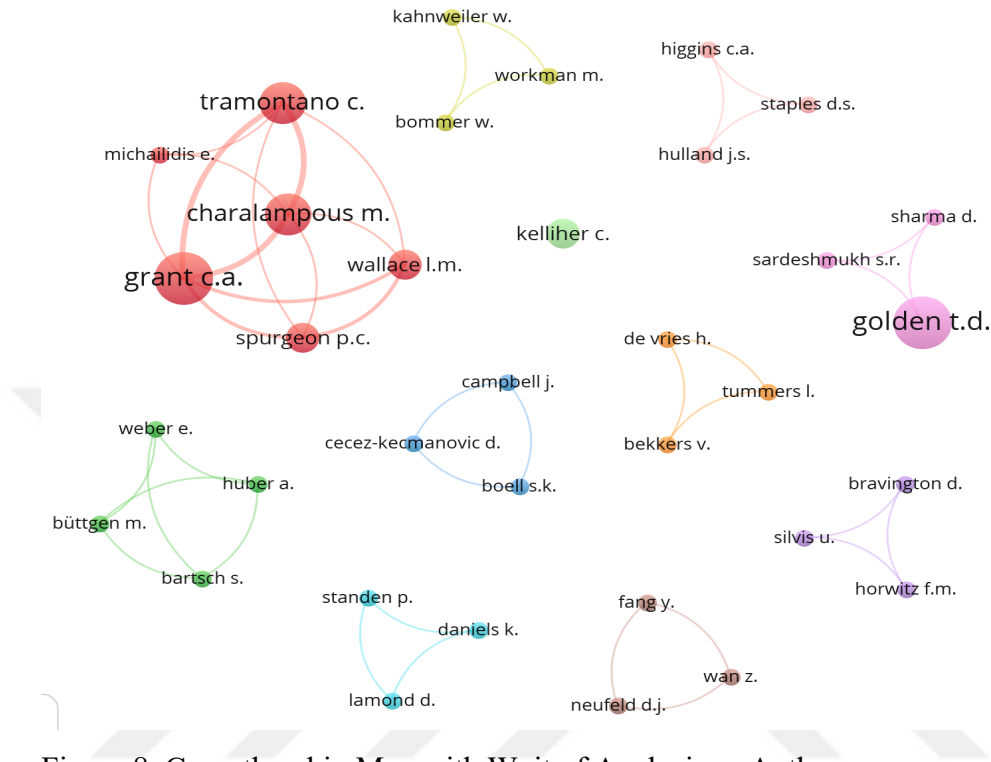


Figure 8. Co-authorship Map with Wnit of Analysis as Author

3.2.2.2 Co-Authorship by Country

Another co-authorship network map on this subject was created based on the countries where the articles were published instead of the authors who contributed to the article.

Table 15. Parameters for the Co-authorship Map by Countries

Type of Analysis	Co-authorship
Unit of Analysis	Country
Counting Method	Full Counting
Ignore documents co-authored by a large number of countries	Yes
Maximum number of countries per document	25
Minimum number of documents of a country	2
Minimum number of citations of a country	0

In this network map, the links of the countries in the cooperation on this topic can be seen. In this map, the size of the circles indicates the number of published articles, and the thickness of the lines indicates the number of jointly published articles. According to this map, the countries that publish the most articles are the United States and the United Kingdom. The United States forms a cluster with Spain and northern Macedonia. The United Kingdom forms a cluster with Australia, Brazil, and the United Arab Emirates.

Inspecting the countries' cooperation with each other;

- Australia is the only country where the United States of America and the United Kingdom cooperate.
- One of the two countries that Cyprus is in cooperation with is the United Kingdom.

Canada, Hong Kong, and Malaysia form a cluster. South Africa and Turkey form another cluster. Italy and Belgium form a cluster. Germany and Singapur form a cluster. Finland and the Netherlands form another cluster.

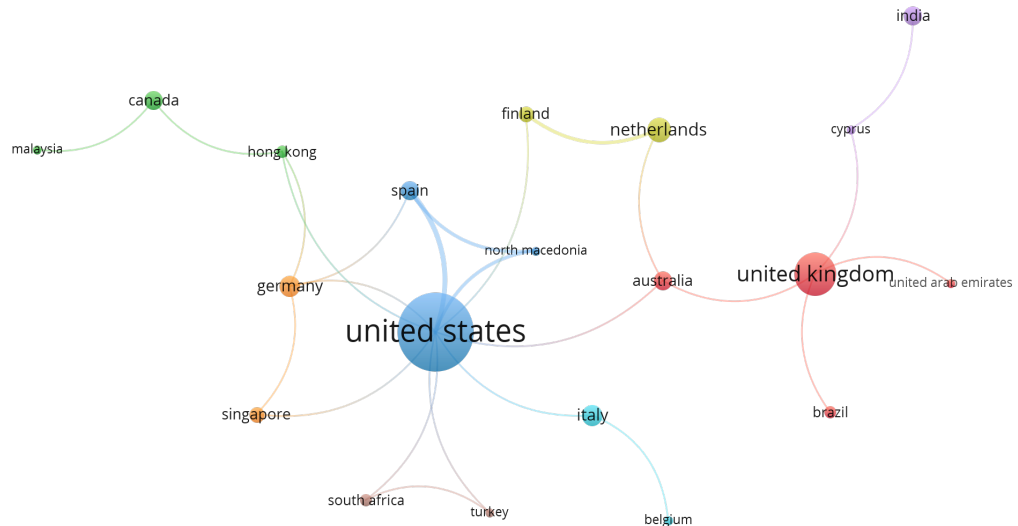


Figure 9. Co-authorship Map with Unit of Analysis as Country

Looking at the same map by years, it can be said that Singapore, Canada, and Hong

Kong are the first countries to work on this issue. Later, they were joined by the United States, the United Kingdom, Australia, and the United Arab Emirates. It can be said that Spain, the Netherlands, India, Turkey, and Italy have started to contribute to the subject in recent years.

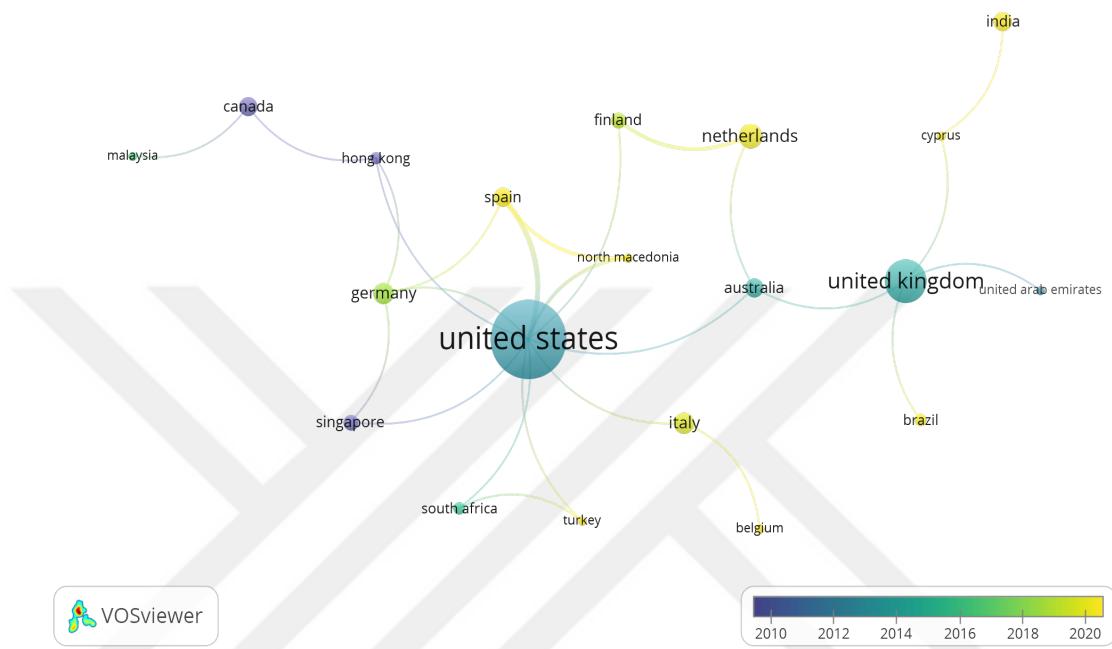


Figure 10. Co-authorship Map with Unit of Analysis as Country, Overlay by Year

3.2.3 Citation of Documents

In this context, a citation network map was created based on the citations among the authors who contributed to this subject. The size of the circles in this network map is related to the number of citations received by the documents. The lines on the map show the reference given by the two documents to each other. The thickness of the lines is directly proportional to the number of citations that two articles give each other. However, since two documents can be linked to each other only once, the thickness of all links seems equal on this network map. The parameters given to Vosviewer for creating the network map in this category are presented below.

Table 16. Parameters for Citation of Documents Map

Type of Analysis	Citation
Unit of Analysis	Documents

Table 16 (continued). Parameters for Citation of Documents Map

Minimum number of citations of a document	25
Number of documents to be selected	29 (All that apply)

Articles written on remote work and organizational commitment with 25 or more citations are included in this map. Examining only the articles with 25 or more citations was to create a more consistent map of the articles with high validity on the subject. Since 22 of 29 articles on the map refer to each other through other articles, they are linked to each other on the map. The seven articles with 25 or more citations included in this map have no links because they do not refer to or are not referenced by other articles on the map.

When the articles on remote work and organizational commitment with 25 or more citations are examined, it is observed that five different clusters are formed on the bibliometric network map created by Vosviewer. The detailed information on the 5 clusters formed is given below. When the clusters are examined, the most cited articles from each cluster are “Kelliher (2010)”, “Staples (1999)”, “Daniels (2001)”, “Sardeshmukh (2012)”, and “Martin (2012)” for Clusters 1, 2, 3, 4 and 5, respectively. Of the five clusters, it was observed that only in clusters 3 and 4, the oldest article written in its cluster was the article with the highest citation. The most cited articles of Clusters 1, 2, and 5 are not the oldest articles in the cluster they are in. For Cluster 1, the oldest article, “Igbaria (1999)”, has 139 citations, while “Kelliher (2010)” in the same cluster has 343 citations. For Cluster 2, the oldest article, “Descantis (1984)”, has 139 citations, while “Staples (1999)” has 226 citations. “Descantis (1984)” is also the oldest article in this scope. The oldest article for Cluster 5 is “Yap (1990)”, which has 51 citations, while “Martin (2012)” has 105 citations.

The article with the most links to the other articles in this scope is “Charalampous (2019)”, with nine links. This article is associated with nine articles from four different clusters. This article is also one of the two articles linking the largest number of clusters. The articles “Charalampous (2019)” and “Golden (2006)” each connect four clusters. Considering the total citation numbers, Clusters 1, 2, 3, 4, and 5 received 823, 498, 276, 201, and 256 citations, respectively.

Table 17. Citation of Documents Map Authors and Clusters

Cluster	Item	Links	Citations
Cluster 1 (6 items)			823
Cluster 1	Charalampous m. (2019)	9	60
Cluster 1	De Menezes I.m. (2017)	2	50
Cluster 1	Felstead A. (2017)	3	137
Cluster 1	Grant C.A. (2013)	1	94
Cluster 1	Igbaria M. (1999)	3	139
Cluster 1	Kelliher C. (2010)	4	343
Cluster 2 (5 items)			498
Cluster 2	Descantis G. (1984)	2	60
Cluster 2	Golden T.D. (2008)	3	112
Cluster 2	Lim V.K.G. (2000)	3	54
Cluster 2	Olson M.H. (1989)	2	46
Cluster 2	Staples D.S. (1999)	2	226
Cluster 3 (5 items)			276
Cluster 3	Dahlstrom T.R. (2013)	2	25
Cluster 3	Daniels K. (2001)	3	120
Cluster 3	De Vries (2003)	4	36
Cluster 3	Hunton J.E. (2010)	3	37
Cluster 3	Kowalski K.B. (2005)	3	58
Cluster 4 (3 items)			201
Cluster 4	Boell S.K. (2016)	3	50
Cluster 4	Gold M. (2013)	1	52
Cluster 4	Sardeshmukh S.R. (2012)	4	99
Cluster 5 (3 items)			256
Cluster 5	Golden T.D. (2006)	5	100
Cluster 5	Martin B.H. (2012)	2	105
Cluster 5	Yap C.S. (1990)	2	51

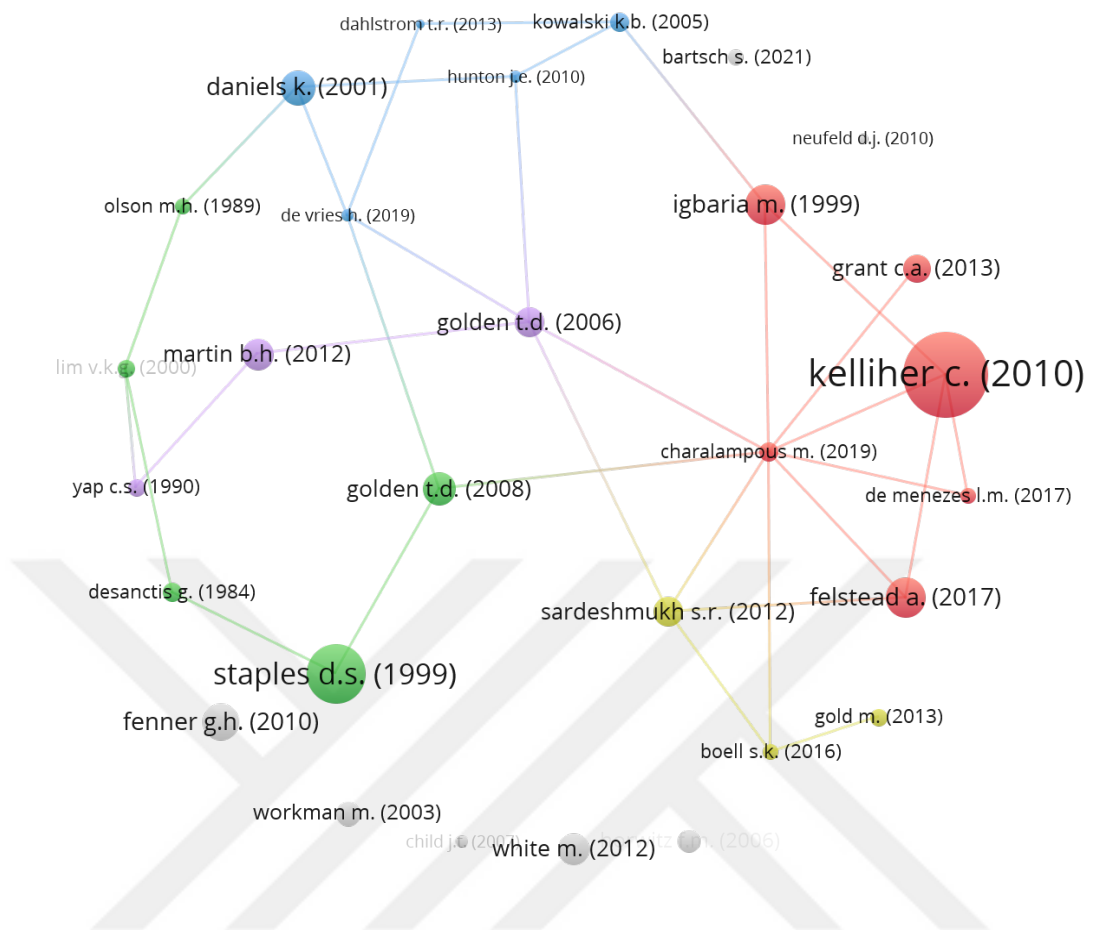


Figure 11. Citation of Documents Map

When the Citation map is examined by years, it has been observed that the articles written in 2001 and before refer to other articles written between 1984 and 1999. Of the articles written between 1984 and 1999, only “Igbaria (1999)” has been cited by articles written in the last few years. When the articles written in 2010 and after were examined, it was observed that the most significant grouping was formed around “Kelliher (2010)”.

