
A Bibliometric Analysis on Leadership and its impact on organizational culture using the Web of Science (WoS) Database

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Abstract

This paper integrates research on scientific mapping and bibliometric analysis, focusing on two pivotal keywords: 'Leadership' and 'Organizational culture.' Leveraging the Web of Science database, the researcher assessed six key performance indicators—publications by authors, publications by year, subject categories, document types, countries, and journals—to discern the subject with the highest publication count. Minimum values for each indicator were established, and scientific mapping was executed using VOSviewer software, incorporating co-authorship, co-occurrence, and co-citation indicators. The network visualization technique, a prevalent method, was employed to visually represent the analysed links. The study encompasses 4280 papers, offering a comprehensive understanding of the facts and relationships among the selected indicators. This research contributes valuable insights into the landscape of leadership and organizational culture by illuminating patterns and connections through the exploration of diverse performance indicators.

Keywords: Leadership, Organizational culture, Bibliometric Analysis, Scientific Mapping, Web of Science.

I. Introduction

Every organization dependent on collaboration among individuals necessitates the presence of a leader (Sadif et al., 2023). The leadership aspect stands out as the most crucial factor within the organization. Hence, leadership and the desire for influential leaders remain contemporarily critical, as successful leadership significantly impacts the achievements of individuals, organizations, industries and nations (Maheshwari and Kha, 2023).

Many situations arise in which subordinates deliver subpar work due to a lack of compatibility with their superiors' leadership styles. The leadership style of superiors plays a crucial role in influencing the performance of subordinates, ultimately shaping the overall success of the organization. Burns (1978) showed that leaders' role is to encourage the followers and give them the chance to change and be successful in the organization, motivate and create a sense of identity, a role model that inspires to take greater ownership of followers' work.

Leadership is a significant factor affecting the performance of individuals and organizations (Awan & Mahmood, 2010; Azizah et al., 2020; Godbless, 2021; Tjahjono et al., 2019). Numerous leadership studies have been devoted to examining the impact of various leadership styles on organizational effectiveness and job performance.

Although the effect of leadership styles on organization performance has been demonstrated extensively in many empirical studies, there are still very few literature review studies paying attention to synthesis the impact of leadership styles on organizational culture. Most of the literature review studies in the organization were interested primarily on the influence of one or a few particular leadership styles (eg transformational leadership, transactional and democratic leadership) on some specific factors (eg wellbeing, job satisfaction). Thus, the effectiveness of various leadership practices on different individual and organizational culture perspective remains inconclusive (Maheshwari and Kha, 2023). Literature reviews play an essential role in providing researchers, practitioners and policymakers with an overview of a specific subject matter and laying the groundwork for future research (Hallinger, 2014). Therefore, it is essential to consolidate the relevant research and examine the overall impact of multiple leadership styles on employees and organizational culture. Numerous scholars have conducted systematic literature reviews in diverse domains, such as Transformational Leadership (Muhammad Rizky Sadif, Dewi Susita, Unggul Purwohedi, 2023), Servant Leadership (Aditya Pramana, 2022), ethical leadership (Brown & Treviño, 2006). The objective of these reviews is to provide a thorough understanding of the developments made in their particular fields of study and to suggest future lines of inquiry. Building upon this existing body of work, the present study aims to make a similar contribution by conducting a systematic review in the leadership domain (Greeni Maheshwari and Khanh Linh Kha). Furthermore, the review study is highly significant because it provides a broader perspective on the research domain, which facilitates the development of a more inclusive framework. It does this by highlighting the research gap that exists and encouraging scholars to further explore the topic in future academic studies.

With this objective in mind, the study seeks to explore the literature to comprehend the shifts in research trends related to leadership styles and the evolving depth of analysis applied to each leadership style over time. In specific, the primary purpose of the literature review is to address twelve research questions:

RQ1: Which authors have published the maximum number of papers on leadership and its impact on organizational culture?

RQ2: During which years have the most papers been published?

RQ3: Which countries are publishing the maximum number of research papers?

RQ4: In which subjects' disciplines, journal have published the most research?

RQ5: In which languages research papers have been published mostly?

RQ6: Which journal have published the maximum number of papers on leadership styles and its impact on organizational culture?

RQ7: Who are the most influential authors in related papers?

RQ8: Which countries are publishing the maximum number of research papers?

RQ9: Which publication houses are publishing the maximum number of research papers?

RQ10: Which nations have collaborated on the most publications with the other nations?

RQ11: Which keywords co-occur with the most commonly used keywords?

RQ12: Which article received maximum number of citations?

II. Research Methodology

To achieve the aim of the current study a bibliometric analysis was conducted. The search for papers was conducted on Web of Science, which has a large database of academic texts. To address the research questions, a list of keywords within the search titles in the category of management were used. The searched keywords were “Leadership” in order to contain all research themes under the topic leadership.

