

Bibliometric Analysis of Global Research Trends on Organization Culture, Strategic Leadership and Performance Using Scopus Database

Nduka Anyia, Aslan Bin Amad Senin, Ayu Azrin Binti Abdul Aziz

Faculty of Management, Universiti Teknologi Malaysia, 81310, Johor Bahru, MALAYSIA
Email: anyia@graduate.utm.my, aslan@utm.my, ayuazrin@utm.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v15-i7/25965> DOI:10.6007/IJARBSS/v15-i7/25965

Published Date: 30 July 2025

Abstract

Taking a behavioral perspective of Organization Culture, Strategic Leadership, and performance (OC, SLP). We examine the role of Strategic Leadership as a key vicious mechanism linking OC, SLP to the organizational capacities. Given the increasing degree of dependence of modern businesses on the use and scientific discovery of relevant data, research efforts around the entire globe have been accelerated. In today's corporate world, Strategic Leadership is still the most sustainable option of performance and competitive advantage. This is why it is critical to gain a deep understanding of research area and to strengthen new collaborative networks in efforts to support research transition towards these integrative efforts. This bibliometric analysis is aimed to examine global trends in OC, SLP research based on publication output, author co-authorships, and co-occurrences of author keywords among authors and affiliated countries. 2829 journal articles were retrieved from the Scopus database Between 1974 and 2021. From the research findings, there is a significant increase in number of publications with strong global collaboration (e.g., USA & UK). We also discovered that while most countries/territories without affiliations were centered in developing countries, the outstanding performance of Asian countries and the volume of their collaborations should be emulated.

Keywords: Organizational Culture, Strategic Leadership, Organizational Resilience, Performance.

Introduction

For a business to succeed, it must have a culture of excellence. Organization statement explains not just the financial statistics but also the organizational culture that clarifies how efficient leadership can affectively management both quantitative and qualitative factors (Kwarteng & Aveh, 2018). An organization that portrays a vicious commitment to employees' capacity building has a more motivated and dynamic workforce that appreciates the culture of employer's commitment and integrity. this is what usually strengthen the company's

potential (Rhee et al., 2018). Today, the business world is consistently undergoing tremendous change and transition, and in such a volatile and complicated operating environment, however, the only organizations with defined OC, SLP mechanism will be able to thrive. Because it is a huge significant contributor to the interdependence between strategy implementation and the culture of the organization (Rahmani et al., 2015). To verify the OC, SLP's efficacy, it is critical that leaders of organization take a keen interest in determining whether the rules, values, human capital development, and human resources practices correspond with one another as a culture that is being embedded (Rhee et al., 2018). As an organization strives to achieve a sustained competitive advantage, Strategic Leadership has become increasingly important (Shahzad et al., 2017). Employees' cognitive framework is largely influenced by the organization's culture in a unique way. moreover, it affects how employees view their organizations competitive position (Kumar & Sharma, 2018).

Though earlier researchers have shown that organizational culture has a relative effect towards performance (Pirade et al., 2018; Shahzad et al., 2017) however; (Raes et al., 2007) defined Strategic Leadership as a strategic and relational activity involving the immediate adherents of the leadership as well as those who subordinate to authority thereby emphasizing impact of strategic leadership which provided the enabled teamwork approach for the Organization's success. In this study, Strategic Leadership is therefore defined as a process of self-subordination considering a critical cultural orientation of the organization. As also explained as an active engagement in control logic of discreet supervision facilitated by processes of self-discipline (McClellan, 2021).

This paper aims to: (i) examining the temporal trends of OC, SLP journal article distribution; (ii) highlighting contributions from prolific authors, leading countries, and the most productive academic institutions; (iii) outlining common terminology and research topics; (iv) determining the countries with the greatest application dominance; and (v) provide insight into future collaboration and directions. Researchers, policymakers, and most importantly, individuals will benefit from this study by understanding OC, SLP research patterns and further discovery of future research potential and opportunities.

Method

Bibliometric analysis is a methodology for assessing global research trends in a specific field of interest using the output of an academic literature database. This technique differentiates bibliometric analysis from review papers, which are primarily designed to highlight a topic's positive advancements, difficulties, and future directions.