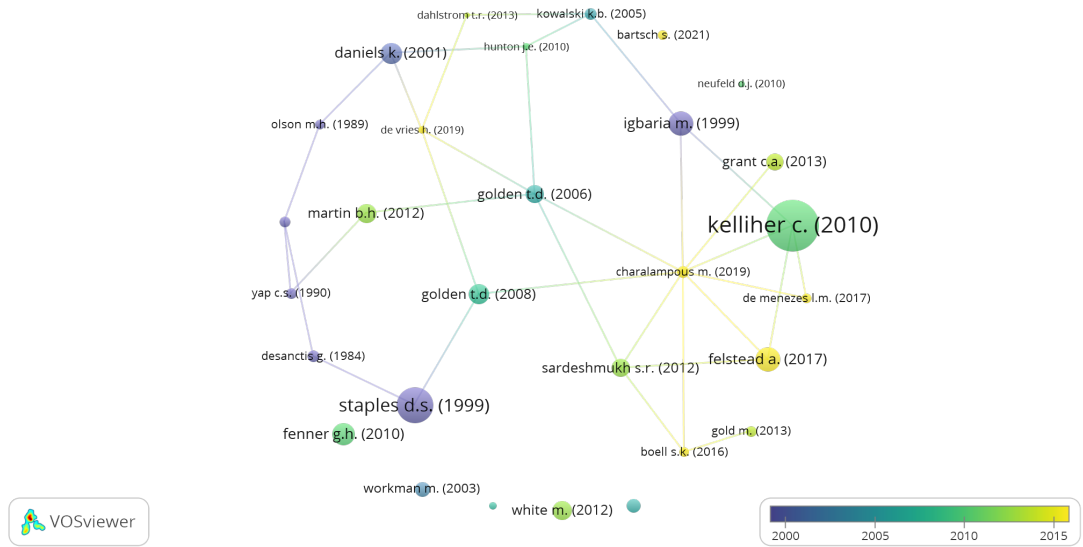


Figure 12. Citation of Documents Map, Overlay by Year

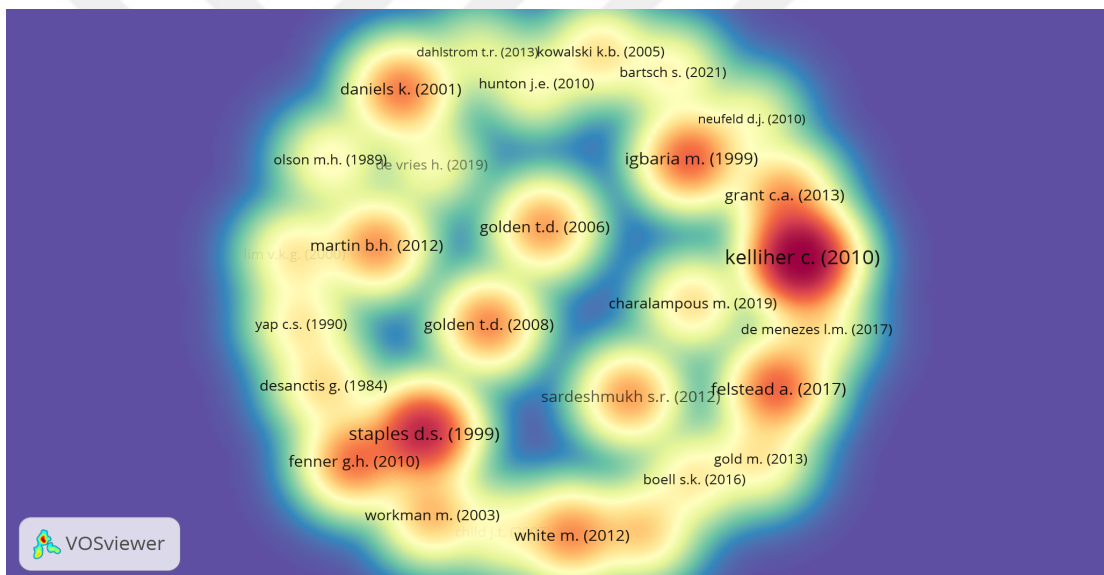


Figure 13. Density Visualization of Documents by Citation

CHAPTER 4: DISCUSSION

4.1 Discussion for Primary Data Analysis

4.1.1 Discussion for Documents by Year

The fact that 48.4% of the articles closely related to this subject have been published after 2020 implies that this topic's popularity as a research subject has increased during the COVID-19 pandemic. In addition to this fact, the spread of internet usage in daily life can be shown as the reason for the increase in remote working, thus, increasing the interest and number of studies published on this subject, especially after 2007-2008. It could be said that the popularity of this research topic is an increasing trend, considering the number of articles published in recent years.

4.1.2 Discussion for Documents by Author

The fact that 93.13% of the authors who have published articles on this subject have only contributed to a single article may mean that the authors working on the subject do not provide continuity. From the point of view of most writers, perhaps this topic can only be described as a passing fad. When the authors who published more than one article on the subject were examined, it was seen that their other studies were also related to organizational dynamics. From this point of view, it can be said that researchers who are interested in this subject and who have worked on organizational dynamics before have made more continuous publications on the subject.

4.1.3 Discussion for Documents by Affiliation

Considering the distribution of articles contributed by affiliations, it was determined that most affiliations contributed to only one article. Only three affiliations have four articles, and only 25 affiliations have two or more articles out of 160 affiliates. As a result, it has been observed that very few of the affiliates participating in this study consistently publish on this topic.

4.1.4 Discussion for Documents by Country

Thirty-five countries that contributed to the published articles on this subject were identified. Considering the data presented by Scopus, the country of the affiliation of the four published articles could not be defined. The top five countries contributing to the subject were the United States, the United Kingdom, the Netherlands, Germany,

and Italy, respectively. These countries have published more than 48% of the articles on this subject. Considering the common characteristics of these five countries that contributed the most to this issue, the prominent points are that all of those are economically and socio-culturally developed countries.

India is the only non-western country among the top 10 contributing countries to this issue. This can be explained by the fact that India is more developed in IT than other economically and socio-culturally developing countries in Asia and South America. Among Asian countries, after India, the countries that contributed the most to the articles on this subject are Singapore and Hong Kong, respectively. It could be indirectly related that these three countries are ahead of other Asian countries, such as Malaysia, which contribute less to this issue in terms of digital transformation.

4.1.5 Discussion for Documents by Subject Area

Twelve different subject areas were revealed when the query string, also mentioned in the methodology section, was searched through the Scopus academic database. A total of 193 articles belonging to these 12 subject areas were identified. Among these 12 subject areas, “Business, Management, and Accounting” is the subject with the most results, with 95 articles. Other subject areas that yielded the most results were social sciences with 31 articles, decision sciences with 16 articles, psychology with 15 articles, economics with 11 articles, computer sciences with nine articles, arts and humanities with eight articles, engineering with three articles, environmental sciences with two articles, biology and genetics, chemical engineering, and earth and planetary sciences with one article, respectively.

The fact that the subject areas with the highest number of articles are non-technical areas can be explained by the research topic being related to organizational dynamics. For this reason, this study focuses on the articles published in the “Business, Management, and Accounting” field.

4.2 Discussion for Bibliometric Network Analysis

4.2.1 Keyword Co-occurrence

The concepts used in the literature to describe remote work have changed over the years. According to the scope of this research, the oldest concept used to describe

remote work is virtual work. Later, telecommuting, telework, remote work, and e-work were used chronologically to describe this subject. While the popularity of telecommuting and telework concepts has decreased over the years, the popularity of remote work has increased and is still increasing. Although the oldest concept used to describe remote work is virtual work, the most mentioned concept is remote work.

When the relations between the concepts are examined, it has been observed that telecommuting, telework, and virtual work are closer to each other than remote work. The COVID-19 keyword is closer to remote work than telework and telecommuting. This is because the articles in which the two concepts are used together were written during and after the COVID-19 epidemic that broke out in 2019. These articles establish a connection between COVID-19 and remote work.

When the two keywords close to each other in meaning, “engagement” and “organizational commitment” are examined, significant differences are observed in terms of the other related keywords. While the “engagement” keyword is in close relationship with “health”, “motivation”, “burnout”, and “turnover intentions”; the “organizational commitment” keyword is in close relationship with “employee well-being” and “job satisfaction”. It could be inferred that the articles using the “Engagement” keyword examine the parts of the remote working methods that can have a negative impact on the employees. Articles using the “organizational commitment” keyword have mainly explored the implications for employee happiness and well-being.

Another keyword that stands out when the concept of affinities is examined is “autonomy”. The “autonomy” keyword is closely related to remote work and COVID-19. The “autonomy” keyword is also in close relationship with the keywords “leadership”, “digital transformation”, and “psychological well-being”. From this, it could be deduced that the increase in remote working due to COVID-19 could lead to more autonomous employees, which is supported by digital transformation.

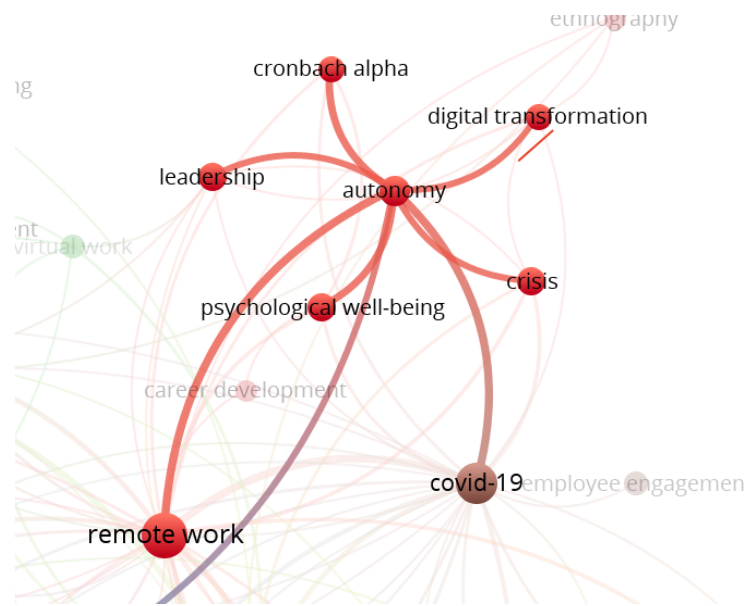


Figure 14. Remote Work, COVID, Autonomy and other Concepts' Relations

Another concept related to many other concepts is “work-life balance”. “Work-life balance” is in close relationship with “telecommuting”, “telework”, and “remote work”, which are three fundamental concepts used for remote working in the literature. “Work-life balance” is also closely related to the concepts of “COVID-19”, “epidemic”, and “anxiety”. It could be deduced that the work-life balance of employees who switch to remote work due to the COVID-19 pandemic is affected; therefore, they are worried. Other keywords with which “work-life balance” is closely related are “job satisfaction”, “quality of life”, “productivity”, and “well-being”. From there, it could be inferred that work-life balance directly impacts well-being and quality of life, and concepts such as job satisfaction and productivity can impact work-life balance.

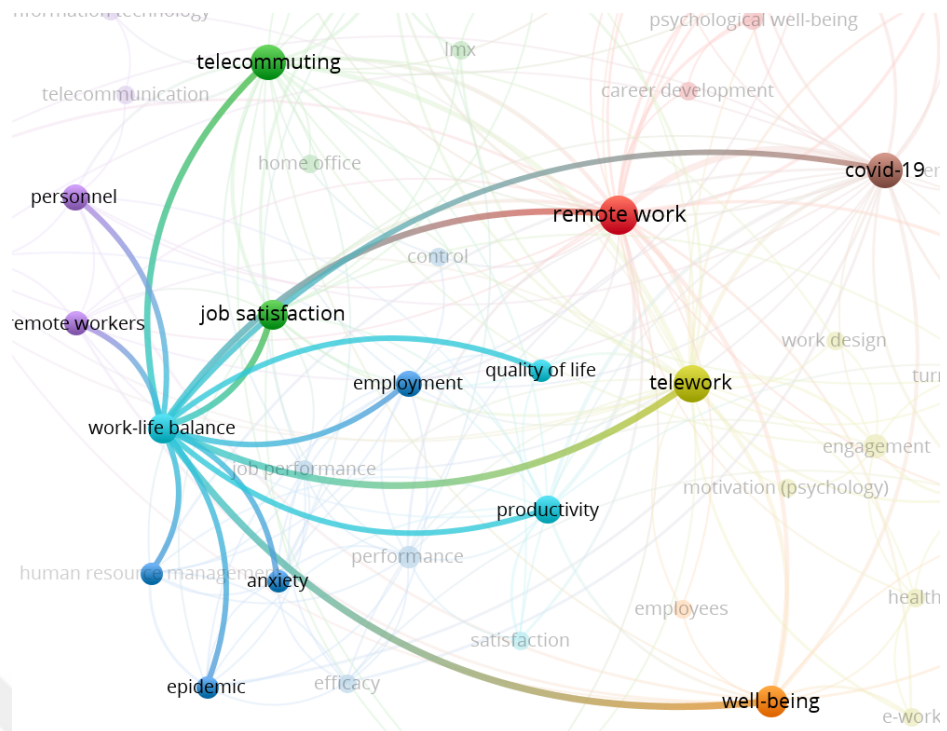


Figure 15. Work-life Balance and Related Concepts

When “stress” and the keywords closely related to it are examined, the concepts of “remote work”, “COVID-19”, “well-being”, and “productivity” come to the fore. Based on the common use of these concepts in the published articles, it can be said that the articles on this subject touch on the effects of the increased remote work style on stress and well-being due to the COVID-19 pandemic.