The bibliometric method is utilized to present the outcomes of a quantitative analysis of written publications. This researcher uses a tool in the form of VosViewer, where the purpose (Van Eck & Waltman, 2015) of VOSViewer is to provide an overview of the structure of scientific literature on a particular topic.

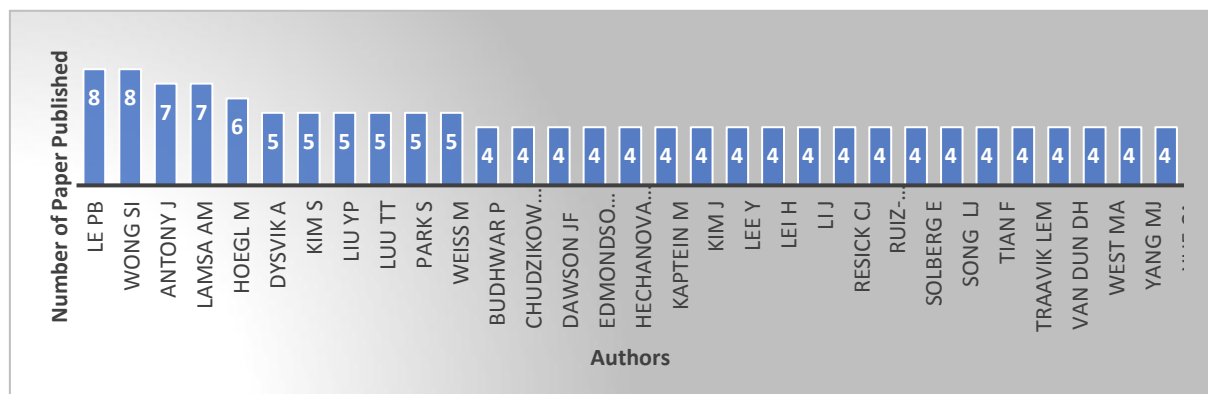
III. Results

Bibliometric analysis

Maximum number of Publications by Authors

Authors	Record Count	Authors	Record Count	Authors	Record Count
Le PB	8	Budhwar P	4	Ruiz-palomino P	4
Wong SI	8	Chudzikowski K	4	Solberg E	4
Antony J	7	Dawson JF	4	Song LJ	4
Lamsa AM	7	Edmondson AC	4	Tian F	4
Hoegl M	6	Hechanova MRM	4	Traavik LEM	4
Dysvik A	5	Kaptein M	4	Van Dun DH	4
Kim S	5	Kim J	4	West MA	4
Liu YP	5	Lee Y	4	Yang MJ	4
Luu TT	5	Lei H	4	Yue CA	4
Park S	5	Li J	4		
Weiss M	5	Resick CJ	4		

Table 1: Maximum number of studies on leadership and its impact of organizational culture were published by the most prolific authors with at least 4 papers.



Source: Web of Science

Figure 1: Maximum number of studies on leadership and its impact of organizational culture were published by the most prolific authors with at least 4 papers.

Research on the influence of leadership on organizational culture was conducted by searching the Web of Science database in alignment with the study's objectives. The total numbers of authors who contributed to this field study were 4280. Authors who have written at least four research publications are examined and analyzed in this study. The study also shows the number of articles with the least number of publications, which is four and answer the query as follows: authors with eight publications are at the top.

Publication trend

Understanding the publication pattern might help identify the growth in the topic of research (as seen in figure 1) which shows the increase in publications significantly since 2017; 936 articles (62.23%) have been published within last seven years. Maximum number of articles published in the year 2022 with 155 articles published.

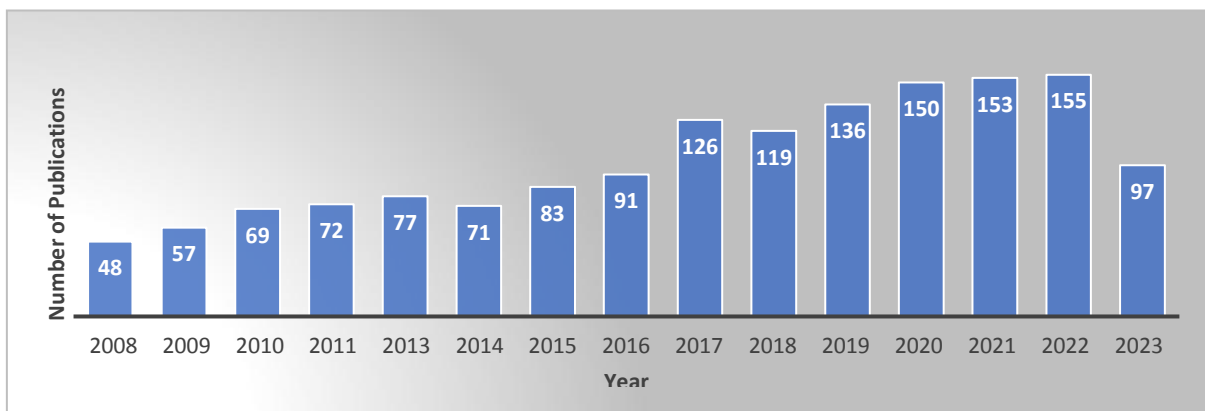


Figure 2: Number of papers by years.