Data Source and Search Strategy

Between September 1st and 8th 2021, (see Fig.1), data mining was undertaken utilizing the Scopus database. The study key theme was research publications with the titles and abstracts having "organization* culture*" OR "strategic leadership" AND perform*. The oldest publication dates all the way back to 1974, while the most recent is from 2021. The search term used was TITLE-ABS (("organization*cultur*") OR ("strategic leadership") AND (perform*)) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (SRCTYPE, "j")). The results of this search were 2829. For our study, we wanted to exclude any review articles from our search, so we added additional terms to the query string, which returned 428 results. To find Scopus-specific articles, the following search string utilized terms like review, recent, progress,

critical, revisit, advance, and highlighted were all used in the titles and abstracts of these articles. Reading the abstracts and full texts of 194 of them, we determined that they were all review papers. They also added EID (with the purpose of blocking such an appearance from visibility in the subsequent search results). An author ID is an excellent resource for finding correct information about their work (Scopus field code: AU-ID). The author's profile is a synthesis of all the many names under the author's real identity. By using the field code AFFILCOUNTRY, we were able to easily find data for a single-country publication (SCP).

Results of the main theme's search were examined by year, source, author, and affiliation and country/territory and subject. CiteScore, h-index, and other bibliometric measures were utilized to compile the rankings.

Central theme (OC, SLP) 2829 result identified by "organization* cultur*" OR "strategic leadership" AND perform* in the Title and Abstract, Year: 1974-2021, Document Type: Articles and Source Type: journals
Excluding review articles 2635 results remained after removing 194 reviewed articles, identified by Title, Abstract and Complete texts.

Fig. 1. Flowchart of gathering data of publications for central themes

Bibliometric Maps

VOSviewer a software application for generating and visualizing bibliometric maps (version 1.6.17.0), from the Centre for science and technology studies, Leiden University, The Netherlands, was used. It was also used to export citation, bibliographical, and author keyword information from 2635 articles. These Items were included in maps created with VOSviewer. Features in a study are countries or author keywords. A link-connection or relationship between any two items. The strength of each link is represented numerically by a positive number. The stronger the bond, the higher this value must be. The number of publications co-authored by two countries measures the strength of their connection, while the total strength of a country's co-authorship links with other countries indicates the strength of their connection, according to a study on co-authorship.

A different approach, known as co-occurrence analysis, relies on the strength of the link between author keywords to estimate the frequency with which two keywords appear together in a single document. The software's qualities are described in detail in the VOSviewer manual. (*Thematic Analysis of Multiple Sclerosis Research by Enhanced Strategic Diagram Nazlahshaniza Shafin, n.d.*)

Analysis of co-authorship

In Fig.2, We examined at co-authorship within all 147 countries associated with 2635 authors to see which countries were participating. Africa, America, Asia, Europe, and Oceania were the continents in which the Affiliated countries/territories were categorized.

Fig.2. A screenshot of bibliometric map created based on co-authorship with visualization mode.

Analysis of co-occurrence

Fig.3. Explained how 4098 keywords from 2174 articles were analyzed for co-occurrence with author keywords (not Scopus-indexed keywords). The remaining 461 papers were removed due to a complete lack of information on author keywords from 246 journals. Even before uploading the author keyword list into VOSviewer, we examined synonymic single words and congeneric phrases. For instance, organization culture, organizational cultures, organizational cultures, organisation cultures, organizational cultures, and organizational cultures. Were all tabulated and labeled organizational culture.

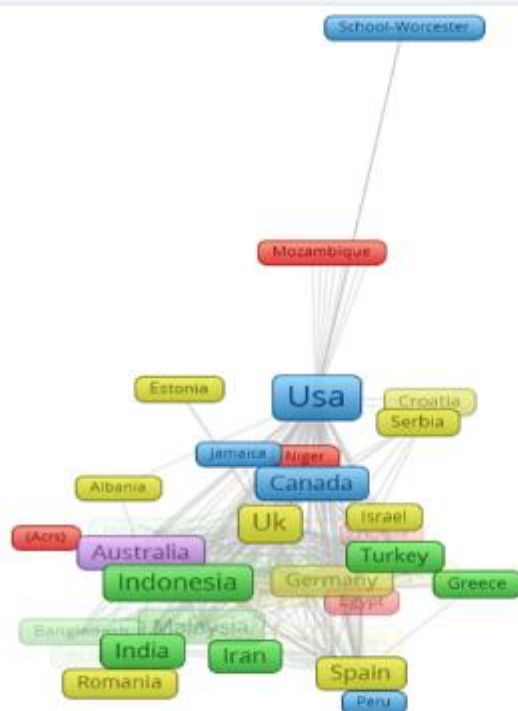


Fig.2. A screenshot of bibliometric map created based on co-authorship with visualization mode.

