A Bibliometric Analysis on Transformational Leadership

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ABSTRACT

This paper reveals the literature on transformational leadership. The study focuses on gathering the information related to the transformational leaders. The data was collected from 6,090 papers published from 2012 to 2022. The search items considered the following keywords: "transformational leadership", "transformational leader", "transform leadership", "transform leader". Searching the Scopus database for transformational leadership titles, abstracts, and author key words yielded a total of 12,874 entries. Prior to processing the analysis, the author keywords were re-labeled by making a thesaurus file. The current study has used PRISMA (Preferred reporting items for systematic reviews and meta- analyses) guidelines and procedures. This study also focused on how the researches have been continuously progressing on transformational leadership. Its goal is to make this topic's research more visible by showcasing its present features and providing a thorough and retrospective evaluation of publications. The study used VosViewer to analyze the collected data.

Introduction

In the era of rapid changing business environment leaders play a very crucial role in the growth of the organization. Every organization needs the co-operation among their employees to grow. The behavior of the employees plays a vital role in the development of the organization which depends upon the behavior of their leaders. The behavior of the subordinates is largely impacted by the qualities and behavior of their superiors which will ultimately lead to the success of the organization. Burns presented the idea of transformational leadership in his study of political leaders that was descriptive in nature in 1978. A process known as "leaders and followers helping each other to advance to a higher level of morale and motivation" is what Burns refers to as "transforming leadership."

Avolio and Bass (1985), extended the work of burns by explaining the psychological mechanisms that underlie transforming and transactional leadership; Bass also used the term "transformational" instead of "transforming." Transformational leadership largely impacts the motivation and the performance of its followers. The followers of the transformational leaders always feel trust, loyalty, respect and admiration for their leader. And the followers work with more enthusiasm than originally expected because of the qualities of the transformational leader.

The bibliometric analysis of transformative leadership from 2016 to 2021 was carried out by Sadif et al. (2023). 200 articles were taken out of the Scopus database and published in different publications. Harzing's Publish or Perish was used as the research methodology. Based on the goal of the study and research questions to aid in bibliometric analysis, nine research questions were proposed. The study's findings indicated that 10,089 citations on the subject have been made throughout the course of six years. The fields that study business, management, and accounting the most are also those that study transformational leadership, followed by psychology, nursing, and health professions. Furthermore, it was shown that between 2016 and 2021, the number of studies on transformational leadership declined year over year, with the highest number of publications occurring in 2016 (41) and the lowest number in 2021 (6 publications).

There were significant studies on transformational leadership and their other associated structures. Nevertheless, there aren't many researches that measure and analyze scientific publications on transformational leadership from an international standpoint.

Research Methods

The goal of this research is to examine and asses the growth of article/ research publications on transformational leadership published between 2012 and 2022 (the last decade). This study employs a bibliometric analysis because it offers a comprehensive view of the research trends in the literature. PRISMA guidelines and procedures (Preferred reporting items for systematic reviews and meta-analyses) were followed in

this investigation. The information was taken from the Scopus database between 2012 and 2022 in order to look through every article written about transformational leadership. The primary categories of data studied for bibliometrics, according to Abramo et al. (2011), include journals, institutions, authors, keywords, nations, references, and trends within the specific theme.

The current study carried the bibliometric analysis both qualitatively and quantitatively. Choudhri et al. (2015) stated that Scopus has built- in analyzer features which is required for the bibliometric analysis. Afterwards, VOSviewer software was used to visualize the data such as analysis of citations, countries, co-occurrences and keywords.

Literature Search

The search process in Scopus was limited to research that was published between 2012 and 2022. The search items utilized the following keywords: "transformational leadership", "transformational leader", "transform leadership", "transform leader".

Mapping the body of existing research on transformative leadership across all disciplines was the main focus of the search. The research articles from several books, journals, trade magazines, conference papers, conference proceedings, and book chapters were all included in the study; however, review papers were left out.

- Inclusion: Dates: 2012 to 2022
- Inclusion: Searching key words "transformational leadership", "transformational leader", transform leadership", transform leader".
- Inclusion: Document type: article, book chapter, conference paper, book, editorial, conference review.
- Exclusion: Document type: review paper, erratum, letter, short survey, data paper.

A total of 12,874 entries were found by searching the Scopus database for transformational leadership titles, abstracts and author key- words. Then based on the eligibility, the publications were selected from 2012 to 2022 and the review papers, erratum were not

included. 4159 irrelevant papers were excluded by using the Scopus filters. Finally, 6,090 eligible records were left for this bibliometric analysis (see figure 1).