Regions of research

Figure 3 shows top ten countries to study the influence of leadership on organizational culture from 2008 to 2023. Most article were focused on USA (518) followed by England (196). As we can see India stands in second last position in top ten countries.

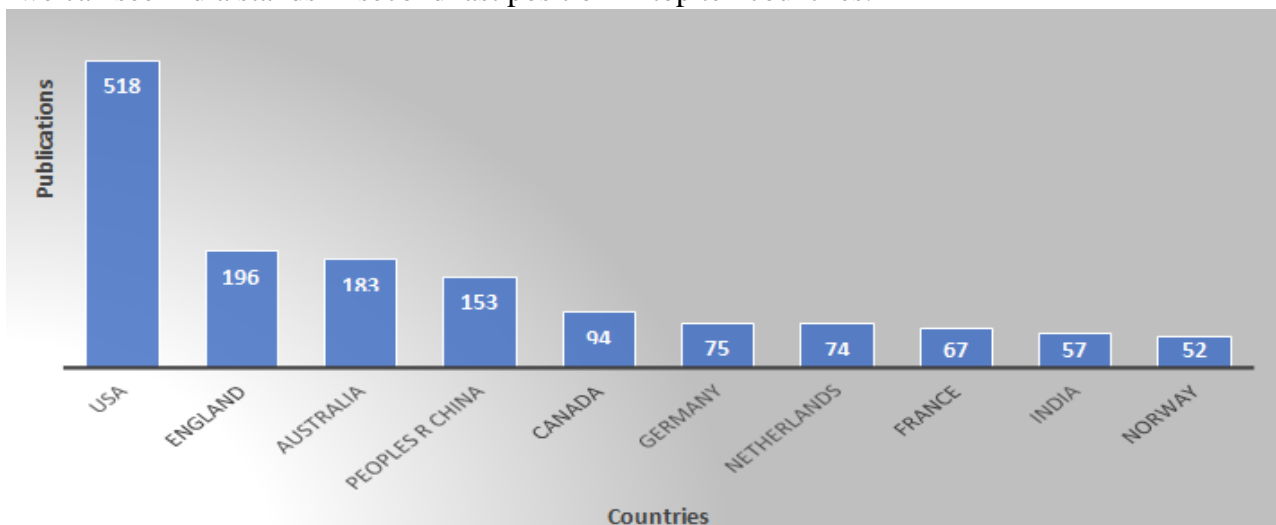


Figure 3: Number of papers by countries.

Subject Areas

Figure 4 reveals that the largest number of records pertains to management, suggesting that there has been a substantial quantity of research or publications in this area. The second-highest category, business, has a smaller count than management. There are a lot of records in the fields of social sciences and applied psychology, indicating that these are active areas of research. Despite having lower counts than the top categories, industrial relations labor, psychology, and ethics all represent important fields of study. The relative scarcity of records in the fields of Information Science, Library Science, Engineering, Industrial, and Multidisciplinary Sciences suggests a possible reduction in the amount or scope of research conducted in these areas.

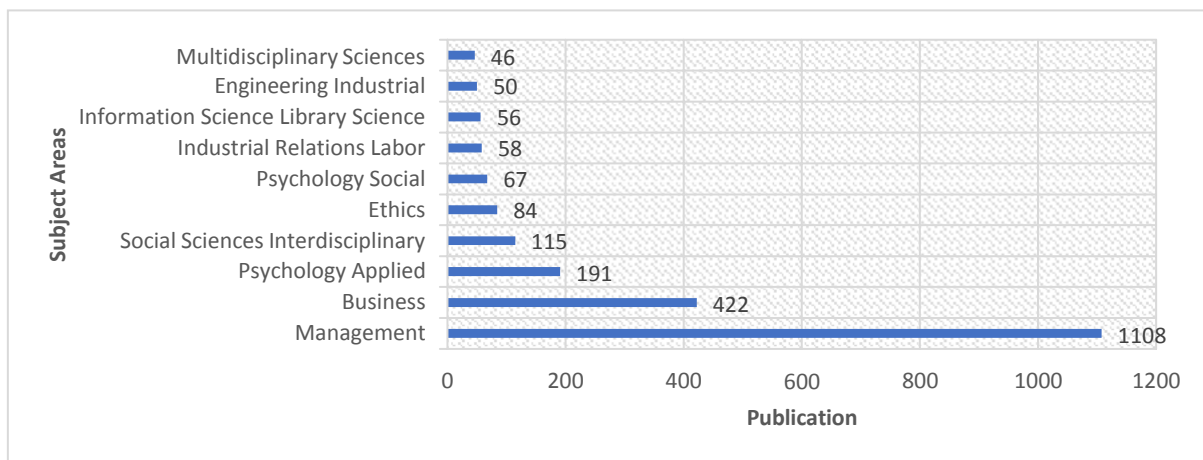


Figure 4: Top 10 number of publications according to subject categories.