Analysis of co-occurrence

Fig. 3 explained how 4098 keywords from 2174 articles were analyzed for co-occurrence with author keywords (not Scopus-indexed keywords). The remaining 461 papers were removed due to a complete lack of information on author keywords from 246 journals. Even before uploading the author keyword list into VOSviewer, we examined synonymic single words and congeneric phrases. For instance, organization culture, organizational cultures, organizational cultures, organisation cultures, organizational cultures, and organizational cultures. Were all tabulated and labeled organizational culture.

Results and Discussions

Publication Output and Growth of Research Interest

A total of 2635 research publications were published throughout the course of 47 years (Fig.2). At the time, the earliest was published in 1974 (Szilagyi & Sims, 1974), with other records dating all the way up to 1981. OC, SLP research has had a resurgence in attention since at least 1983, based on established publications. Compared to previous year, annual growth had climbed dramatically by 1987, and it had nearly doubled in 1999 and 2000. Since then, the number of annual publications has consistently climbed, causing the overall number of publications to rapidly rise. In addition, researchers discovered that every two years, the number of articles rose by 100. As a result, the annual publication's popularity is expected to grow. Most articles, on the other hand, are just not for free, and readers must pay to read them. According to our findings, articles published in open access journals are more likely to be cited. Only 4.1 % (642 articles) of journal papers were open access as of 2021.

The research topics of OC, SLP are vast, and numerous research organizations globally are actively engaged in these fields. The subject area findings show that the OC, SLP research are largely centered on management and innovation concerns. As shown in the total number of articles as classified in subjects: Business management and Accounting (1510 articles), Social Sciences (789 articles), Economics, Econometrics, and Finance (310 articles), Decision Science (208 articles), Medicine (336 articles), Engineering (298 articles), and computer science (209 articles). This clearly demonstrates that OC, SLP is indeed a multidisciplinary field, relating with these publications categorized as engineering, medical, and computer science.

Additionally, the study's findings indicated that the articles cited in this study were published in 24 different languages. English was the most often used language (2519; 95%), followed by Spanish (49; 53.7%) and Portuguese (27; 9%). Other languages (28; 0.7%) included Lithuanian, Chinese, Korean, Russian, and German. Were mentioned in fewer than 10 articles. When a publisher submits an article in a language other than English to Scopus for indexing, the publication's title and abstract should be in English.

Preferred Journals

According to our findings, the top 10 most productive journals are held by several different publishers (Table. 1), The top 3 publications were published by several publishers. Although Emerald and Elsevier had a sizable presence, they were not among the top three publishers. It is also worth noting that BioMed Central and Csiro performed excellently and as supporting the idea that OC, SLP is a widely diversified Topic area. Sustainability Switzerland was the most productive journal with (26 articles), followed by international journal of human resource management (23 articles), international journal of supply chain management with (20 articles), and BMC health services research (18 articles). While journal of knowledge management was placed in seventh position, one of its papers had 441 citations, the greatest of any journal, followed by International Journal of Human Resource Management with 400 citations. While Journal of Business Research was ranked sixth, its publications received 286 citations, making Elsevier third of the most cited publishers. Four journals received a CiteScore of 6 and above, according to the CiteScore 2020 report. While the Journal of Knowledge Management (10.3) has the highest score, the International Journal of Applied Business and Economic Research (0.1) was the lowest. When compared to other journals, the citescore for

the International Journal of Applied Business and Economic Research was noticeably low. This can be because the primary language is not in English version or openly accessible to users.

Additionally, we recognize that CiteScore may impact an author's choice of journals for their most novel and significant work. CiteScore is just Elsevier's and Scopus's alternative to the Clarivate analytics impact factor, is a metric for determining the impact of journals based on citation data from the Scopus database. We argued, however, that CiteScore should not be considered the only metric. Apart from CiteScore, authors should explore how possible journals can promote their people who contribute to the field's development and help our fellow researchers to identify potential journals for submission of OCSLP-related work.