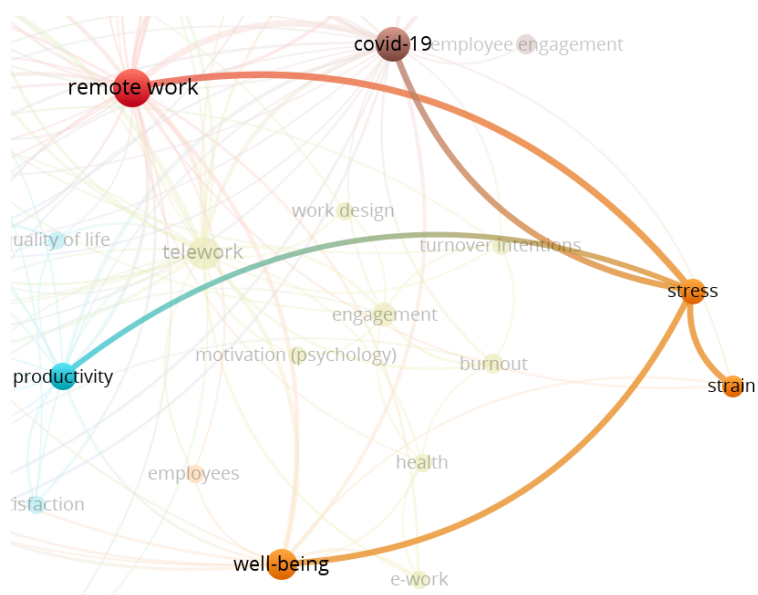


Figure 16. Stress and Related Concepts

A name has been assigned to each cluster regarding the set of keywords that each cluster has. Contents of the articles that utilize these keywords are also considered when giving names to clusters.

Digitalization Cluster (Cluster 1)

The first cluster is named as “Digitalization Cluster” because it contains concepts such as “remote work”, “digital transformation”, “autonomy”, “leadership”, and “career development”. The concepts in this cluster combine the characteristics of employees, such as career development and leadership, taking into account the autonomy provided by the remote working method, which is pioneered by digital transformation.

Self-indulgent Cluster (Cluster 2)

Cluster 2 was named the “Self-indulgent Cluster” because it includes “telecommuting” and concepts such as “employee well-being”, “job satisfaction”, “organizational commitment”, and “attitudes”. This cluster is the second oldest, considering the average publication year, 2011. It can be said that the relations between remote work and employee well-being and happiness were investigated in those years.

HR Cluster (Cluster 3)

The third cluster is named the “HR Cluster” because it talks about the concepts such as “employment”, “job performance”, “human resource management”, “anxiety”, and “efficacy”. The average publication year of this cluster is 2018, and it can be considered a relatively new cluster. It can be deduced that the articles in which the keywords in this cluster are included examine the effects of remote work and COVID-19 on employee performance.

Emotional Cluster (Cluster 4)

The fourth cluster is named the “Emotional Cluster” because it talks about the concepts such as “telework”, “work-design”, “burnout”, “turnover intentions”, “engagement”, and “motivation”. It can be deduced that the articles containing the keywords in this cluster are more interested in the effects of remote work on employee loyalty, motivation, and health.

IT Cluster (Cluster 5)

The fifth cluster is named the “IT Cluster” because it includes the concepts such as “telecommunication”, “information technology”, “virtual organizations”, “remote workers”, and “personnel”. It could be deduced that most of the articles containing the keywords in this cluster discuss the technological features of remote work, the compatibility of employees with technology, and this new way of working.

Spiritual Cluster (Cluster 6)

The sixth cluster is named the “Spiritual Cluster” because it talks about concepts such as “work-life balance”, “quality of life”, and “satisfaction”. It could be deduced that the articles utilizing the keywords in this cluster focus on the concepts related to the quality of life and satisfaction of the employees, both in work life and life outside work.

Distressed Cluster (Cluster 7)

The seventh cluster was named the “Distressed Cluster” because it talks about the concepts of “employees”, “strain”, “stress”, and “well-being”. It can be deduced that the articles that use the keywords in this cluster jointly draw attention to the stress and tension of the employees who work remotely.

Pandemic Cluster (Cluster 8)

The eighth cluster is named the “Pandemic Cluster” because it contains only the concepts of “COVID-19” and “employee engagement”. It can be deduced that the articles in which the keywords in this cluster commonly talk about the relationship of the COVID-19 pandemic to remote work and employee engagement.

Considering the keywords used to define remote work, the average publication years of the articles using these keywords, and when these keywords were used for the first and last time, it can be interpreted that some concepts are dying and some are emerging. A table of keywords to describe remote work and their attributes are given below in table 17.

Table 18. Keywords to Describe Remote Work

Keyword	Avg. Pub. Year	Oldest Occurrence	Newest Occurrence	Avg. Citations
Virtual Work	2006	2006	2008	94
Telecommuting	2008	1984	2021	36
Telework	2012	1990	2021	39
Remote Work	2016	1984	2022	30
E-work	2020	2013	2021	30

Although telecommuting, remote work, and telework, among the keywords used to describe the concept of remote work, have been used since the 90s, the use of telecommuting and telework keywords has decreased over the years, while the use of remote work has increased. From this, it can be deduced that telework and telecommuting concepts are gradually ending, and remote work continues to be used more generally. The reason why the telework and telecommuting keywords were used more frequently in the 90s may be that the world wide web (WWW), that is, the internet as we know it, was a very new concept in those years. In those years, even if the employees worked from home or another place other than the office, they were doing their jobs with the phone or the internet, which still uses the telephone cables and infrastructure. The "tele" in the telework and telecommuting keywords may have originated here. Over the years, no matter what technology or infrastructure is used, the concept of remote work may have become more general because such works are carried out outside the workplace, and there is a physical distance between the employee and the workplace. Still, the newest concept used in this context today is e-work. Although it is not as common as remote work yet, the e-work keyword has emerged recently, and its usage is increasing.

Perhaps in the future, the concept of e-work may come to the fore rather than remote work. Perhaps in the future, remote working will become so common that only the

concept of "work" will be used in this context. Or perhaps the concept of work will change so much that there will be no work as we know it in the future.

4.2.2 Co-Authorship

When the co-authorship network map is examined, it can be observed that many small clusters are formed. Since authors who have published articles on remote work and organizational commitment predominantly published one article before, it can be said that the link strength between authors in most small clusters is "one" unit strength. Considering the generality of the authors who have published on this subject, it can be deduced that the authors of the articles with 25 or more citations generally wrote these articles jointly with other authors.

When the cluster marked with red color on the network map is examined, it is observed that most of the authors in this cluster are from the same university. Grant C.A., Charalampous M., Tramontano C., Wallace L.M., and Michailidis E. are from the Coventry University in the U.K., whereas Spurgeon P.C. is from the University of Warwick. All authors in this set are from the United Kingdom. For this reason, this cluster is named Coventry Cluster.

When the cluster marked with pink color on the network map is examined, it is seen that two of the three authors in this cluster are in the same university. Golden T.D. and Sardeshmukh S.R. served at Rensselaer Polytechnic Institute, United States. Sardeshmukh completed his Ph.D. at this university, whereas Golden T.D. taught at this university. For this reason, this cluster is named Rensselaer Polytechnic Institute Cluster.

When the cluster marked with yellow color on the network map is examined, it can be seen that two of the three authors in this cluster are from Georgia State University. Kahnweiler W. and Bommer W. are from Georgia State University, while Workman M. is from Florida State University. For this reason, this cluster is named Georgia State Cluster.

When the cluster marked with tan color on the network map was examined, it was observed that 2 of the three authors in this cluster were at the same university. Staples

D.S. and Higgins C.A. are from the University of Western Ontario, whereas Hulland J.S. is from the Massachusetts Institute of Technology. For this reason, this cluster is named the Western Ontario Cluster.

When the cluster marked with green color on the network map is examined, it is observed that two of the four authors in this cluster are from a university and the other two are from another university. In addition, it was observed that all four authors in this cluster were from universities in Germany. Weber E. and Büttgen M. are from the University of Hohenheim in Stuttgart. Bartsch S. and Huber A. are from Ludwig-Maximilians-Universität in Munich. For this reason, this cluster is named German Cluster.

When the cluster, marked with blue color on the network map, is examined, it is seen that all the authors in this cluster are from universities in Australia. Boell S.K., Cecez-Kecmanovic D., and Campbell J. are from the University of Sydney, UNSW Sydney, and Australian National University, respectively. For this reason, this cluster is named Sydney Cluster.

When the cluster marked with turquoise color on the network map is examined, it is seen that all three authors in this cluster are affiliated with different organizations. Daniels K. and Standen P. are from the University of East Anglia and Edith Cowan University, respectively. Lamond D. has a Ph.D. from Macquarie University in Sydney, Australia but has no association with any university regarding the paper they have published together. For this reason, this cluster is named Australia-UK Cluster.

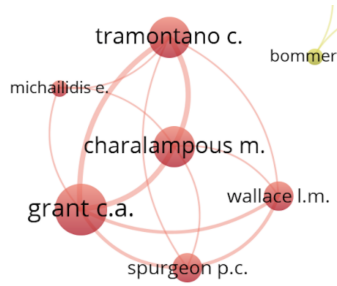
When the cluster marked with orange on the network map is examined, it is observed that all three authors work within the universities in the Netherlands. While de Vries H. and Bekkers V. are affiliated with the Erasmus University of Rotterdam, Tumemers L is affiliated with Utrecht University. There are other articles co-published by these three authors. However, these authors have only one article with 25 or more citations published within the scope of remote work and organizational commitment. For this reason, this cluster is named the Netherlands Cluster.

When the cluster marked with brown color on the network map is examined, it is

observed that three authors are associated with two different universities. While Neufeld and Wan are from the University of Western Ontario, Fang is from the City University of Hong Kong. Apart from this cluster, the authors in another cluster are also from the University of Western Ontario. It has been observed that three of the five authors who have an association with the University of Western Ontario are collaborating, and the remaining two are collaborating. However, it seems to be an essential point that all five authors do not cooperate in any article. For this reason, this cluster is named Western Ontario 2 Cluster.

When the cluster marked with purple color on the network map is examined, it is seen that all three authors in this cluster are associated with the University of Cape Town. For this reason, this cluster is named Cape Town Cluster.

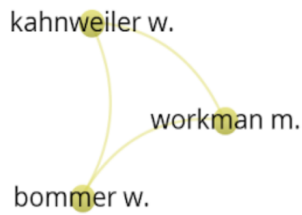
When this field is evaluated in general, it can be deduced that the co-authorship map consists of many small author clusters. The articles written jointly on this subject are typically created by the collaborations of authors working at the same organizations. International collaboration was rarely seen when the articles with 25 or more citations on this subject were evaluated. Rather than collaborating between organizations, authors from the same organizations usually collaborated within themselves. When the overall network map is examined, it can be said that the organizations that contributed the most to this research topic are located in the United Kingdom.



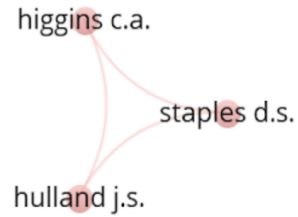
Coventry Cluster



Rensselaer Polytechnic Institute Cluster



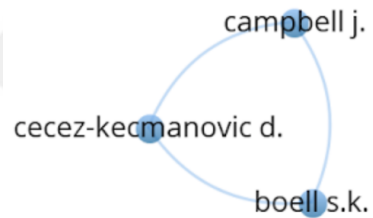
Georgia State Cluster



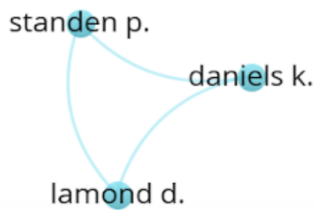
Western Ontario Cluster 1



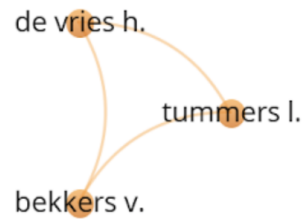
German Cluster



Sydney Cluster



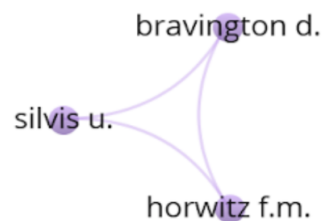
Australia-UK Cluster



The Netherlands Cluster



Western Ontario Cluster 2



Cape Town Cluster

Figure 17. Co-authorship Clusters

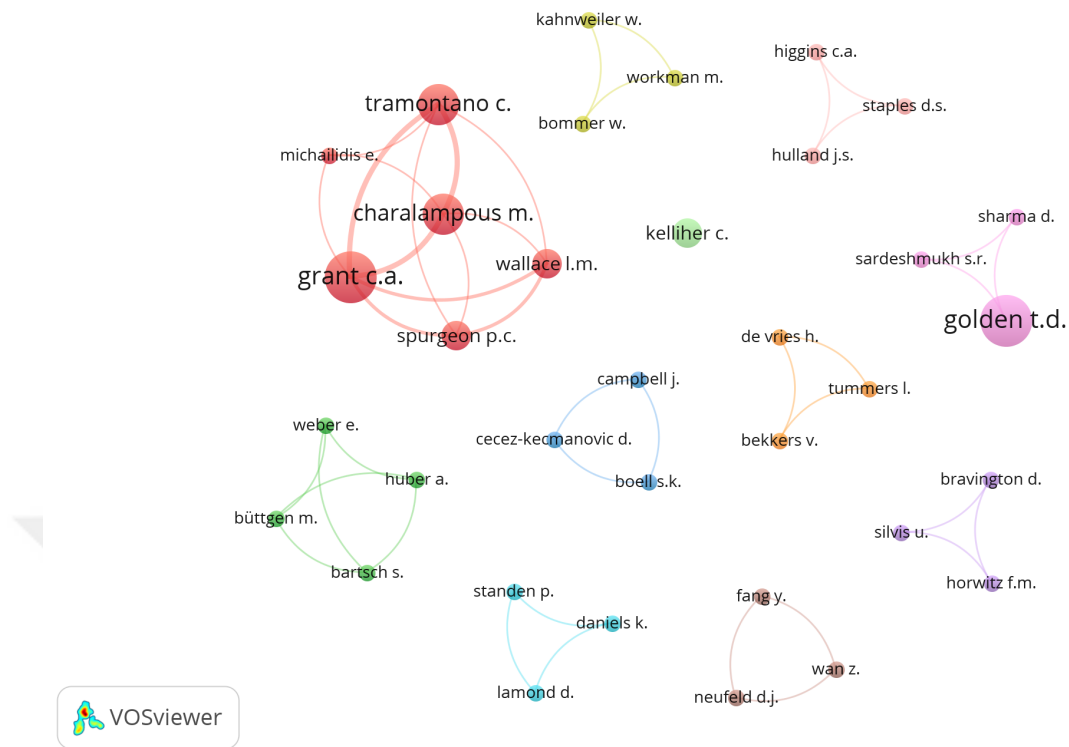


Figure 18. Co-authorship Network Map

4.2.3 Citation of Documents

In this section, there are additional implications from the previous data analysis on the citation network map of the articles. When the citation network map is examined, it has been observed that the articles published on this subject with 25 or more citations are divided into 5 clusters. Since only 29 of the 95 articles in this study received 25 or more citations, the rest of the articles were not included in this network map. Since 7 of 29 articles included in this map do not refer to other articles and are not referenced by other articles in this map, they do not belong to any cluster and are marked in gray. Detailed information about the clusters formed in this map is presented in the analysis chapter of this thesis.