Language

All articles obtained from publications are mostly in English.



Figure 5: Languages of publications

Journal wise publication

Top 10 Publishers	No. of Publications
Emerald Group Publishing	367
Sage	204
Wiley	182
Elsevier	173
Taylor & Francis	158
Springer Nature	139
Cambridge Univ Press	38
Acad Management	21
EMERALD GROUP PUBLISHING	16
Public Library Science	16

Table 6: Top 10 Journals having the maximum number of papers published.

This analysis incorporates the top 10 papers from various journals, with the ranking based on the volume of publications within this selection. The analysis reveals that Emerald Group Publishing had the highest number of publications, totaling 367, followed by Sage with 206, and so forth. Public Library Science, the lowest-ranked among the top 10 journals, contributed 16 publications to the analysis.

Scientific Mapping

Most influential authors in related papers

Author	Documents	Citations
hoegl, martin	6	224
antony, jiju	5	118
weiss, matthias	5	70
budhwar, pawan	4	62
edmondson, amy c.	4	727
liu, yipeng	4	173
solberg, elizabeth	4	103
wong, sut i.	4	84
cerne, matej	3	74
chin, tachia	3	48

Table 7 shows most influential authors and their joint citations

"Co-citation analysis offers a unique lens through which to explore the intellectual connections within the scientific landscape. By identifying patterns of shared citation, we can unveil the implicit relationships and thematic clusters that emerge across diverse bodies of literature, providing valuable insights into the structure and dynamics of scholarly communication." (Henry Small)

The most influential authors and their joint citations in the research field are presented in Figure 6. is Martin Hoegl.

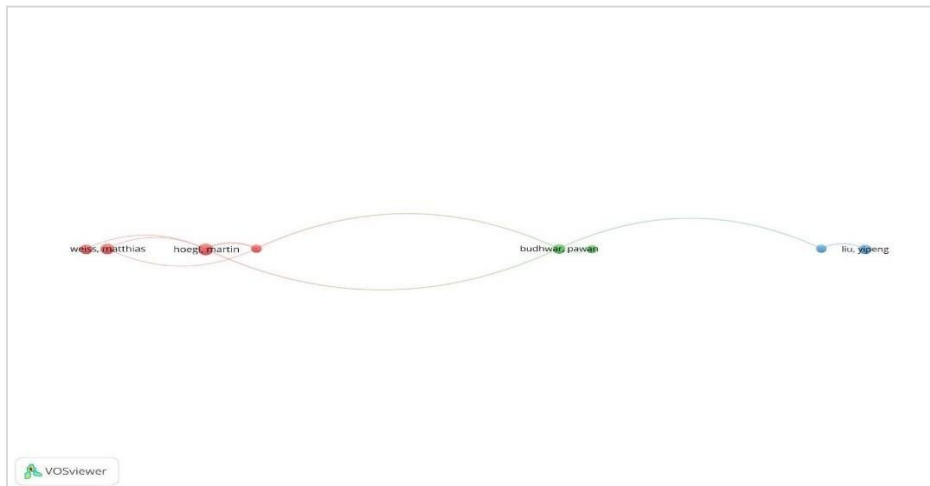


Figure: 6 most influential authors and their joint citations

Country and number of documents published

In this bibliometric analysis, the United States emerges as a research powerhouse with the highest number of documents (354), reflecting substantial research productivity. Israel stands out for its exceptional average citations per document (51.05), indicative of the impactful nature of its research output. The Netherlands leads in total link strength (56), pointing to a robust collaboration or co-citation network. Notably, Israel's high impact should be considered in the context of a smaller sample size (20 documents). The USA exhibits both high productivity and collaboration strength, affirming its influential role in the global research landscape. These findings suggest that while certain countries excel in research output, others stand out for the impact of their contributions or the strength of collaborative networks, emphasizing the multifaceted nature of global scientific contributions. Further exploration into specific research domains and collaboration patterns could provide deeper insights into the dynamics of these research landscapes.

Country	Documents
USA	354
England	143
Peoples R China	103

Australia	121
Canada	69
Netherlands	46
Germany	57
France	48
Singapore	27
Israel	20

Table 8: Country and number of documents published.