Analysis of Result
Publication growth of research interest

Figure 2 shows the gradual growth of transformational leadership publications from 2012 to 2022. As from the year 2012 to 2014 there was no massive change in the publication output and research output on transformational leadership. It was discovered that the Scopus Database has 379 studies in 2012 and 378 studies in 2014 on transformational leadership. But after 2014 there was rapid and continuous increase in the publications on transformational leadership till 2020. In 2020 the studies raised to 734. The studies were continuously rising from 2014 to 2020 but the annual publications were less than 100 till 2019. And from 2019 to 2020 there was a massive growth of 118 in the publications. However, from 2015 to 2020 the
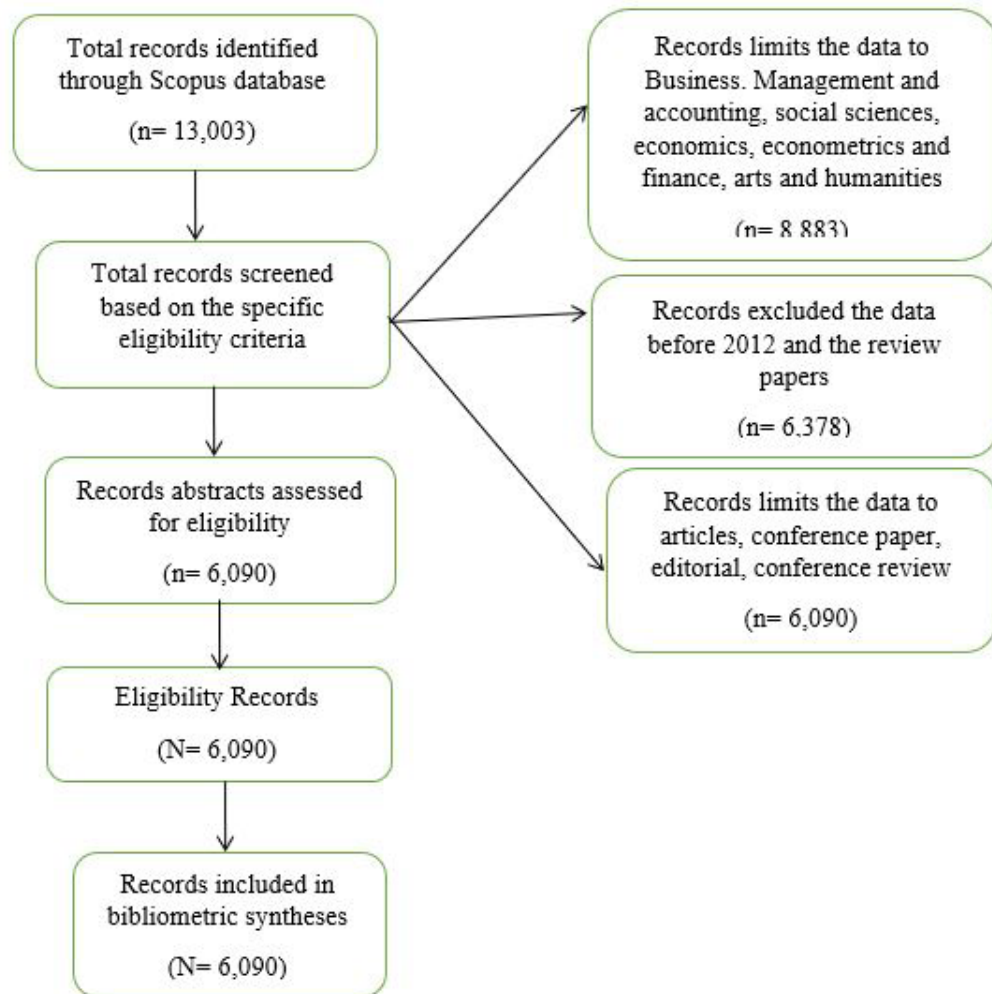

Fig. 1: PRISMA flow diagram detailing steps in the identification and screening of publications on transformational leadership 2012- 2022

number of publications showed accelerated growth. A total of 3,328 transformational leadership research papers had been published within 6 years. Then it declined in the next year to 750 publications. And again, started to rise in 2022. It can be included that the decrease in the publications in the year 2021 is due to the covid- 19 and eventually after that the publications started rising. It could be anticipated that the interest will be continuously rising in the future.

Leading authors, top journals, institutions and countries

The top 10 authors of transformational leadership, who are associated with various nations including Malaysia, Denmark, Sweden, Israel, and so on, are listed in Table 1. The first publications of the 108 articles, written by the ten academics, were released between 2012 and 2020. According to the authors, studies on transformational leadership have been conducted in the fields of business, management, and accounting, social sciences, econometrics, finance, economics, and art and humanities.