The articles in the cluster marked with red on the network map have made the following inferences. Workers who adopt teleworking methods have higher job satisfaction and organizational commitment than traditional workers (De Menezes, 2017). Likewise, remote workers have shown lower stress levels (Grant, 2013). When the negative effects of teleworking are examined, according to the articles in this

cluster, teleworking comes with limited social interactions and social isolation (Igbaria, 1999). At the same time, it has been observed that work intensification is higher in remote workers (Felstead, 2017). The resulting cluster is called “Asocial Workaholics’ Perspective” when all these reasons are combined.

The articles in the cluster marked with green on the network map have made the following inferences. Employees who adopted teleworking methods generally showed lower job satisfaction and lowered organizational commitment than traditional workers (Olson, 1989). There are mixed results for job satisfaction in the same cluster. It has been observed that working remotely increases organizational commitment among employees with high self-efficacy (Golden, 2008). On the other hand, it has been observed that working remotely reduces organizational commitment and job satisfaction in employees with low self-efficacy (Golden, 2008). According to research among remote working programmers, it has been observed that working remotely increases autonomy. (Descantis, 1984). In addition, a positive attitude is observed towards teleworking for individuals with low organizational commitment, whereas a negative attitude is observed towards teleworking for individuals with high organizational commitment (Lim, 2000). This inverse correlation contributes to the mixed results presented by this set of documents. Considering all these reasons, this cluster was named “Needy Kindergartners’ Perspective”.

The articles in the cluster marked blue on the network map have made the following inferences. Employees who have adopted telecommuting methods generally show higher job satisfaction than traditional workers (Daniels, 2001) (Kowalski, 2005). According to this cluster, the relationship between telework and job satisfaction is a concept that can change according to the leadership model (Dahlstrom, 2013). While high job satisfaction is seen in organizations with a relationship-oriented leadership model, low job satisfaction is seen in organizations with a task-oriented leadership model (Dahlstrom, 2013). While fully remote work has been observed to lower the organizational commitment, hybrid work has been observed to increase the organizational commitment (Hunton, 2010). It is thought that remote working schedules increase social isolation (de Vries, 2019). Results from the articles in this cluster show that overall, remote work increases job satisfaction but has the potential to both increase and decrease organizational commitment situationally. In addition, the

articles in this cluster mention that working remotely increases social isolation. These reasons were evaluated, and this cluster was named “Satisfied Free Spirits”.

The articles in the cluster marked yellow on the network map have made different inferences from each other. Employees who have adopted remote working methods generally have higher anxiety, and their work-home balance outweighs the work side (Gold, 2013). Likewise, remote workers have increased work exhaustion and role ambiguity (Sardeshmukh, 2012). Employees who adopt this working method increase their autonomy while their job engagement decreases (Sardeshmukh, 2012). In addition to these inferences, Boell S.K. stated in his 2016 article that the implications of teleworking cannot be assessed generally in a straightforward manner. In consideration of these, this cluster was named “Skeptical Scholars”.

The articles in the cluster marked purple on the network map have made the following inferences. Remote working conditions positively impact organizational commitment (Golden, 2006). Due to this positive impact on organizational commitment, remote workers have lower turnover intentions. (Golden, 2006). Remote workers have been observed to have higher productivity and higher organizational commitment (Martin, 2012). Considering employees’ approach to remote working, it was seen that married individuals approached remote working more positively (Yap, 1990). Additionally, remote work has been shown to increase work exhaustion (Golden, 2006). All things considered, this cluster was named “Exhausted Cohabitants”.

The following table summarizes the research topics and findings of the articles included in this network map. The information in this table has been extracted from the contents of the articles in the network map.

Table 19. Clusters, Research Topics, and Findings of Articles

Cluster	Item	Research	Findings
Cluster 1 (6 items)			
Cluster 1	Charalampous m. (2019)	Systematic Literature Review on Remote work and Well- Being	+Increased Focus +Overall positive -Social and Professional Isolation

Table 19 (continued). Clusters, Research Topics, and Findings of Articles

Cluster 1	De Menezes I.m. (2017)	Relationship between flexible working schedules and performance	+Increased Job Satisfaction +Increased Organizational Commitment +Increased Job Performance
Cluster 1	Felstead A. (2017)	Consequences of remote working	+Increased Job Satisfaction +Increased Organizational Commitment -Greater inability to switch off -Work intensification
Cluster 1	Grant C.A. (2013)	Impact of remote working	+Reduced stress +Increased Job Satisfaction +Increased Organizational Commitment +Increased Productivity -Reduced restorative effects of home -Increased work-family conflicts
Cluster 1	Igbaria M. (1999)	Differences between teleworkers and non-teleworkers in terms of career success and determinants	+Reduced Stress +Increased Organizational Commitment -Limited Social Interactions with Co-workers
Cluster 1	Kelliher C. (2010)	Flexible working schedules and work intensification	+Increased Job Satisfaction +Increased Organizational Commitment -Work Intensification -Increased Job Insecurity
Cluster 2 (5 items)			
Cluster 2	Descantis G. (1984)	Remote work amongst programmers	+Increased Autonomy
Cluster 2	Golden T.D. (2008)	How does remote work alter the impact of superior-subordinate relationship	+Increased commitment in workers with high quality exchange relationship with their supervisors +High job satisfaction in workers with high quality exchange relationship with their supervisors -Reduced commitment in workers with low quality exchange relationship -Low job satisfaction in workers with low quality exchange relationship

Table 19 (continued). Clusters, Research Topics, and Findings of Articles

Cluster 2	Lim V.K.G. (2000)	Examines the effects of demographic characteristics, work-related attitudes, support factors, and perceived advantages and disadvantages of teleworking to individuals and organizations on individuals' attitudes towards teleworking	+More advantageous for married individuals +Positive Attitude towards teleworking for individuals with low organizational commitment -Negative Attitude towards teleworking for individuals with high organizational commitment Individuals with low commitment may want to physically distance themselves from the organization
Cluster 2	Olson M.H. (1989)	An attitude survey comparing computer professionals who work at home to employees doing similar jobs in traditional office settings	-Lower job satisfaction with telework -Lower organizational commitment with telework -Higher role conflict with telework
Cluster 2	Staples D.S. (1999)	How virtual organizations can manage remote employees effectively	+Employees with high self-efficacy show higher remote work effectiveness, productivity and job satisfaction -Employees with low self-efficacy show lower remote work effectiveness, productivity and job satisfaction
Cluster 3 (5 items)			
Cluster 3	Dahlstrom T.R. (2013)	Challenges with telecommuting, focusing on telecommuting's impact on job satisfaction and organizational commitment	+Managers trust is positively correlated with job satisfaction and organizational commitment +Relationship-oriented leadership model increases job satisfaction -Task-oriented leadership model decreases job satisfaction
Cluster 3	Daniels K. (2001)	Reasons for organizational adoption of teleworking	+Increased job satisfaction (indirect)
Cluster 3	De Vries (2019)	The effects of teleworking on a day-to-day basis	+Higher leader-member exchange (LMX) reduces professional isolation -Less organizational commitment -Greater professional isolation

Table 19 (continued). Clusters, Research Topics, and Findings of Articles

Cluster 3	Hunton J.E. (2010)	Examining the impact of alternative telework arrangements on the organizational commitment and task performance of employees.	+Higher organizational commitment with hybrid work +Positive association between organizational commitment and task performance -Lower organizational commitment with fully remote work
Cluster 3	Kowalski K.B. (2005)	To provide a framework of critical success factors for practioners and employers looking to develop new or enhance existing telework programs.	+Higher job satisfaction with telework +Increased commitment due to increased morale due to increased flexibility
Cluster 4 (3 items)			
Cluster 4	Boell S.K. (2016)	To better understand telework and the paradoxical outcomes reported in extant literature	Teleworking implications cannot be assessed generally in a straight-forward manner Offers three dimensions for understanding telework: - complexity of work - diversity of work activities ICT enactment
Cluster 4	Gold M. (2013)	Examines the pressures placed on teleworkers work-home balance by their relationship with clients	-Anxiety on compulsion to work -Asymmetry in work-home balance
Cluster 4	Sardeshmukh S.R. (2012)	Explores the effects on job demands and resources to understand the processes through which telework impacts the exhaustion and engagement of the teleworker	+Reduced work pressure +Reduced role conflict +Increased autonomy -Increased role ambiguity -Reduced support and feedback -Increased work exhaustion -Reduced job engagement
Cluster 5 (3 items)			

Table 19 (continued). Clusters, Research Topics, and Findings of Articles

Cluster 5	Golden T.D. (2006)	Investigate the intervening role of work exhaustion in determining commitment and turnover intentions	+Increased organizational commitment +Reduced turnover intentions -Increased work exhaustion
Cluster 5	Martin B.H. (2012)	To integrate multidisciplinary literature that reports effects of telework on organizational outcomes with the aim of providing a clearer answer to the question: is telework effective for organizations?	+Increased productivity +Increased secure retention +Increased organizational commitment
Cluster 5	Yap C.S. (1990)	Attitudes of female computer professionals in Singapore towards telecommuting	+More advantageous for married individuals and single individuals with separate study rooms

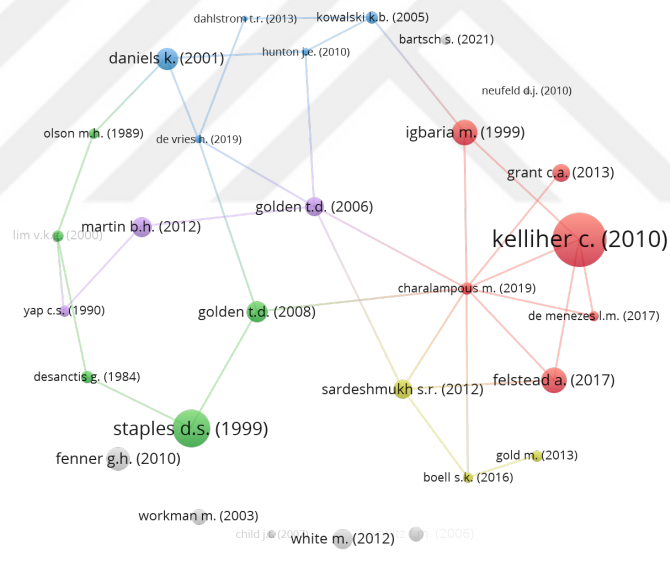


Figure 19. Citation of Documents Network Map

When the network map is examined, it is seen that Asocial Workaholics' Perspective argue that remote work is generally favorable. Needy Kindergartners' Perspective, which argue that remote work negatively affects job satisfaction and organizational commitment, are located at the opposite extreme. The fact that they are in stark contrast in terms of the concepts they advocate explains this discrete structuring in the network map. The Satisfied Free Spirits cluster is in the middle of the Asocial Workaholics' Perspective and Needy Kindergartners' Perspective clusters. The Satisfied Free Spirits

cluster articles claim that remote work generally increases job satisfaction but negatively affects organizational commitment. That could explain the location of the Satisfied Free Spirits cluster on the network map.

No articles in the Skeptical Scholars cluster, marked in yellow, are citation-related with Needy Kindergartners' Perspective. While the articles in the Skeptical Scholars cluster present their reservations in deciding whether remote work is ultimately positive or negative, they further say that remote work causes work intensification and therefore increases anxiety. The Exhausted Cohabitants cluster has a citation relationship with all clusters. Articles in the Exhausted Cohabitants cluster have concluded that organizational commitment, productivity, and secure retention have increased due to remote work. However, at the same time, professional work has become increasingly exhaustive, and remote work is disadvantageous for individuals who do not have their own studying rooms at home. The fact that the Exhausted Cohabitants cluster is in a citation relationship with all clusters can be explained because it has findings on both positive and negative aspects of remote work.

CHAPTER 5: CONCLUSION

The rapid development of Information Communication Technology (ICT) in recent years has affected business life in addition to daily life. In the light of these developments, the need to perform work in many areas in the office is disappearing. Most work can be done regardless of location, especially in industries such as information technology, engineering, and software, where digitalization is very high. Today, the number of employees working with traditional working schedules is in a decreasing trend. Many organizations and employees prefer different schedules such as flexible working hours, working from home, and hybrid work over traditional working schedules. In recent years, there has been an increase in the number of organizations offering flexible working options to their employees (Kelliher and Anderson, 2010). “While the size of the spatial shift varies according to the data sources used and/or the definitional protocols applied, the descriptive evidence suggests that more work is being done away from the conventional workplace.” (Felstead and Henseke, 2017).