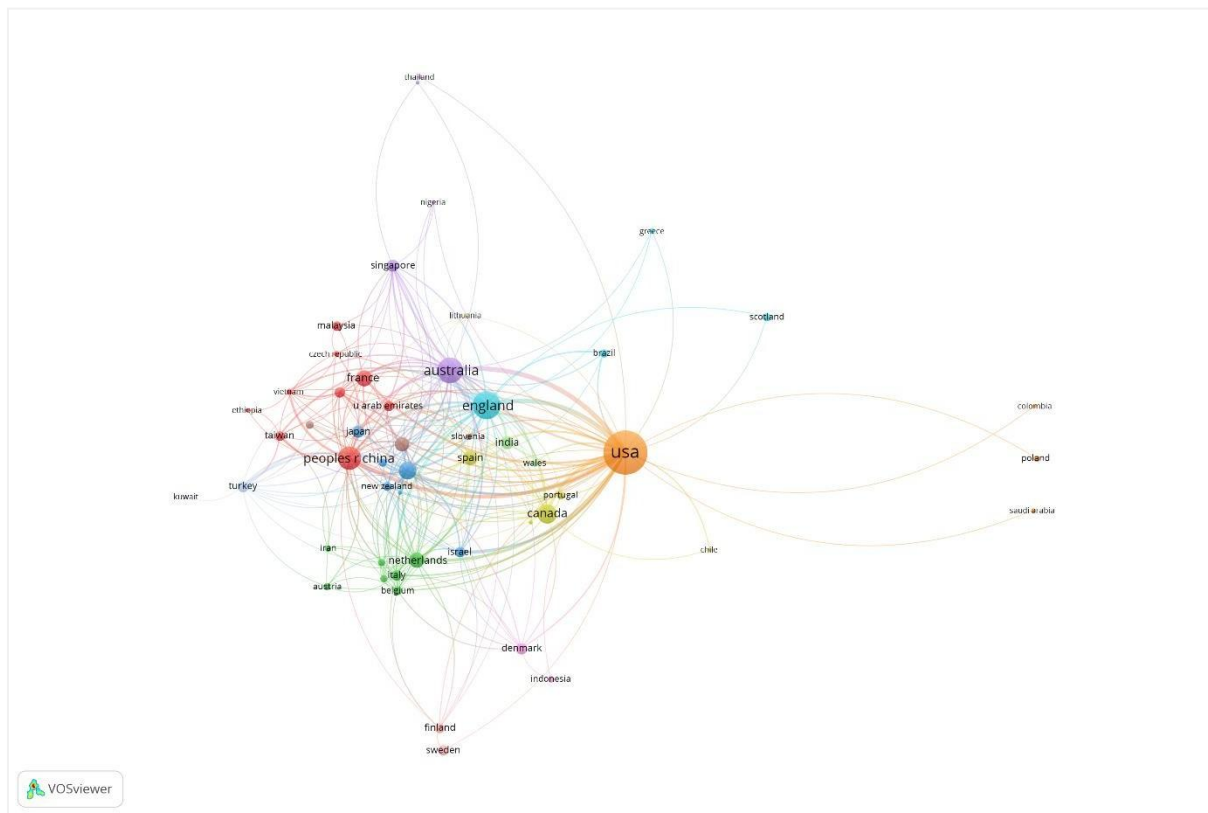


Figure 7: Country and Document Network

Sources

Figure shows Top 10 journals published article in leadership styles. With 45 publications and 1671 citations, the Journal of Business Ethics is particularly notable for its robust research output and influence. The influence of the Harvard Business Review's publications is highlighted by the high average number of citations per document. With a sizable number of documents, citations, and overall link strength, the Journal of Knowledge Management exhibits a balanced profile that suggests both production and collaboration. Certain journals, including the Journal of Organizational Behavior and the Journal of Nursing Management, have a significant quantity of documents but a comparatively low total link strength, suggesting room for more cooperation.

Source	Documents	Citations
Journal of Business Ethics	45	1671
Harvard Business Review	10	970
Journal of Knowledge Management	24	791
Journal of Management	9	749
Organization Science	7	698
Journal of Applied Psychology	11	659
Journal of Nursing Management	31	652
Journal of Product Innovation Management	7	632
Academy of Management Journal	8	602
Journal of Organizational Behavior	10	546