Table 1

The top 10 most productive journals on OCSLP research with their most cited articles

Journal	Total Publication	Total CiteScore 2020	SJR 2020	SNIP 2020	Percentile	Quartile	Title Of the Most Cited Article	Times Cited	FWCI	PlumX (social media)	Publisher
Sustainability Switzerland	26	3.9	0.612	1.242	84 th	Q1	Impact Of Organizational Culture Values on Organizational Agility	60	3.88		MDPI
International Journal of Human Resource Management	23	6.9	1.378	1.842	92 nd	Q1	Leadership Style, Organizational Culture and Performance Evidence from UK Companies	400	1.82		Routledge
International Journal of Supply Chain Management	20	1	0.19	0.585	33 rd	Q3	Factors Affecting Enterprise Resource Planning Adoption on Firms' Performance Among Medium-Sized Enterprises	3	0.44	38	International journal of supply chain management
BMC Health Services Research	18	3.5	1.098	1.445	72 nd	Q2	How To Develop a Telemedicine Service? A Pediatric Telemedicine Service 20 Years On- An Exploratory Study	14	3.36	11	BioMed central
International Journal of Applied Business and	17	0.1	0.143	0.398	47 th	Q3	An Empirical Study on Organizational Culture and Its Impact on	6	0.38	1	Elsevier

Economic Research							Employee's Motivation with Reference to Industrial Estate in Chennai					
Journal Of Business Research	17	9.2	2.049	2.852	92 nd	Q1	Organizational Culture, Innovation and Performance: A Test of Schein's Model	286	8.54	3	Elsevier	
Journal Of Knowledge Management	17	10.3	1.841	2.52	96 th	Q1	Organizational Culture and Knowledge Sharing: Critical Success Factors	441	8.06		Emerald insight	
Journal Of Management Development	17	4	0.632	1.321	82 nd	Q1	The Role of Corporate Culture, Market Orientation and Organizational Commitment in Performance: The Case of Non-Profit Organizations	57	2.58		Emerald insight	
International Journal on Innovation	16	0.5	0.225	0.231	28 th	Q4	Enhancing Malaysian SME Employees' Engagement: The Mediating Role of Job Crafting	15	4.22	39	Primrose Ha publishing company	

Leading Authors

The 15 most prolific authors in OCSLP are listed in Table 3, with affiliations to five countries: the United States of America (8 authors), the United Kingdom (4 authors), the United Arab Emirates (1 author), India (1 author), and Malaysia (1 author). The publications date from 1999 to 2017, and 11 of the authors are first authors, 3 are co-authors, while 1 is a last author. There is no specific order for authorship; nonetheless, the last position is sometimes connected with seniority and supervisory positions. The authors' affiliations indicated that OCSLP research was indeed diversified, covering all fields of study.

E. H. Bradley of the United States of America was the most prolific author, with eight publications since 2006, a 6 h-index, and 552 citations. Among the others are J.U. Farley

(ranked 2nd), A. Gunasekaran (ranked 3rd), and H. M. Krummholz (ranked). Each of the three authors has seven publications each, with Farley and Gunasekaran each having a 6 h-index and Krummholz having a 5 h-index. The authors are from United States of America and affiliated with Columbia University, Penn State Harrisburg, and Yale School of Medicine. S.J. Childe is (ranked 6th) and affiliated to Plymouth Business School in the United Kingdom, M. Ajmal is (ranked 11th) affiliated with Abu Dhabi University (UAE), S.G. Deshmukh is (ranked 14th) affiliated with India Institute of Technology in Delhi (India), and H. Hillman is (ranked 15TH) and affiliated to University Utara Malaysia. Notably, not all the authors mentioned in table 1 are necessarily the same as those listed in table 2. Only the prolific authors will have their names appear on both tables.

Leading Countries, Top Institutions and International Collaborations

Among top 15 highly productive countries worldwide, as evaluated by the development of OC, SLP research activity (Fig. 5). Over 60% of global papers were supplied by the United States and the United Kingdom alone, indicating that these two countries are the primary drivers of OC, SLP research progress. The United States of America was the top country with 667 publications, accounting for 25.1% of all publications globally. With over half of all publications in the United States, the United Kingdom was ranked as the second most productive country. Although the university of Manchester's total publishing (TPI) was slightly lower than that of Michigan State University, it should be noted that American universities collaborate more frequently, and thus a direct comparison may not be fair. Otherwise, with 23 publications, University Utama Malaysia can be regarded most productive academic institution.