Many studies have assumed remote work is a beneficial practice for both employee and employer. Higher organizational commitment, job satisfaction, and increased job performance are generally considered benefits for the employer, while gained autonomy, increased well-being, and better work-life balance is seen as employee benefits. Remote work is seen as a tool that enables organizations to reduce costs and increase productivity while offering their employees flexibility and better work-life balance (Lewis and Cooper, 2005). Wheatley (2012) suggests that remote workers have higher levels of job satisfaction. While there are findings on the benefits of remote work, there are also findings on its negative effects. It has been found that while remote work reduces employees’ stress, it blurs the boundary between work and home lives of e-workers and accordingly reduces the restorative effects of the home (Hartig et al., 2007).

This thesis aims to provide an overview of the previous literature and research that has been conducted on this subject area and uncover the previous findings in the literature. In this research, the keywords used in the literature scan were determined in the most comprehensive way possible, taking into account the results of online search engines

such as Scopus, WebOs, and Google Scholar. A detailed literature scan was made via Scopus with the determined search keywords. Three thousand eight hundred ninety-eight results found initially as a result of the scan were eliminated using inclusion and exclusion criteria, and 95 closely related articles were selected for further analysis in this research. Attributes of 95 articles selected for further analysis, such as author, title, citation, and keywords, were exported to a table from the Scopus database. A two-stage data analysis was performed using the data in this table. In the first stage, primary data analysis, the distribution of articles by years, authors, affiliations, countries, and subject areas was examined. In order to perform the second stage, bibliometric network analysis, the data of these 95 articles were analyzed with a network map generation tool called VosViewer. Network maps created by Vosviewer were analyzed in 3 different categories. These categories are “Keyword co-occurrence”, “Co-authorship”, and “Citation of Documents”, respectively. The clusters in the network maps created in these categories were analyzed.

It’s been found that 48.4% of the articles related to this topic were published after 2020, implying that the popularity of research related to remote work has increased during the COVID-19 pandemic. The fact that 93% of the authors who have published an article on this subject have only published an article on this subject may imply that for most of the authors, this topic could be described as a passing fad. The fact that 9 of the ten countries that contributed the most to this subject are western countries can be explained by the fact that these countries are socio-culturally developed countries. It can be deduced that this development accelerates the development of ICT and thus the transition to remote work culture.

When the keyword co-occurrence map was examined, it was observed that 8 clusters were formed in this map. Each of these clusters is given a name, taking into account the meanings of the associated keywords and their relationships with other keywords. When the closeness of the concepts was examined, it was determined that the keywords “remote work”, “COVID-19”, and “autonomy” were closely related. Since the concept of “organizational commitment” is closely related to “job satisfaction” and “well-being”, it can be deduced that the articles investigating the relationship between remote work and organizational commitment mostly explore the effects of this relationship on the employee. When the co-authorship map was examined, it was

found that the collaborations in the articles published on this subject were between the authors in the same affiliation or physically close affiliations in the same country. It has been observed that there are very few international collaborations in the articles published on this subject.

The following results have emerged from the citation network map. It has been seen that five different clusters are formed in the Citation network map. These clusters were named “Asocial Workaholics’ Perspective”, “Needy Kindergartners’ Perspective”, “Satisfied Free Spirits”, “Skeptical Scholars”, and “Exhausted Cohabitants” respectively, considering the context of the articles in them. While Asocial Workaholics’ Perspective argue that remote work is mostly positive, increasing organizational commitment, job satisfaction, and job performance, the Needy Kindergartners’ Perspective cluster tells the opposite. Satisfied Free Spirits argues that remote work increases job satisfaction while reducing organizational commitment. Skeptical Scholars cluster mentions that the effects of remote work may vary according to countries, organizations, and various demographics of the population the research deals with, so the implications of remote work cannot be assessed in a straightforward manner. Exhausted Cohabitants, on the other hand, say that working remotely gives more positive results for couples living together, but it causes exhaustion due to work intensification.

Although this thesis aims to provide a broad overview of the relationship between remote work and organizational commitment, it has limitations. One of the limitations is that only the Scopus academic database is used to locate articles in this literature review. At the same time, other academic databases such as WebOS and Google Scholar could also be used. Although the review process of the articles is pretty refined, the literature review has a limited scope of only 95 articles that are closely related to the subject on hand. Another limitation is that the articles referenced by 95 articles obtained from Scopus and those referenced by the referenced articles are not taken into account during the determination of the scope. In other words, the articles referenced by the articles obtained as a result of scanning from the Scopus database were not considered.

Recently, with the exponential development of ICT and the impact of the COVID-19

pandemic, there has been a significant increase in the number of organizations working with remote working schedules. As a result, there has been an increase in the number of studies conducted on the effects of remote work, including remote work and organizational commitment. With this increase in the number of studies, many articles and data about the effects of remote work are accumulating. Extending this literature review by including future studies on this subject, creating reviews for new literature, or extending the research on the effects of remote work to include well-being, job satisfaction, and productivity of the employees, can be given as suggestions for further research.



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APPENDICES

APPENDIX A: LIST OF ARTICLES AFTER INITIAL SEARCH AND INDICATION FOR EXCLUSION/INCLUSION REASON

Title	DOI	Scopus EID	
Technology adaptation: The case of a computer-supported inter-organizational virtual team	10.2307/3250948	2-s2.0-0000388222	Ex - NR-3
Doing more with less? flexible working practices and the intensification of work	10.1177/0018726709349199	2-s2.0-77949371985	In - CR
Monitoring 25 years of land cover change dynamics in Africa: A sample based remote sensing approach	10.1016/j.apgeog.2008.10.004	2-s2.0-70349782856	Ex - NR-3
A Self-Efficacy Theory Explanation for the Management of Remote Workers in Virtual Organizations	10.1287/orsc.10.6.758	2-s2.0-0033260584	In - CR
Exploring Differences in Employee Turnover Intentions and Its Determinants among Telecommuters and Non-Telecommuters	10.1080/07421222.1999.11518237	2-s2.0-0033277420	In - CR
Assessing the growth of remote working and its consequences for effort, well-being and work-life balance	10.1111/ntwe.12097	2-s2.0-85034986054	In - CR
Technology-assisted supplemental work and work-to-family conflict: The role of instrumentality beliefs, organizational expectations and time management	10.1177/0018726709351064	2-s2.0-77949390307	In - CR
Teleworking: Frameworks for organizational research	10.1111/1467-6486.00276	2-s2.0-0035605795	In - CR
The impact of superior-subordinate relationships on the commitment, job satisfaction, and performance of virtual workers	10.1016/j.leaqua.2007.12.009	2-s2.0-39149141850	In - PR-2
Digital workplaces: Vision and reality	10.1177/0266382112470412	2-s2.0-84871427783	In - CR
Is telework effective for organizations?: A meta-analysis of empirical research on perceptions of telework and organizational outcomes	10.1108/01409171211238820	2-s2.0-84863498731	In - CR
Avoiding depletion in virtual work: Telework and the intervening impact of work exhaustion on commitment and turnover intentions	10.1016/j.jvb.2006.02.003	2-s2.0-33746056086	In - CR

Impact of telework on exhaustion and job engagement: A job demands and job resources model	10.1111/j.1468-005X.2012.00284.x	2-s2.0-84868124204	In - CR
An exploration of the psychological factors affecting remote e-worker's job effectiveness, well-being and work-life balance	10.1108/ER-08-2012-0059	2-s2.0-84881573069	In - CR
The effects of cognitive style and media richness on commitment to telework and virtual teams	10.1016/S0001-8791(03)00041-1	2-s2.0-0141633534	In - CR
Supportive work-family environments: implications for work-family conflict and well-being	10.1080/09585192.2013.796314	2-s2.0-84890794384	Ex - LR
The promise of virtual teams: Identifying key factors in effectiveness and failure	10.1108/03090590610688843	2-s2.0-33747517619	In - CR
Enjoying New Ways to Work: An HRM-Process Approach to Study Flow	10.1002/hrm.21588	2-s2.0-84896547439	Ex - LR
E-health and wellbeing monitoring using smart healthcare devices: An empirical investigation	10.1016/j.techfor.e.2018.02.018	2-s2.0-85043984710	Ex - NR-3
Social and environmental effects of ecotourism in the Osa Peninsula of Costa Rica: The Lapa Rios case	10.1080/14724040902953076	2-s2.0-77649309557	Ex - NR-3
Diverse policies leading to contrasting impacts on land cover and ecosystem services in Northeast China	10.1016/j.jclepro.2019.117961	2-s2.0-85071400818	Ex - NR-3
Systematically reviewing remote e-workers' well-being at work: a multidimensional approach	10.1080/1359432X.2018.1541886	2-s2.0-85056109050	In - CR
Teleworker knowledge sharing and the role of altered relational and technological interactions	10.1002/job.652	2-s2.0-78649562841	Ex - LR
Attitudes toward telecommuting: Implications for work-at-home programs	10.1016/0378-7206(84)90041-7	2-s2.0-0021437676	IN - PR-2
Critical success factors in developing teleworking programs	10.1108/14635770510600357	2-s2.0-20444496935	In - CR
The Impact of Teleworking on Work Motivation in a U.S. Federal Government Agency	10.1177/0275074011409394	2-s2.0-84863559332	Ex - LR
Job Stress in the Australian and International Health and Community Services Sector: A Review of the Literature	10.1037/1072-5245.14.4.417	2-s2.0-36248945960	Ex - NR-3
To work or not to work at home-An empirical investigation of factors affecting attitudes towards teleworking	10.1108/02683940010373392	2-s2.0-84986156112	In - CR

Remotely sensing the spatial and temporal land cover changes in Eastern Mau forest reserve and Lake Nakuru drainage basin, Kenya	10.1016/j.apgeog.2013.03.017	2-s2.0-84877036899	Ex - NR-3
Work always wins': Client colonisation, time management and the anxieties of connected freelancers	10.1111/ntwe.12017	2-s2.0-84887384356	In - CR
Factors associated with attitudes towards telecommuting	10.1016/0378-7206(90)90032-D	2-s2.0-0006069257	IN - PR-2
Flexible Working, Individual Performance, and Employee Attitudes: Comparing Formal and Informal Arrangements	10.1002/hrm.21822	2-s2.0-85007507992	In - CR
Telework paradoxes and practices: the importance of the nature of work	10.1111/ntwe.12063	2-s2.0-84978388894	In - CR
Work at Home for Computer Professionals: Current Attitudes and Future Prospects	10.1145/76158.76891	2-s2.0-0024750711	In - CR
Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic	10.1108/JOSM-05-2020-0160	2-s2.0-85088962709	IN - PR-2
The relationships amongst leader-member exchange, perceived organizational support, affective commitment, and in-role performance: A social-exchange perspective	10.1108/LODJ-04-2012-0054	2-s2.0-84927563729	Ex - NR-3
Towards an inclusive digital literacy framework for digital India	10.1108/ET-03-2018-0061	2-s2.0-85049513537	Ex - NR-3
Satisfaction With Work-Life Benefits and Organizational Commitment/Job Involvement: Is There a Connection?	10.1177/0734371X12443266	2-s2.0-84887274796	Ex - NR-1
Ecotourism impacts in the Nicoya Peninsula, Costa Rica	10.1002/jtr.797	2-s2.0-78349301238	Ex - NR-3
Corporate governance and human resource management	10.1111/j.1467-8543.2006.00512.x	2-s2.0-33747203486	Ex - NR-3
Caring during COVID-19: A gendered analysis of Australian university responses to managing remote working and caring responsibilities	10.1111/gwao.12484	2-s2.0-85087308889	Ex - LR

The impact of communal knowledge repositories and people-based knowledge management on perceptions of team effectiveness	10.1177/0893318 907301987	2-s2.0- 42449142090	In - PR-1
The dynamics of control and mobile computing in distributed activities	10.1057/palgrave .ejis.3000577	2-s2.0- 33746620493	Ex - NR-3
The impact of alternative telework arrangements on organizational commitment: Insights from a longitudinal field experiment	10.2308/jis.2010. 24.1.67	2-s2.0- 80052847828	In - CR
Work-family challenges and their impact on career decisions: A study of Indian women professionals	10.1177/0256090 920090103	2-s2.0- 79952333619	Ex - LR
An examination of alternative work arrangements in private accounting practice	10.2308/acch.20 03.17.2.139	2-s2.0- 15044359193	Ex - LR
The Benefits of Teleworking in the Public Sector: Reality or Rhetoric?	10.1177/0734371 X18760124	2-s2.0- 85060572059	In - CR
Telework adoption, change management, and firm performance	10.1108/0953481 0810847011	2-s2.0- 38949164004	Ex - LR
“A pit to put women in”: professionalism, work intensification, sexualisation and work–life balance in the legal profession in England and Wales	10.1080/0969595 8.2016.1140945	2-s2.0- 84960356167	Ex - NR-3
The redevelopment of peri-urban villages in the context of path-dependent land institution change and its impact on Chinese inclusive urbanization: The case of Nanhai, China	10.1016/j.cities.2 016.05.010	2-s2.0- 84975501810	Ex - NR-3
Remote leadership, communication effectiveness and leader performance	10.1007/s10726- 008-9142-x	2-s2.0- 77952741899	In - PR-2
Policies and regulations for Brazil's artisanal gold mining sector: Analysis and recommendations	10.1016/j.jclepro. 2010.12.001	2-s2.0- 79951575914	Ex - NR-3
Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College	10.1007/s11092- 020-09340-w	2-s2.0- 85092908604	Ex - LR
Workplace spirituality–customer engagement Nexus: the mediated role of spiritual leadership on customer–oriented boundary–spanning behaviors	10.1080/0264206 9.2019.1570153	2-s2.0- 85060579039	Ex - NR-1
A real-time underground environment monitoring system for sustainable tourism of caves	10.1016/j.jclepro. 2016.11.005	2-s2.0- 85006516205	Ex - NR-3
Rapid video-based analysis system for advanced work measurement	10.1080/0020754 0500160920	2-s2.0- 29344438676	Ex - LR