Table 9: Journals published articles in Leadership styles

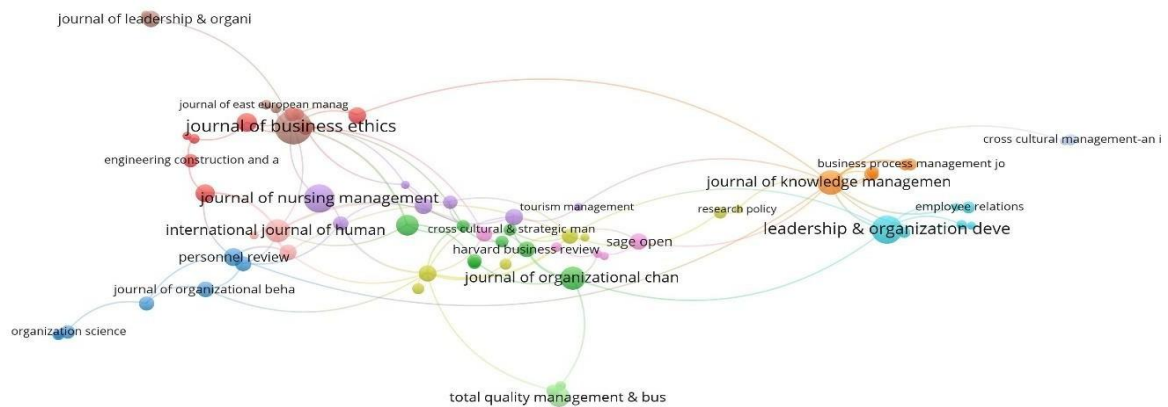


Figure 8: Journals published articles in Leadership.

Co-authorship and country

The USA leads in terms of documents (354) and citations (13,501), reflecting its extensive research productivity and impact. The high total link strength (297) underscores the robust collaborative relationships within the American scholarly community. England follows with a substantial number of documents (143) and citations (3,415), indicating a strong research presence. The total link strength (218) suggests active co-authorship and collaboration networks. People's Republic of China, despite having fewer documents, demonstrates significant impact, as evident from the total link strength of 139. Australia and Canada also show noteworthy research output and collaboration strength, as reflected in their total link strengths of 121 and 111, respectively. These findings emphasize the importance of considering both research productivity and collaboration networks when assessing the global impact of scientific contributions. Further exploration into specific collaborative endeavors and research domains could provide a more nuanced understanding of the dynamics within each country's scholarly community.

Country	Documents	Citations	Total Link Strength
USA	354	13501	297
England	143	3415	218
Peoples R China	103	2731	139
Australia	121	2550	121
Canada	69	2179	111
Netherlands	46	1917	83
Germany	57	1561	115
France	48	1217	106
Singapore	27	1089	58
Israel	20	1021	27

Table 10: Co-authorship and countries

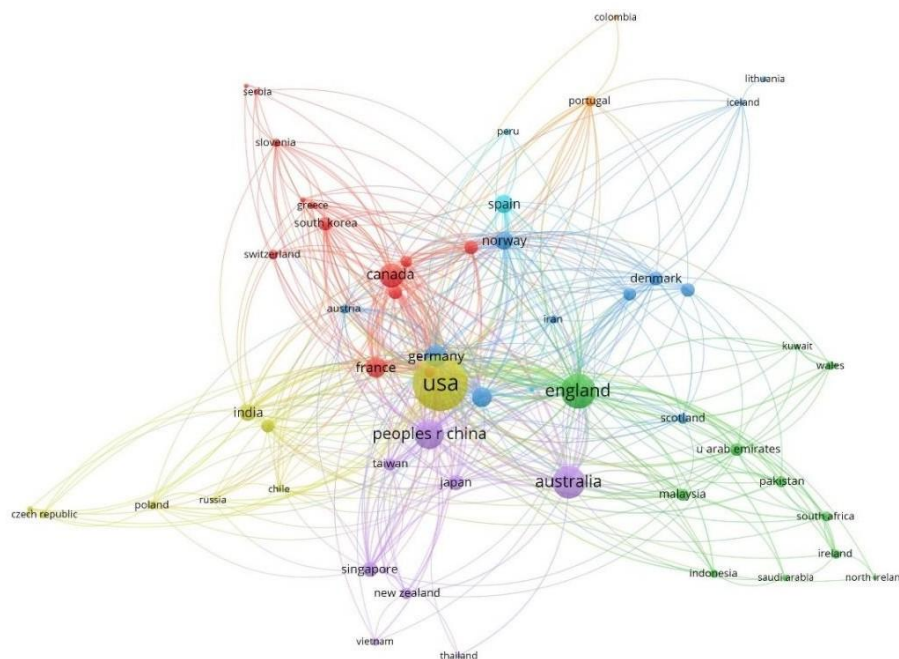
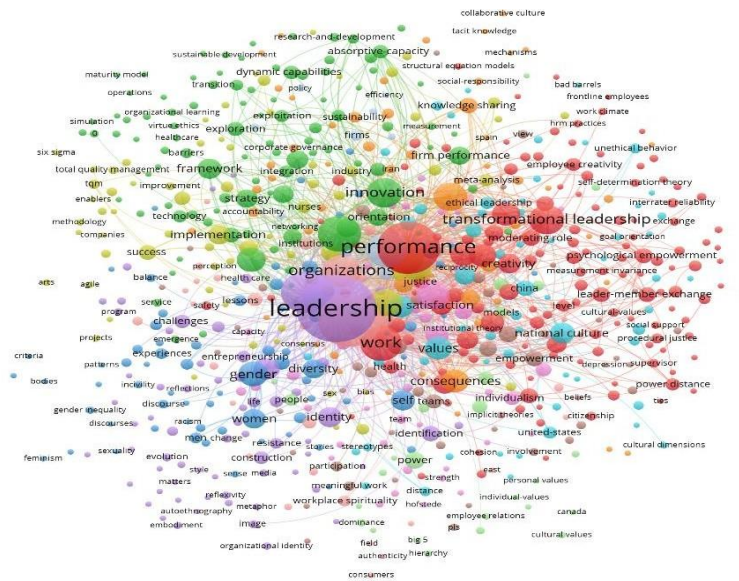