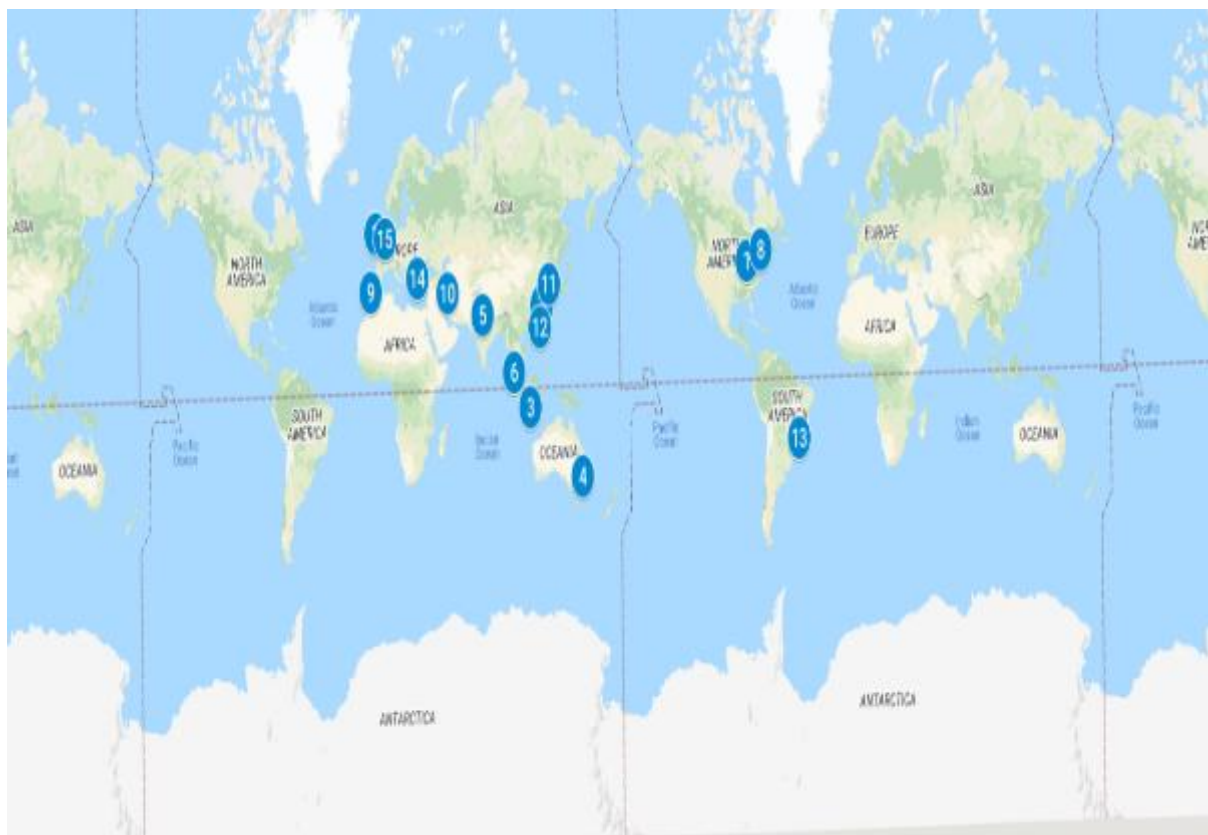


Fig 5. List of Top 15 most productive countries and academic institutions in OC/SLP Publications.

Table 2

The most productive academic institutions.

Rank	Country	Total Publication	Single Publication %	Country	The most productive academic Institution	Tpi
1	USA	667	72.2		Michigan state university	10
2	UK	245	57.5		The university of Manchester	9
3	Indonesia	179	92.5		Brawijaya university	13
4	Australia	134	58.9		Macquarie university	7
5	India	125	78.4		India institute of technology Delhi	9
6	Malaysia	122	64.7		Universiti Utara Malaysia	23
7	China	110	44.5		Shanghai Jiao tung university	5
8	Canada	109	60.5		University of Montreal	7
9	Spain	92	60.8		University de Sevilla	10
10	Iran	91	87.9		Islamic Azad university	11
11	South Korea	88	70.4		Hansung university	6
12	Taiwan	68	79.4		National Cheng Kung university	6
13	Brazil	54	74		Universidade de Sao Paulo	7
14	Turkey	53	60.3		Bogazici university	3
15	Netherlands	49	36.7		Utrecht university	3