Optimising workplace interventions for health and well-being: A commentary on the limitations of the public health perspective within the workplace health arena	10.1108/IJWHM-11-2011-0024	2-s2.0-84887479940	Ex - NR-3
Telecommuting and leadership style	10.1177/0091026013495731	2-s2.0-84883380152	In - CR
Cooperative strategies for improving the tourism industry in remote geographic regions: An addition to trust and commitment theory with one key mediating construct	10.1080/15022250701880695	2-s2.0-47149110008	Ex - NR-3
May I work from home? Views of the employment relationship reflected in line managers' telework attitudes in six financial-sector organizations	10.1108/02610151011052799	2-s2.0-84986149581	Ex - LR
Successfully increasing technological control through minimizing workplace resistance: understanding the willingness to telework	10.1108/00251740210438508	2-s2.0-84986133046	In - CR
The management, control, and evaluation of a telecommuting project: A case study	10.1016/0378-7206(87)90055-3	2-s2.0-0023452648	Ex - LR
Between a rock and a hard place: Freedom, flexibility, precarity and vulnerability in the gig economy in Africa	10.1177/1024529420914473	2-s2.0-85083232624	Ex - NR-3
Antecedents and consequences of co-creation in credence-based service contexts	10.1080/02642069.2016.1138472	2-s2.0-84958054251	Ex - NR-3
Employees' perspectives on one dimension of labour flexibility: Working at a distance	10.1177/095001709593003	2-s2.0-84965668758	In - CR
Teleworking in Portuguese communities during the COVID-19 pandemic	10.1108/JEC-06-2020-0113	2-s2.0-85091317439	In - CR
Toward a telework taxonomy and test for suitability: A synthesis of the literature	10.1007/BF01409777	2-s2.0-0008992101	In - CR
Stress in remote work: two studies testing the Demand-Control-Person model	10.1080/1359432X.2018.1487402	2-s2.0-85049123447	In - CR
Proactive vitality management in the work context: development and validation of a new instrument	10.1080/1359432X.2018.1483915	2-s2.0-85048370958	Ex - NR-1
Beyond deforestation monitoring in conservation hotspots: Analysing landscape mosaic dynamics in north-eastern Madagascar	10.1016/j.apgeog.2015.12.009	2-s2.0-84954314538	Ex - NR-3
What is the future of work? A science mapping analysis	10.1016/j.emj.2020.04.010	2-s2.0-85084459493	Ex - LR

COVID-19 and digital deprivation in Poland	10.24136/OC.20 20.017	2-s2.0- 85093665302	In - CR
Stress and myths related to the COVID-19 pandemic's effects on remote work	10.1108/MRJA M-06-2020-1065	2-s2.0- 85091778959	In - PR-2
Organizational climate, opportunities, challenges and psychological wellbeing of the remote working employees during COVID-19 pandemic: A general linear model approach with reference to information technology industry in Hyderabad	10.34218/IJARE T.11.4.2020.037	2-s2.0- 85084995272	In - CR
Freelancing as a type of entrepreneurship: Advantages, disadvantages and development prospects		2-s2.0- 85060869517	Ex - NR-1
Reframing the infomated household-workplace	10.1016/S1471- 7727(01)00013-6	2-s2.0- 0036155612	Ex - NR-1
Flexible working: Building a lean and responsive organization	10.1016/0024- 6301(94)90231-3	2-s2.0- 0347632190	Ex - RA
Utilizing GDSS technology: Final report on a recent empirical study	10.1016/0378- 7206(90)90023- B	2-s2.0- 0001126696	Ex - NR-3
Work during COVID-19: assessing the influence of job demands and resources on practical and psychological outcomes for employees	10.1108/APJBA- 05-2020-0149	2-s2.0- 85100964261	In - CR
Assessing and mapping human well-being for sustainable development amid flood hazards: Poyang Lake Region of China	10.1016/j.apgeog .2015.06.007	2-s2.0- 84932629489	Ex - NR-3
Spatial quantification and pattern analysis of urban sustainability based on a subjectively weighted indicator model: A case study in the city of Saskatoon, SK, Canada	10.1016/j.apgeog .2014.06.001	2-s2.0- 84903187087	Ex - NR-3
Work-from-anywhere: The productivity effects of geographic flexibility	10.1002/smj.325 1	2-s2.0- 85096161812	Ex - LR
Employee responses to relational fulfilment and work-life benefits: A social exchange study in the German public administration	10.1108/0143772 1011031702	2-s2.0- 77951445592	In - PR-2
"Oh! Teleworking!" Regimes of engagement and the lived experience of female Spanish teleworkers	10.1111/beer.122 40	2-s2.0- 85070831625	In - PR-2
Are you attracted? Do you remain? Meta-analytic evidence on flexible work practices	10.1007/s40685- 017-0059-6	2-s2.0- 85058578266	In - CR

Forest and silvopastoral cover changes and its drivers in northern Morocco	10.1016/j.apgeog.2018.10.006	2-s2.0-85055913689	Ex - NR-3
The new nowhere land? A research and practice agenda for the “always on” culture	10.1108/JOEPP-05-2017-0045	2-s2.0-85044391278	In - PR-2
When Exchange Logics Collide: Insights from Remote Indigenous Australia	10.1177/0276146717696893	2-s2.0-85019226262	Ex - NR-3
Why the availability of telecommuting matters: The effects of telecommuting on engagement via goal pursuit	10.1108/CDI-05-2016-0064	2-s2.0-85018731655	In - CR
Slowing work down by teleworking periodically in rural settings?	10.1108/PR-07-2013-0116	2-s2.0-84929746423	In - CR
Recontextualising remote working and its HRM in the digital economy: An integrated framework for theory and practice	10.1080/09585192.2020.1737834	2-s2.0-85081751177	In - PR-2
Working from home, job satisfaction and work–life balance – robust or heterogeneous links?	10.1108/IJM-10-2019-0458	2-s2.0-85089782761	In - CR
Mattering in digital labor	10.1108/JMP-06-2018-0265	2-s2.0-85067856487	In - PR-2
Greening Remote SMEs: The Case of Small Regional Airports	10.1007/s10551-017-3447-0	2-s2.0-85010739150	Ex - NR-3
Construction and initial validation of the E-Work Life Scale to measure remote e-working	10.1108/ER-09-2017-0229	2-s2.0-85055960223	In - CR
Seniors’ seasonal movements for health enhancement	10.1080/02642069.2017.1365139	2-s2.0-85027844915	Ex - NR-3
Leader beliefs and CSR for employees: the case of telework provision	10.1108/LODJ-09-2014-0177	2-s2.0-84975060204	Ex - LR
Where do I belong? High-intensity teleworkers’ experience of organizational belonging	10.1080/13678868.2014.979006	2-s2.0-85006489220	In - CR
Corporate Attitudes and Commitments to Telecommuting	10.1109/47.387773	2-s2.0-0029326407	In - PR-2
Five Steps to Leading Your Team in the Virtual COVID-19 Workplace	10.1016/j.orgdyn.2020.100802	2-s2.0-85095790097	In - CR
Is value chain financing a solution to the problems and challenges of access to finance of small-scale farmers in Rwanda?	10.1108/03074351211255182	2-s2.0-85015693971	Ex - NR-3
Structuring for innovative responses to human resource challenges: A skunk works approach	10.1016/j.hrmr.2020.100768	2-s2.0-85085610601	Ex - LR

Between-person and within-person effects of telework: a quasi-field experiment	10.1080/1359432 X.2020.1774557	2-s2.0- 85086873889	In - CR
An Empirical Assessment of the Intrusiveness and Reasonableness of Emerging Work Surveillance Technologies in the Public Sector	10.1111/puar.132 78	2-s2.0- 85091673336	Ex - NR-3
Beware of side effects on quality! Investigating the implications of home working on work-life balance in educational services	10.1108/TQM- 05-2020-0120	2-s2.0- 85092083785	In - CR
Telework adoption and formalisation in organizations from a knowledge transfer perspective	10.1504/IJWI.20 15.074169	2-s2.0- 84964798785	In - CR
Meet Mohammed: Using simulation and technology to support learning	10.1108/JMHTE P-03-2012-0001	2-s2.0- 84880782951	Ex - NR-3
Factors influencing perceived productivity of Egyptian teleworkers: An empirical study	10.1108/1368304 1211230285	2-s2.0- 84861534672	In - PR-2
Constructing corporate commitment amongst remote employees: A disposition and predisposition approach	10.1108/1356328 0810848184	2-s2.0- 38749083400	In - CR
Out of the Panopticon and into Exile: Visibility and control in distributed new culture organizations	10.1177/0170840 620909962	2-s2.0- 85083454128	In - PR-2
Enterprises' strategies transformation in the real sector of the economy in the context of the COVID-19 pandemic	10.30657/pea.20 21.27.2	2-s2.0- 85103849045	Ex - NR-3
Improving the spatial accessibility of healthcare in North Kivu, Democratic Republic of Congo	10.1016/j.apgeog .2020.102262	2-s2.0- 85086732953	Ex - NR-3
The Bioecological Model: Applications in holistic workplace well-being management	10.1108/IJWHM -04-2014-0010	2-s2.0- 84946567118	Ex - NR-3
Spatial analysis of residential fuel prices: Local variations in the price of heating oil in Northern Ireland	10.1016/j.apgeog .2015.07.016	2-s2.0- 84938899203	Ex - NR-3
Political connection, bank credits and growth: Evidence from Turkey	10.1111/j.1467- 9701.2011.01342 .x	2-s2.0- 79959451407	Ex - NR-3
Farmers' access to resources via networks in remote rural areas with mobile phone reception: Creating a resource battery for a mountain tribe in south India	10.5172/rsj.20.2. 174	2-s2.0- 84864737372	Ex - NR-3
Working from Home during the COVID-19 Pandemic: Health and Well-Being of Project-Based Construction Workers	10.1061/(ASCE) CO.1943- 7862.0002102	2-s2.0- 85104459760	Ex - NR-3

Communication for commitment in remote technical workforces	10.1108/13632540610714809	2-s2.0-84993054437	Ex - LR
Benefits of telecommuting for engineers and other high-tech professionals		2-s2.0-0029276923	Ex - RA
“You’re a teacher you’re a mother, you’re a worker”: Gender inequality during COVID-19 in Ireland	10.1111/gwao.12611	2-s2.0-85099078996	Ex - NR-3
Marketplace Literacy as a Pathway to a Better World: Evidence from Field Experiments in Low-Access Subsistence Marketplaces	10.1177/0022242921998385	2-s2.0-85104422914	Ex - NR-3
Understanding the drivers and implications of remote work from the local perspective: An exploratory study into the dis/reembedding dynamics	10.1016/j.techsoc.2020.101328	2-s2.0-85097345730	In - PR-2
Connectivity in and around Organizations: Waves, tensions and trade-offs	10.1177/0170840620973666	2-s2.0-85096400887	Ex - LR
Beyond time-binds: Rethinking work–family dynamics for a mobile world	10.1177/0018726719846264	2-s2.0-85066872412	Ex - LR
Off-grid photovoltaic microgrid development for rural electrification in Nigeria	10.1016/j.tej.2020.106765	2-s2.0-85082176990	Ex - NR-3
Employee isolation and telecommuter organizational commitment	10.1108/ER-06-2019-0246	2-s2.0-85079752803	In - CR
Coronavirus pandemic and economic lockdown; study of strategic initiatives and tactical responses of firms	10.1108/IJOA-05-2020-2198	2-s2.0-85099419477	Ex - NR-3
Quantitative assessment of urbanization and impacts in the complex of Huế Monuments, Vietnam	10.1016/j.apgeog.2019.102096	2-s2.0-85073374838	Ex - NR-3
Who can have it all and how?: An empirical examination of gender and work–life considerations among senior executives	10.1108/GM-01-2016-0011	2-s2.0-85018390461	Ex - LR
Leveraging mobile devices for human resource information systems	10.1504/IJBIS.2015.070890	2-s2.0-84938690575	Ex - RA
Families on the fringe: Mental health implications of the movement of young families to non-metropolitan areas	10.5172/rsj.351.19.4.306	2-s2.0-78650039062	Ex - NR-3
Forests and urban green areas as tools to address the challenges of sustainability in Latin American urban socio-ecological systems	10.1016/j.apgeog.2020.102343	2-s2.0-85092056168	Ex - NR-3
The coronavirus crisis and the technology sector	10.1057/s11369-020-00191-3	2-s2.0-85096433556	Ex - NR-3

Do Leadership Commitment and Performance-Oriented Culture Matter for Federal Teleworker Satisfaction With Telework Programs?	10.1177/0734371 X18776049	2-s2.0- 85047666401	Ex - LR
Mindfulness, remote engagement and employee morale: conceptual analysis to address the “new normal”	10.1108/IJOA- 06-2020-2267	2-s2.0- 85092548987	In - CR
Pricing online subscription services under competition	10.1057/rpm.201 2.14	2-s2.0- 84860829084	Ex - NR-3
‘Thriving instead of surviving’: A capability approach to geographical career transitions in the creative industries	10.1177/0018726 720956689	2-s2.0- 85091117113	Ex - NR-3
Telecommuting and job outcomes: A moderated mediation model of system use, software quality, and social Exchange	10.1016/j.im.202 1.103431	2-s2.0- 85102129037	In - CR
Interpersonal Connectivity Work: Being there with and for geographically distant others	10.1177/0170840 620973664	2-s2.0- 85096382567	Ex - LR
Discretionary remote working helps mothers without harming non-mothers: Evidence from a field experiment	10.1287/mnsc.20 18.3237	2-s2.0- 85081139219	Ex - RA
Multilingual sentimental analysis by predicting social emotions via text summarization		2-s2.0- 85065901755	Ex - NR-3
China’s red tourism: communist heritage, politics and identity in a party-state	10.1108/IJTC- 03-2017-0017	2-s2.0- 85045681236	Ex - NR-3
Perception of Attributes and Readiness for Educational Technology: Hospitality Management Students’ Perspectives	10.1080/1096375 8.2016.1189832	2-s2.0- 85032109360	Ex - LR
The Supply and Use of Broadband in Rural Australia: An Explanatory Case Study of the Western Downs Region	10.3127/AJIS.V2 0I0.1202	2-s2.0- 85009895487	Ex - NR-3
Telework configurations and labour productivity: Some stylized facts	10.5772/51641	2-s2.0- 84867613640	In - PR-2
Examining constraints to leisure and recreation for residents in remote and isolated communities: An analysis of 14 communities in the Northwest Territories of Canada	10.1080/0441905 7.2012.720582	2-s2.0- 84988006682	Ex - NR-3