Figure 9: Co-authorship and countries

Keywords co-occur with the most commonly used keywords

The most often used keywords from the several writers who contributed to this research study are linked to one another in Figure below with the names of the keywords appearing in darker circles. Some of the keywords include leadership, performance, transformational leadership and innovation.



VOsviewer

Figure 10: Keywords co-occur with the most commonly used keywords.

Keyword	Occurrences	Total link strength	Keyword	Occurrences	Total link strength
LEADERSHIP	391	2980	TRANSFORMATIONAL LEADERSHIP	77	671
CULTURE	247	1889	ANTECEDENTS	72	674
PERFORMANCE	242	2048	BEHAVIOR	70	577
MANAGEMENT	159	1215	PERCEPTIONS	64	486
MODEL	115	939	GENDER	56	443
WORK	106	881	KNOWLEDGE	51	395
ORGANIZATIONAL CULTURE	103	825	COMMITMENT	50	444
ORGANIZATIONS	93	694	MEDIATING ROLE	50	466
IMPACT	90	744	TRUST	47	409
INNOVATION	79	681	CONSEQUENCES	46	387

Table 11: keywords co-occur with the most commonly used keywords.

LEADERSHIP is the most often used term, with 391 occurrences, and link strength is 2980. CULTURE is the next keyword, with 247 occurrence, 1889 total links, and so on. The top most often used keywords in this research are Leadership. The above keywords are counted using the VOSviewer software when a keyword has a minimum of 3 co-occurrences, and out of 4678 keywords, about 1234 of them meet the threshold.

Articles and citations

Table shows that on the subject of leadership styles, documents that received the most citation over fifteen years period (2008-2023) is (Ostrom) ‘Moving forward and Making a Difference: Research Priorities for the Science of Service’ which has been cited 927 times and published by Journal of Service Research. The article ‘Thirty years of safety climate research: reflections and future directions’ written by (Zohar) came in second place with 653 citations. Article ‘Is you’re a learning organization? By (Garvin) came in third place with 455 citations.

Table 12: Citation analysis of the 10 most relevant documents in the dataset ordered by the total number of citations received (TC)

#	Author	Title	Year	Journal	citations
1	Ostrom	Moving forward and making a difference: research priorities for the science of service	2010	Journal of Service Research.	927
2	Zohar	Thirty years of safety climate research: reflections and future directions	2010	Accidents Analysis and Prevention.	653
3	Garvin	Is you’re a learning organization?	2008	Harvard Business Review.	455
4	Levecque	Work organization and mental health problems in PhD students	2017	Research Policy.	370
5	Hu	Hospitality teams, knowledge sharing and service innovation performance	2009	Tourism Management.	369
6	Umphress	When employees do bad things for good reasons: examining unethical pro-organizational behaviours	2011	Organizational Science.	338
7	Slater	Radical Production innovation capability; literature review, synthesis, and illustrative research propositions.	2014	Journal of Product Innovation Management.	306
8	Ng	From experience to experiential learning: culture intelligence as a learning capability for global leader development.	2009	Academy of Management learning and education.	284

9	Achtenhagen	Dynamics of Business Models - Strategizing, critical capabilities and activities for sustained value creation	2013	Long Range Planning.	262
10	Boiral	Greetings the corporation through organizational citizenship behaviours.	2009	Journal of business ethics.	244