Only Indonesia (92.5%), Iran (87.9%), Taiwan (79.4%), India (78.4%), the United States (72.2%), and Korea (70.4%) had more than two-thirds single-country publications (SCP). This indicates that these countries enjoy a high level of intra-country cooperation. However, The Netherlands had the lowest SCP at 36.7% (49 articles) of its publications were linked to international collaborative papers affiliated to 20 countries. The benefit of international collaboration is not restricted to capacity expansion, knowledge exchange, and skill sharing, but also serves as an effective approach for ranking higher. Taiwan, for example, despite its small size, had 79.4 percent of its publications (68 articles) associated with global collaborative papers affiliated with 12 countries, putting it in the top 12th most productive countries.

In addition, seven universities were ranked amongst the top 200 in the world according to the World University rankings 2020 (Sowter et al., 2019) university of Manchester (ranked 27th), Shanghai Jiao tung university (50th), Universidade de Sao Paulo (115th), university of Montréal (118th), Utrecht university (121st), Michigan state university (157th), India institute of

technology, Delhi (193rd). This indicates that the OCSLP field has gained some attraction at most of the world's most prestigious research universities.

Fig.4 explains the variation of countries/territories by region (fig. 4) The nearer two countries are situated in VOSviewer, the more strongly linked they are and the stronger the relationship between them and the thicker the line, hence more countries per region came from Europe (51), Asia (45), America (23), Africa (26) and Oceania (2) respectively. The co-authorship analysis revealed that the USA was the most affiliated country, with 671 co-authorships across 64 countries/territories. Following that, the UK had 54 affiliations and 245 co-authorships, Australia had 31 affiliations (130 co-authorships), Malaysia had 30 affiliations (123 co-authorships), China had 29 affiliations (111 co-authorships), and Spain had 28 affiliations (92 co-authorships). Furthermore, it was discovered that most of the countries listed had collaborative research publications with fewer than 5 countries. Similarly, only Venezuelan, Ukrainian, Zimbabwean, and Ugandan researchers were not linked with any other countries/territories published articles on OCSLP.

Importantly, different factors that contribute to the nature of international collaboration which may include but not limited to; the richness of study, the variety of collaborators, the significant proportion of foreign postgraduates/visiting scholars, and the quality of research findings. Also, a robust and sustainable policy is essential to ensure the stability of international partnerships.

Table 3

ist of the top 15 most prolific authors in OCSLP Research Area

Rank	Authors	Scopus Author ID	Year of first publication	Total publications	h-index	Total citation	Current affiliation	Country
1	Bradley, E.H.	7203011534	2006	8	6	552	Vassar college, Poughkeepsie	USA
2	Farley, J.U.	7202145589	2000	7	6	496	Columbia University	USA
3	Gunasekaran, A.	56238759300	2012	7	6	633	Penn State Harrisburg	USA
4	Krummholz, H.M.	7101902574	2006	7	5	511	Yale School of Medicine	USA
5	Childe, S.J.	6701664870	2017	6	6	627	Playmount Business School	UK
6	Curry, L.A.	7005109645	2006	6	5	530	Yale University	USA
7	Deshpande, R.	55950531700	2000	6	5	475	Harvard Business School	USA
8	Dubey, R.	36991875200	2017	6	6	627	Liverpool Business School	UK

9	Hult, G.T.M	16942373500	1999	6	6	965	Broad College of Business	USA
10	Moynihan, D.P.	56354967100	2005	6	6	807	Georgetown University	USA
11	Ajmal, M.	34979872400	2006	5	5	42	Abu Dhabi University	United Arab Emirates
12	Cadden, T.	8223957300	2011	5	4	120	Ulster University	UK
13	Davies, H.T.O.	24498971800	2014	5	5	419	University of St Andrews	UK
14	Deshmukh, S.G.	7102221659	2007	5	4	237	India institute of technology Delhi	India
15	Hillman, H.	38661234200	2014	5	4	22	Universiti Utara Malaysia	Malaysia

Limitation of Study

The search results may not cover all the OCSLP-related studies accessible on scopus if you restrict your search to "organisation* cultur*" OR "strategic Leadership" AND perform* from within title and abstract. This is because other researchers did not use the same terminology as I did when referring to their system. Only 53% of the 2174 articles were included in the author keyword co-occurrence analysis because some journals did not provide author keyword information.