Remote Work/Telecommuting a Means of Enhancing the Quality of Life, or Just Another Method of Making Business More Brisk?	10.1177/0143831 X8562007	2-s2.0- 84970708584	Ex - RA
Control and Surveillance in Work Practice: Cultivating Paradox in 'New' Modes of Organizing	10.1177/0170840 6211010988	2-s2.0- 85105926343	Ex - LR
Cultural diversity drives innovation: modeling in the global pharmaceutical industry	10.1108/IJIS-06- 2020-0087	2-s2.0- 85100734383	Ex - NR-3
Will the World Ever Be the Same After COVID-19? Two Lessons from the First Global Crisis of a Digital Age	10.1007/s40804- 020-00194-9	2-s2.0- 85090782970	Ex - NR-3
Remote working, management control changes and employee responses during the COVID-19 crisis	10.1108/AAAJ- 06-2020-4657	2-s2.0- 85106015652	In - PR-2
Counting sleep: Ambiguity, aspirational control and the politics of digital self-tracking at work	10.1177/1350508 420970475	2-s2.0- 85096891653	Ex - NR-3
Impact of activity-based workplaces on burnout and engagement dimensions	10.1108/JCRE- 09-2019-0041	2-s2.0- 85088863644	In - PR-2
To flex or not to flex? Flexible work arrangements amongst software developers in an emerging economy	10.4102/sajhrm.v 17i0.1175	2-s2.0- 85074840209	In - CR
Niche tourism (birdwatching) and its impacts on the well-being of a remote island and its residents	10.1504/ijta.2019 .10019435	2-s2.0- 85062512142	Ex - NR-3
Traveling for nature? On the paradox of environmental awareness and travel for nature experiences		2-s2.0- 84900392874	Ex - NR-3
Making mental health practitioners workforce ready	10.1108/1755622 1211269938	2-s2.0- 84866414126	Ex - NR-3
Quality of work and life balance in teleworking	10.3923/ibm.201 2.119.130	2-s2.0- 84860876934	In - PR-2
Extending boundaries of human resource concepts and practices: An innovative recruitment method for indigenous Australians in remote regions	10.1177/1038411 111414380	2-s2.0- 80052925680	Ex - NR-3
Remotely monitoring a patient's mobility: A digital health application	10.1109/MPOT.2 010.939453	2-s2.0- 79952937436	Ex - NR-3
Is job performance conditioned by work-from-home demands and resources?	10.1016/j.techsoc .2021.101672	2-s2.0- 85111043202	In - PR-2
Remote e-Workers' Psychological Well-being and Career Development in the Era of COVID-19: Challenges, Success Factors, and the Roles of HRD Professionals	10.1177/1523422 3211017849	2-s2.0- 85106276771	In - PR-2

The impact of COVID-19 pandemic on student's e-learning experience in Jordan	10.3390/jtaer16050079	2-s2.0-85105884894	Ex - LR
Not all telework is valuable [No todo teletrabajo es valioso]	10.5093/JWOP2021A6	2-s2.0-85103496352	In - CR
Leading in lockdown: Community, communication and compassion in response to the COVID-19 crisis	10.1177/17411432211027634	2-s2.0-85109152930	Ex - NR-3
Working in a post COVID-19 world: Towards a conceptual framework for distributed work	10.4102/SAJBM.V52I1.2155	2-s2.0-85101235331	Ex - LR
Productive and connected while working from home: what client-facing remote workers can learn from telenurses about 'belonging through technology'	10.1080/0960085X.2020.1841572	2-s2.0-85095796949	In - PR-2
On the Hazards of the Technology Age: How Using Emojis Affects Perceptions of Leaders	10.1177/2329488420971690	2-s2.0-85096598607	Ex - NR-3
Corporate maturity desiderata in the face of the COVID-19 pandemic – The digital plane of logistics microfoundations [Dezyderaty dojrzałości przedsiębiorstw w obliczu pandemii COVID-19 - Cyfrowa płaszczyzna mikrofundamentów logistycznych]	10.17270/J.LOG.2020.495	2-s2.0-85091359551	Ex - NR-3
Field study of complements to supervisory leadership in more and less flexible work settings	10.1186/s41469-018-0034-5	2-s2.0-85089601129	In - CR
Men's health and communities of practice in Australia	10.1108/JHOM-12-2016-0234	2-s2.0-85019073634	Ex - NR-3
Rural indian and indigenous australian women working towards empowerment: A proposed cross-cultural study	10.1177/097300520900400208	2-s2.0-84997995818	Ex - NR-3
Twice a "housewife": On academic precarity, "hysterical" women, faculty mental health, and service as gendered care work for the "university family" in pandemic times	10.1111/gwao.12723	2-s2.0-85109078092	Ex - NR-1
Thanks, but No Thanks: Preferences towards Teleworking Colleagues in Public Organizations	10.1093/jopart/muab012	2-s2.0-85118152584	In - PR-2
Toward Elimination of Infectious Diseases with Mobile Screening Teams: HAT in the DRC	10.1111/poms.13440	2-s2.0-85107302710	Ex - NR-3
Working from Home, Wages, and Regional Inequality in the Light of COVID-19	10.1515/jbnst-2020-0030	2-s2.0-85100021189	Ex - NR-3

An organizational analysis of how managers must understand the mental health impact of teleworking during COVID-19 on employees	10.1108/IJOA-03-2021-2685	2-s2.0-85114499258	In - PR-2
Personnel management innovations in the digital era: Case of Russia in COVID-19 pandemic		2-s2.0-85107726635	Ex - NR-3
Considering Residents' Personality and Community Factors in Explaining Satisfaction with Tourism and Support for Tourism Development	10.1080/21568316.2020.1768140	2-s2.0-85086335322	Ex - NR-3
GitLab: work where you want, when you want	10.1186/s41469-020-00087-8	2-s2.0-85096026708	In - PR-2
Conspicuous monitoring and remote work	10.1016/j.jebo.2020.05.010	2-s2.0-85086427734	In - PR-2
The aboriginalization of inquiry: Tourism research by and for aboriginal and torres strait islander people	10.3727/194341419X15554157596236	2-s2.0-85085756514	Ex - NR-3
Evaluating for the past, present and future: A values-based evaluation of an Aboriginal-led project in rural and remote Australia	10.1016/j.futures.2019.03.005	2-s2.0-85063723075	Ex - NR-3
Local community partnership in social development program: National community case study in Terengganu		2-s2.0-85066636211	Ex - NR-3
Anticipating aging and prospecting pension for retirement well-being		2-s2.0-85063323075	Ex - NR-3
Features of development and using interuniversity scientific and educational network «SYNERGY» for training of engineers in the field of automation, robotics and mechatronic systems	10.4108/eai.10-7-2018.155041	2-s2.0-85051602035	Ex - LR
Maintaining hope: the intrinsic role of professional support	10.1108/JMHTEP-04-2015-0014	2-s2.0-85007590868	Ex - NR-3
Commitment and regulation. Ethics in research and the human sciences [Compromiso y regulación. Ética de la investigación y las humanidades]	10.1688/IJAR-2016-02-Sobottka	2-s2.0-84982987716	Ex - NR-3
Does remote work flexibility enhance organization performance? Moderating role of organization policy and top management support	10.1016/j.jbusres.2021.10.069	2-s2.0-85119199197	In - CR
Computer-Supported Cooperative Work - Revisited	10.1515/icom-2021-0028	2-s2.0-85121050422	Ex - LR

The future of remote work in japan: COVID-19's implications for international human resource management	10.15678/EBER.2021.090401	2-s2.0-85121258508	Ex - LR
The future of work: Career reentry programs for women in the workforce		2-s2.0-85121119986	Ex - LR
Measuring organizational climate via psychological networks analysis	10.1108/IJOTB-08-2020-0142	2-s2.0-85115792867	In - PR-1
The COVID-2019 Pandemic as a Catalyst of the Potential Loss of Democratic Foundations of Society's Social Life	10.36941/ajis-2021-0171	2-s2.0-85119920640	Ex - NR-1
Happier and further by going together: The importance of software team behaviour during the COVID-19 pandemic	10.1016/j.techsoc.2021.101799	2-s2.0-85118491624	In - PR-2
Tracking Greenfield FDI During the COVID-19 Pandemic: Analysis by Sectors	10.1177/00157325211031317	2-s2.0-85112425339	Ex - NR-1
The story of five MENA cities: Urban growth prediction modeling using remote sensing and video analytics	10.1016/j.cities.2021.103393	2-s2.0-85111624699	Ex - NR-3
Improving Online Learning Experience Using Facial Expression Analysis	10.1109/EMR.2021.3079840	2-s2.0-85105866617	Ex - NR-3
COVID-19 in workers of montufar social security health center due to inappropriate use of protective clothing [COVID-19 en trabajadores del centro de salud de seguridad social de montufar por uso inapropiado de ropa de protección]		2-s2.0-85118381884	Ex - NR-3
Acceptance and commitment therapy for adolescents and adults with neurofibromatosis type 1, plexiform neurofibromas, and chronic pain: Results of a randomized controlled trial	10.1016/j.jcbs.2021.10.003	2-s2.0-85118334977	Ex - NR-1
Housing preferences during the pandemic: effect on home price, rent, and inflation measurement	10.1057/s11369-021-00241-4	2-s2.0-85117181255	Ex - NR-3
"Seeing to be seen": The manager's political economy of visibility in new ways of working	10.1016/j.emj.2020.11.005	2-s2.0-85097473515	Ex - NR-1
Lateral layers and loops: Why managers need to curate the fabric of the digital firm in a post-lockdown world	10.1177/02663821211035039	2-s2.0-85111114221	Ex - NR-1

Impact of the COVID-19 pandemic on management-level hotel employees' work behaviors: Moderating effects of working-from-home	10.1016/j.ijhm.2021.103020	2-s2.0-85110211210	In - CR
Preface: Shifting Career Realities and Navigating Career Journeys	10.1177/15234223211017847	2-s2.0-85106970791	Ex - LR
Emerging Career Realities during the Pandemic: What Does it Mean for Women's Career Development?	10.1177/15234223211017851	2-s2.0-85106624790	Ex - LR
The Impact of COVID-19-Prompted Virtual/Remote Work Environments on Employees' Career Development: Social Learning Theory, Belongingness, and Self-Empowerment	10.1177/15234223211017850	2-s2.0-85106226567	In - PR-2
Psychological factors of adaptation to remote work of inclusive education specialists	10.21511/ppm.19(2).2021.05	2-s2.0-85104965715	Ex - LR
Employee engagement during organizational crisis – with special reference to the COVID scenario		2-s2.0-85121441027	In - CR
The role of communication mode in auditor-client interactions: Insights from staff auditors	10.2308/CIIA-2020-007	2-s2.0-85105436064	Ex - NR-3
Chronicles of conflicting care in confinement: Documenting the work experiences of seven 'patient zeros'	10.1111/gwao.12532	2-s2.0-85090432925	Ex - NR-3
Feeling like a million miles away from home? Well-being at work of expatriates in the resources sector in Indonesia	10.1177/23970022211063755	2-s2.0-85121142272	Ex - NR-3
Telework in Belgium: A patchwork of legal regimes		2-s2.0-85120417013	Ex - LR
How the past of outsourcing and offshoring is the future of post-pandemic remote work: A typology, a model and a review	10.1111/irj.12355	2-s2.0-85120178772	Ex - LR
Examining the impetus for internal CSR Practices with digitalization strategy in the service industry during COVID-19 pandemic	10.1111/beer.12408	2-s2.0-85119975922	In - PR-2
Kant on Remote Working: a Moral Defence	10.1007/s40926-021-00189-7	2-s2.0-85119456237	In - PR-2
Gendering boundary work: Experiences of work–family practices among Finnish working parents during COVID-19 lockdown	10.1111/gwao.12773	2-s2.0-85119280214	Ex - NR-3

The impact of remote work and mediated communication frequency on isolation and psychological distress	10.1080/1359432 X.2021.2002299	2-s2.0- 85119054545	In - PR-2
Work, housing, and urban mobility in the megacity of São Paulo, Brazil	10.1016/j.seps.20 21.101184	2-s2.0- 85118578985	Ex - NR-3
Impact of the Coronavirus disease 2019 and the post-pandemic construction sector (Pakistan)	10.1108/IJMPB- 11-2020-0349	2-s2.0- 85118353950	Ex - NR-1
The role of human resource practices in the implementation of digital transformation	10.1108/IJM-03- 2021-0176	2-s2.0- 85117963017	Ex - NR-1
Computerizing Technostress Management: Toward An Artificial Intelligence Assisted Support And Diagnosis System		2-s2.0- 85117933591	Ex - LR
Teleworking and Emotional Experience and Wellbeing: The Case in the Turkish Financial Services Industry During COVID-19	10.47743/saeb- 2021-0016	2-s2.0- 85117417813	In - CR
Working More, Less or the Same During COVID-19? A Mixed Method, Intersectional Analysis of Remote Workers	10.1177/0730888 4211047208	2-s2.0- 85117328807	In - PR-2
Servant Leadership and Employee Engagement: A Qualitative Study	10.1007/s10672- 021-09389-9	2-s2.0- 85117243911	In - PR-2
E-work evaluation through work–life balance, job effectiveness, organizational trust and flexibility: evidence from Kosovo during COVID-19	10.1108/ER-04- 2021-0136	2-s2.0- 85117163372	In - PR-2
Development of remote jobs as a factor to increase labor efficiency	10.15549/jeeccar. v8i3.669	2-s2.0- 85116345099	In - PR-2
Understanding stressor-strain relationships during the COVID-19 pandemic: The role of social support, adjustment to remote work, and work-life conflict	10.1017/jmo.202 1.50	2-s2.0- 85116218282	In - PR-2
Entrepreneurship in the Times of Pandemic: Barriers and Strategies	10.1177/2319714 5211043799	2-s2.0- 85116215136	Ex - NR-2
“It needs to be the right blend”: a qualitative exploration of remote e-workers’ experience and well-being at work	10.1108/ER-02- 2021-0058	2-s2.0- 85114513800	In - CR
Remote working in terms of COVID 19		2-s2.0- 85114351711	Ex - NR-3