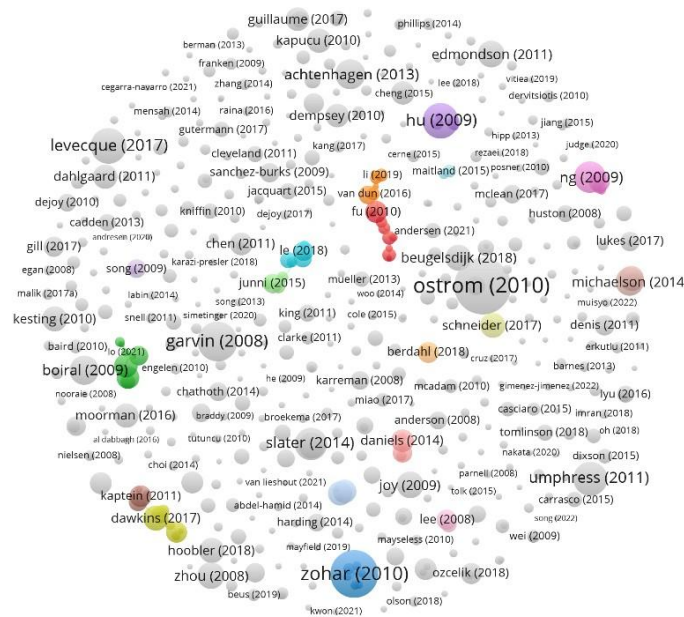


Figure 11: Citation analysis of the 10 most relevant documents in the dataset ordered by the total number of citations received (TC)

IV. RESULT AND DISCUSSION

This study has identified research topics through bibliometric analysis conducted on the Web of Science database. To effectively perform this bibliometric task, it is necessary to leverage multiple databases. The Web of Science database is employed to analyze and quantify relationships between various indicators, complementing the overall bibliometric approach.

For this study, researchers have undertaken performance analysis and scientific mapping. The analysis involves evaluating author information, publication years, document types, subject categories, nations, and journals. Additionally, scientific mapping techniques such as co-authorship of nations, co-occurrence of keywords, and co-citations for cited authors have been selected to provide a comprehensive understanding of the research landscape. A bibliometric analysis on effect of leadership on organizational culture offers significant and current knowledge on the most recent advancements in the field.

The first table in the Web of Science database reveals that each author included in this study has contributed a minimum of four publications. A comprehensive compilation of 4280 authors has been achieved through the selected database. The maximum number of publications for any given author on the subject title is capped at eight. Notably, Le PB emerges as the preeminent author with a significant contribution to the literature on this topic.

The second figure illustrates the evolving trend in the number of publications since the initial exploration of the impact of leadership styles on organizational culture in 2008. Notably, there has been a substantial surge in this research area in recent years, with approximately 153 publications in 2021 and 155 publications in 2022. Up until September 2023, the count has reached 97 publications, and there is optimism that this trajectory will continue to ascend, eventually reaching its pinnacle.

The third figure highlights the leading countries in publishing articles on the subject, with the United States (UAS) claiming the top spot with 518 publications. Conversely, India occupies the second-to-last position, contributing 57 publications.

In the fourth performance study, the focus is on the subject areas that generate the most papers. Management dominates with 1108 publications, while multidisciplinary sciences account for 46. Moving on to the fifth figure, it indicates that the majority of publications are in the English language. The sixth performance analysis table lists the top ten journals with the highest number of published papers. Emerald Group Publishing secures the lead with 367 articles. The researcher examined the co-citation of cited authors in table seven using VOSviewer software. The figures visually represent the authors who are co-cited in this study, highlighting their significance within the context of the subject under investigation.

Table eight presents the top 10 countries based on the maximum number of documents published, with the USA leading the list with 354 articles. In table nine, the focus shifts to the top 10 journals that have published articles on the topic of leadership styles. The Journal of Business Ethics claims the top position with 45 documents and an impressive 1671 citations received, showcasing its significant impact in the field.

In the tenth table of the analysis, examining the co-authorship relationships among countries, sixty nations are revealed to have robust connections with each other. This scientific mapping analysis, conducted using VOSviewer software, employs darker colors as highlighters to signify stronger links or preferences within the data.

Among the top ten countries, the USA emerges as the leader with the highest total link strength, boasting 13,501 citations, 354 documents, and a total link strength of 297, as depicted in figure number nine. This underscores the significant collaborative ties and influence of the USA in the co-authorship network.

Figure number ten visually represents the co-occurrence of the most frequently used keywords, utilizing a variety of highlighted colors. The links between keywords indicate their interrelation or frequent association, with shared colors denoting related terms. Through our investigation,

it was observed that the term "LEADERSHIP" stands out as the most frequently used keyword, boasting 2980 total link strength and occurring 391 times. This trend is mirrored in other keywords, with each individual keyword's occurrence and link strength emphasized in a distinctive color, providing insights into the interconnected nature of these terms in the analyzed literature.

Table twelve presents a citation analysis of the ten most relevant documents, highlighting the impact of each article. Notably, author Ostrom emerges at the top with 927 citations received for the article titled 'Moving Forward and Making a Difference: Research Priorities for the Science of Service,' which was published in 2010 in the Journal of Science Research. This underscores the significant influence and recognition of Ostrom's contribution in the field.

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