Conclusion

Based on 2635 articles from the Scopus database, this analysis summarized OCSLP research trends. Publication growth has been significant for the last decade and is expected to continue. A significant number of articles and strong global collaboration have been discovered (e.g., USA & UK). However, researchers from countries/ territories like Venezuela, Uganda, and Zimbabwe can emulate the efforts of the USA and others to expand their research cooperation. The outstanding performance of Asian countries and the volume of their collaborations should motivate other regions to participate in similar research programs, especially African countries whose representation was limited.

Theoretical and Contextual Contribution

This bibliometric analysis provides a significant contribution both in theory and practice by mapping the intellectual landscape of research at the intersection of organizational culture, strategic leadership, and performance.

Theoretically, the analysis consolidates and visualizes the evolution of key constructs, by identifying dominant scholarly contributions, reveals emerging themes, and offering a robust foundation for future conceptual development. The study further contributes to the strategic

management literature by highlighting how leadership and cultural alignment drive organizational performance across diverse sectors and time periods.

Contextually, the study findings are particularly relevant for scholars and practitioners in developing economies, where empirical insights on these constructs are often underrepresented. By using the Scopus database to explore global trends, this study bridges the gap between theory and practice, offering a contextual lens for institutions seeking to build high-performing cultures through strategic leadership. The study therefore, serves as a guide for future research agendas and policy formulation in both academic and organizational settings.

Acknowledgements

I want to sincerely thank my younger Brother Jude Okonkwo for his immeasurable support and encouragements, many thanks to my supervisor Assoc. Prof. Dr. Aslan Amat Senin, for her kind mentorship and availability always.

References

- Kumar, N., & Sharma, D. D. (2018). The role of organisational culture in the internationalisation of new ventures. *International Marketing Review*, 35(5), 806–832. <https://doi.org/10.1108/IMR-09-2014-0299>
- Kwarteng, A., & Aveh, F. (2018). Empirical examination of organizational culture on accounting information system and corporate performance: Evidence from a developing country perspective. *Meditari Accountancy Research*, 26(4), 675–698. <https://doi.org/10.1108/MEDAR-01-2018-0264>
- McClellan, J. G. (2021). Organizational Culture, Discipline, and the Politics of Self: Transformation Through Responsive Conversation. *International Journal of Business Communication*, 58(2), 152–168. <https://doi.org/10.1177/2329488420927775>
- Pirade, A. E., Siregar, H., Eriyatno, E., & Djohar, S. (2018). Organizational culture, management system, corporate capability and performance: Insights from oil palm companies In Indonesia. *International Journal of Civil Engineering and Technology*, 9(2), 151–167.
- Raes, A. M. L., Glunk, U., Heijltjes, M. G., & Roe, R. A. (2007). Top management team and middle managers: Making sense of leadership. *Small Group Research*, 38(3), 360–386. <https://doi.org/10.1177/1046496407301969>
- Rahmani, H., Azari, S., Vasokolaee, G. R., Mirghaed, M. T., & Raadabadi, M. (2015). Organizational culture and the organizational commitment; Correlational study in hospital staffs. *Asian Social Science*, 11(5), 143–149. <https://doi.org/10.5539/ass.v11n5p143>
- Rhee, S. Y., Oh, H. J., & Yu, G. J. (2018). High-performance work systems and firm capabilities in Korea: a fit perspective with organizational culture. *Asia Pacific Journal of Human Resources*, 56(3), 317–340. <https://doi.org/10.1111/1744-7941.12134>
- Shahzad, F., Xiu, G. Y., & Shahbaz, M. (2017). Organizational culture and innovation performance in Pakistan's software industry. *Technology in Society*, 51, 66–73. <https://doi.org/10.1016/j.techsoc.2017.08.002>
- Sowter, B., Reggio, D., & Hijazi, S. (2019). QS World University Rankings. *Research Analytics*, 121–136. <https://doi.org/10.1201/9781315155890-7>
- Thematic analysis of multiple sclerosis research by enhanced strategic diagram Nazlahshaniza Shafin.* (n.d.).