A descriptive study on cybersecurity challenges of working from home during COVID-19 pandemic and a proposed 8 step WFH cyber-attack mitigation plan	10.5171/2021.58 9235	2-s2.0- 85113814884	Ex - NR-3
Forced flexibility and remote working: Opportunities and challenges in the new normal	10.1017/jmo.202 1.40	2-s2.0- 85113758616	Ex - LR
Smart working is not so smart Always-on lives and the dark side of platformisation	10.13169/WORK ORGALABOGL OB.15.1.0107	2-s2.0- 85113285150	Ex - LR
Reimagining Future of Future by redesigning Talent Strategy in the Age of Distraction and Disruption	10.6977/IJoSI.20 2106_6(4).0003	2-s2.0- 85112849911	Ex - NR-3
Impacts of COVID-19 on the self-employed	10.1007/s11187- 021-00522-4	2-s2.0- 85112422250	Ex - NR-2
Transitioning to remote teams in principles of marketing: An exploratory psychometric assessment of team role effects on face-to-face and online team performance	10.1080/0883232 3.2021.1964421	2-s2.0- 85112177729	Ex - NR-3
Sources of income in the economy of pleasure: New growth vectors of developing countries in Industry 4.0	10.1504/IJTGM. 2021.116733	2-s2.0- 85112032067	Ex - NR-3
Supporting the productivity and wellbeing of remote workers: Lessons from COVID-19	10.1016/j.orgdyn .2021.100869	2-s2.0- 85111794974	In - CR
Employees' dedication to working from home in times of COVID-19 crisis	10.1108/MD-09- 2020-1256	2-s2.0- 85109926364	In - CR
Remuneration strategies related to charles handy's cultural typology: A case study in a small digital market business in remote work	10.14488/BJOP M.2021.040	2-s2.0- 85109109496	In - PR-2
Teaching during COVID-19: faculty members' perceptions during and after an "exceptional" semester	10.1108/JIEB- 12-2020-0099	2-s2.0- 85104262553	Ex - NR-3
Towards blended learning: Stakeholders' perspectives on a project-based integrated curriculum in ICT engineering education	10.1177/0950422 221994471	2-s2.0- 85101472365	Ex - NR-3
Firms that prosper in all weathers: surviving recessions and plagues	10.1108/JBS-10- 2020-0247	2-s2.0- 85100924667	Ex - NR-3
The impact of coaching on well-being and performance of managers and their teams during pandemic	10.24384/n5ht- 2722	2-s2.0- 85100651047	Ex - NR-1
Researching Home-Based Technical and Professional Communication: Emerging Structures and Methods	10.1177/1050651 920959185	2-s2.0- 85091038756	Ex - NR-3

Why should broadband be free? Promises and rhetoric in the United Kingdom general election of 2019	10.1108/DPRG-12-2019-0106	2-s2.0-85096514568	Ex - NR-3
The remote-work absolutist		2-s2.0-85098570772	Ex - NR-3
An efficient provenance extension relational model for linked data storage		2-s2.0-85083461603	Ex - NR-3
Why Has GATS Failed to Deliver Substantial Trade in Medical Services?		2-s2.0-85100407337	Ex - NR-3
Design of a mobile application for the school enrollment process in order to prevent COVID-19	10.25046/aj0506126	2-s2.0-85098735053	Ex - NR-3
Telecommuting potential analysis	10.1504/GBER.2020.108396	2-s2.0-85092784447	Ex - LR
Guidelines on safe work practice when commuting in oil Palm plantations	10.35940/ijrte.B1039.0782S319	2-s2.0-85073276010	Ex - NR-3
A GIS based method for assessing the association between urban development and crime pattern in Sungai Petani, Kedah Malaysia	10.35940/ijrte.B3177.078219	2-s2.0-85071495977	Ex - NR-3
E-leadership, psychological contract and real-time performance management: Remotely working professionals		2-s2.0-85079738705	Ex - NR-3
CGPL—Survival Through Engagement at a Time of Turbulence	10.1177/0972150919862944	2-s2.0-85075180658	Ex - NR-3
Product model and whiteboard connection to support integration between synchronous and asynchronous phases in cooperative product development	10.1504/IJPD.2014.060046	2-s2.0-84898998982	Ex - NR-3
Sustainability: Its adaptation and relevance in remote area housing	10.5130/ajceb.v14i1.3840	2-s2.0-84897057510	Ex - NR-3
Hard work pays		2-s2.0-84861831637	Ex - NR-3
Avoiding liability for off-the clock work in the brave new world of the blackberry		2-s2.0-78650528897	Ex - LR
Workforce goes on and on at Chazbrooks Communications: Work-life balance policies benefit clients and employees	10.1108/09670730910929422	2-s2.0-65949092296	Ex - NR-3
Gender differences in MBA students: Work-life balance, opting out and the increasing importance of flexibility	10.18848/1447-9524/cgp/v09i10/49823	2-s2.0-77749243319	Ex - NR-1

Algeria seeks defence against Al-Qaeda's rise		2-s2.0-80053656063	Ex - NR-3
Library services for distance learners at drexel university's lebow college of business	10.1300/J109v07n02_12	2-s2.0-85023869178	Ex - NR-3
Bridging the distance: Pace university library and remote users	10.1300/J109v07n02_08	2-s2.0-85023840203	Ex - NR-3
Emerging patterns of teleworking in Singapore		2-s2.0-0039337086	In - PR-2
Looking ahead in India.		2-s2.0-0022672248	Ex - NR-3

APPENDIX B: LIST OF KEYWORD CO-OCCURRENCE LINKS AND THEIR STRENGTHS

Item Number	Source Item	Target Item	Link Strength
1	COVID-19	remote work	13
2	remote work	telework	7
3	telecommuting	telework	7
4	remote work	telecommuting	5
5	telework	well-being	5
6	remote work	well-being	5
7	COVID-19	telework	5
8	COVID-19	productivity	4
9	job satisfaction	telecommuting	4
10	productivity	remote work	4
11	COVID-19	well-being	4
12	job satisfaction	remote work	4
13	COVID-19	crisis	3
14	autonomy	remote work	3
15	autonomy	COVID-19	3

16	telework	work-life balance	3
17	well-being	work-life balance	3
18	remote work	stress	3
19	psychological well-being	remote work	3
20	organizational commitment	telecommuting	3
21	job satisfaction	organizational commitment	3
22	crisis	remote work	3
23	digital transformation	remote work	2
24	COVID-19	stress	2
25	e-work	telework	2
26	e-work	well-being	2
27	employment	remote work	2
28	engagement	telework	2
29	epidemic	human resource management	2
30	autonomy	psychological well-being	2
31	COVID-19	epidemic	2
32	COVID-19	efficacy	2
33	job satisfaction	telework	2
34	job satisfaction	work-life balance	2
35	lmx	organizational commitment	2
36	lmx	telework	2
37	organizational commitment	remote work	2
38	telecommuting	work-life balance	2
39	organizational commitment	telework	2
40	performance	remote work	2
41	personnel	telecommuting	2
42	personnel	well-being	2

43	COVID-19	cronbach alpha	2
44	productivity	satisfaction	2
45	productivity	well-being	2
46	telework	virtual work	2
47	quality of life	telework	2
48	remote work	satisfaction	2
49	autonomy	cronbach alpha	2
50	burnout	telework	2
51	burnout	engagement	2
52	remote work	virtual organizations	2
53	burnout	COVID-19	2
54	remote work	work-life balance	2
55	remote workers	well-being	2
56	strain	stress	2
57	stress	well-being	2
58	cronbach alpha	remote work	2
59	cronbach alpha	psychological well-being	2
60	crisis	telework	2
61	telecommunication	telecommuting	2
62	COVID-19	human resource management	2
63	COVID-19	psychological well-being	2
64	e-work	remote work	2
65	anxiety	COVID-19	1
66	anxiety	efficacy	1
67	anxiety	employment	1
68	anxiety	epidemic	1
69	anxiety	human resource management	1

70	anxiety	job performance	1
71	anxiety	performance	1
72	anxiety	telecommuting	1
73	anxiety	telework	1
74	anxiety	work-life balance	1
75	attitudes	job satisfaction	1
76	attitudes	remote work	1
77	attitudes	telecommuting	1
78	attitudes	telework	1
79	autonomy	crisis	1
80	autonomy	digital transformation	1
81	autonomy	employment	1
82	autonomy	leadership	1
83	belonging	COVID-19	1
84	belonging	personnel	1
85	belonging	productivity	1
86	belonging	remote work	1
87	belonging	remote workers	1
88	belonging	telework	1
89	belonging	virtual organizations	1
90	belonging	well-being	1
91	burnout	efficacy	1
92	burnout	health	1
93	burnout	turnover intentions	1
94	career development	psychological well-being	1
95	career development	remote work	1
96	control	employment	1

97	control	remote work	1
98	control	telecommuting	1
99	COVID-19	digital transformation	1
100	COVID-19	employee engagement	1
101	COVID-19	employment	1
102	COVID-19	engagement	1
103	COVID-19	job performance	1
104	COVID-19	job satisfaction	1
105	COVID-19	leadership	1
106	COVID-19	performance	1
107	COVID-19	personnel	1
108	COVID-19	remote workers	1
109	COVID-19	satisfaction	1
110	COVID-19	strain	1
111	COVID-19	telecommuting	1
112	COVID-19	turnover intentions	1
113	COVID-19	virtual organizations	1
114	COVID-19	work-life balance	1
115	crisis	digital transformation	1
116	crisis	leadership	1
117	digital transformation	ethnography	1
118	digital transformation	leadership	1
119	e-work	health	1
120	efficacy	employment	1
121	efficacy	epidemic	1
122	efficacy	human resource management	1
123	efficacy	job performance	1

124	efficacy	performance	1
125	efficacy	telework	1
126	employee well-being	organizational commitment	1
127	employee well-being	telecommuting	1
128	employee well-being	telework	1
129	employees	remote work	1
130	employees	telework	1
131	employees	well-being	1
132	employment	epidemic	1
133	employment	human resource management	1
134	employment	job performance	1
135	employment	job satisfaction	1
136	employment	performance	1
137	employment	quality of life	1
138	employment	telecommuting	1
139	employment	telework	1
140	employment	work-life balance	1
141	engagement	health	1
142	engagement	motivation (psychology)	1
143	engagement	performance	1
144	engagement	telecommuting	1
145	engagement	turnover intentions	1
146	engagement	work design	1
147	epidemic	job performance	1
148	epidemic	job satisfaction	1
149	epidemic	performance	1
150	epidemic	productivity	1

151	epidemic	work-life balance	1
152	ethnography	remote work	1
153	ethnography	telecommuting	1
154	ethnography	telework	1
155	field experiment	organizational commitment	1
156	field experiment	remote work	1
157	field experiment	telecommuting	1
158	health	remote work	1
159	health	telework	1
160	health	well-being	1
161	home office	telecommuting	1
162	human resource management	job performance	1
163	human resource management	job satisfaction	1
164	human resource management	performance	1
165	human resource management	productivity	1
166	human resource management	work-life balance	1
167	information technology	telecommunication	1
168	information technology	telecommuting	1
169	information technology	telework	1
170	job performance	job satisfaction	1
171	job performance	organizational commitment	1
172	job performance	performance	1
173	job performance	telecommuting	1
174	job satisfaction	lmx	1
175	job satisfaction	performance	1
176	job satisfaction	productivity	1
177	job satisfaction	quality of life	1

178	job satisfaction	remote workers	1
179	job satisfaction	turnover intentions	1
180	job satisfaction	virtual work	1
181	leadership	remote work	1
182	leadership	telecommuting	1
183	leadership	telework	1
184	leadership	virtual work	1
185	lmx	virtual work	1
186	motivation (psychology)	telework	1
187	organizational commitment	performance	1
188	organizational commitment	virtual work	1
189	performance	productivity	1
190	performance	satisfaction	1
191	personnel	productivity	1
192	personnel	remote work	1
193	personnel	remote workers	1
194	personnel	telecommunication	1
195	personnel	work-life balance	1
196	productivity	quality of life	1
197	productivity	remote workers	1
198	productivity	stress	1
199	productivity	telecommuting	1
200	productivity	telework	1
201	productivity	work-life balance	1
202	quality of life	remote work	1
203	quality of life	work-life balance	1
204	remote work	remote workers	1

205	remote work	strain	1
206	remote workers	telework	1
207	remote workers	work-life balance	1
208	satisfaction	telecommuting	1
209	strain	well-being	1
210	telecommuting	turnover intentions	1
211	telecommuting	virtual work	1
212	telecommuting	well-being	1
213	telecommuting	work design	1
214	telework	turnover intentions	1
215	telework	virtual organizations	1
216	telework	work design	1

APPENDIX C: LIST OF KEYWORD CO-OCCURRENCE ITEMS AND THEIR ATTRIBUTES

Label	Cluster	Links	Total Link Strength	Occurrences	Avg. Pub. Year	Avg. Citations
anxiety	3	10	10	2	2017	27
attitudes	2	4	4	2	1992	57
autonomy	1	8	14	4	2018.5	43
belonging	5	8	8	2	2018	6.5
burnout	4	6	9	3	2020.6667	1.3333
career development	1	2	2	2	2021	1
control	3	3	3	2	2010.5	0
COVID-19	8	31	64	20	2020.8	6.75
crisis	1	6	11	3	2020.666	23

					7	
cronbach alpha	1	4	8	2	2020.5	14
digital transformation	1	6	7	2	2016.5	76
e-work	4	4	7	2	2020	30
efficacy	3	9	10	2	2021	1.5
employee engagement	8	1	1	3	2020.333 3	3.6667
employee well-being	2	3	3	2	2020	7.5
employees	7	3	3	2	2021	1
employment	3	15	16	4	2012.5	59.5
engagement	4	9	11	5	2019	4
epidemic	3	10	12	2	2021	1
ethnography	1	4	4	2	2014	78.5
field experiment	2	3	3	2	2015	19
health	4	6	6	2	2020.5	1.5
home office	2	1	1	2	2020.5	8.5
human resource management	3	10	12	2	2021	1
information technology	5	3	3	2	2003.5	10
job performance	3	10	10	2	2021	3
job satisfaction	2	18	28	9	2010.555 6	58
leadership	1	8	8	3	2013.333 3	46.6667
lmx	2	4	6	2	2013.5	74
motivation	4	2	2	2	2013.5	12.5

(psychology)						
organizational commitment	2	10	17	7	2016.571 4	35
performance	3	13	14	4	2019.75	13.75
personnel	5	9	11	4	2012.75	15.75
productivity	6	16	24	6	2019.666 7	0.8333
psychological well- being	1	5	10	3	2020.666 7	10
quality of life	6	6	7	2	2014.5	70
remote work	1	32	81	34	2016.117 6	29.6176
remote workers	5	9	10	3	2014	35
satisfaction	6	5	7	2	2021.5	0
strain	7	4	5	2	2019.5	17
stress	7	5	10	4	2017.5	39.5
telecommunication	5	3	4	2	1992	28.5
telecommuting	2	26	44	21	2008.571 4	36.0952
telework	4	31	62	27	2012.963	38.8889
turnover intentions	4	6	6	2	2010	69.5
virtual organizations	5	4	5	3	2011.333 3	79.3333
virtual work	2	6	7	3	2006.666 7	94
well-being	7	14	32	11	2019.273	18.5455
work design	4	3	3	2	2011.5	30
work-life balance	6	14	21	8	2016.25	82.25