According to Scopus, the most prolific transformational leadership authors are Rowold, J. from Germany, who have published 16 articles, 21 h- index, 481 citations, the another author is Andersen, L.B. from Denmark, who have published 15 articles, 26 h- index, 310 citations and Dartey- Baah, K. from Ghana who have published 13 articles, 11 h- index and 166 citations. It is noted that 2nd, 4th and 6th top authors are Andersen, L.B., Jacobsen, C.B. and Bro, L. L. respectively who all belonged from Denmark. The authors ranked 6th, 7th, 8th and 9th have more citations than Appelbaum, S.H. who have been ranked 5th in the list. Andersen, L.B. and Jacobsen, C.B.both are affiliated with the Aarhus Universitet, Aarhus, Denmark. Rowold, J. has 481 citations followed by Andersen, L.B. with 310 citations and Jacobsen, C.B. with 306 citations.
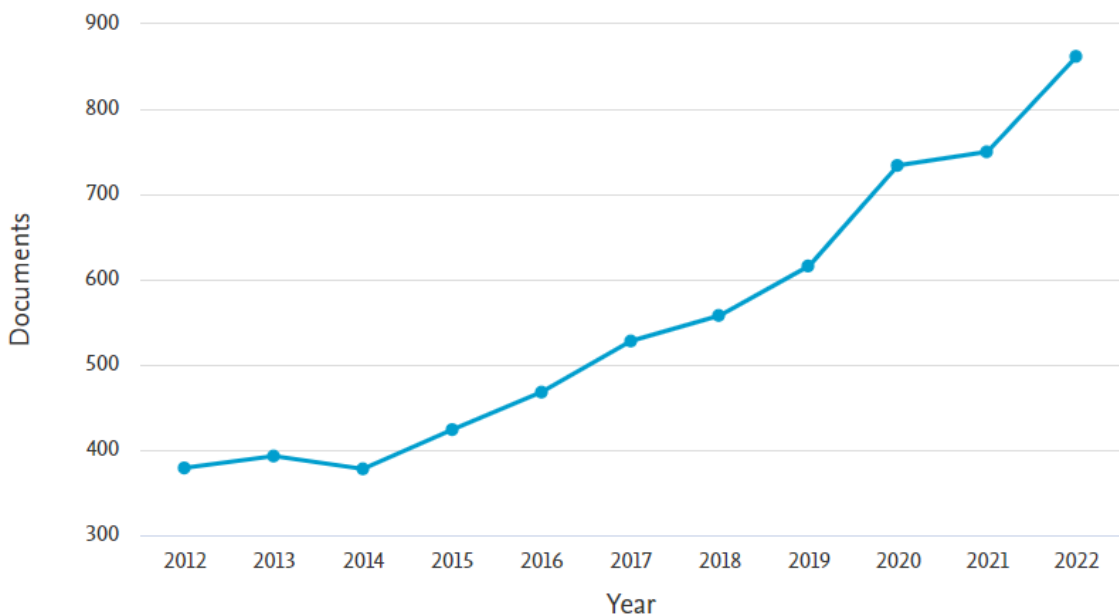

Fig. 2: Publications on Transformational Leadership from 2012 to 2022.
Source: Scopus Database

Table 1: Most Prolific Authors in the Transformational Leadership Research Area

S No.	Author	Scopus Author ID	Year of 1st Publication	Total Publication	h- index	Total Citation	Current Affiliation	Country
1	Rowold, J.	23398835000	2012	16	21	481	Technische Universität Dortmund	Germany
2	Andersen, L.B.	7201948837	2014	15	26	310	Aarhus Universitet, Aarhus	Denmark
3	Dartey-Baah, K.	36496357900	2014	13	11	166	University of Ghana Business School, Accra	Ghana
4	Jacobsen, C.B.	55630840400	2015	12	15	306	Aarhus Universitet, Aarhus	Denmark
5	Appelbaum, S.H.	7004864410	2012	9	29	87	John Molson School of Business, Montreal	Canada
6	Bro, L. L.	57190299287	2017	9	7	260	Crown Prince Frederik Center for Public Leadership	Denmark
7	Devos, G.	15833879100	2014	9	28	254	Universiteit Gent, Ghent	Belgium
8	Tafvelin, S.	55027037400	2014	9	14	169	Umeå Universitet, Umea	Sweden
9	Berkovich, I.	36172428300	2016	8	15	156	Open University of Israel, Tel Aviv-Yafo	Israel
10	Furuoka, F.	24464870400	2020	8	17	99	Universiti Malaya, Kuala Lumpur	Malaysia

Source: *Scopus Database*

The top 10 journals that have published the most articles on transformational leadership over the past ten years are shown in Table 2. These ten journals have published nearly 9.23% (or 562 papers published out of 6,090) of the total number of articles published on transformational leadership. As a result, with 132 papers, or 2.17% of all publications, the Leadership and Organization Development Journal was the most productive journal on transformational leadership. Following Sustainability (Switzerland) (101, 1.66%), Leadership Quarterly (58, 0.95%), and Educational Management Administration and Leadership (47, 0.77%), it has the second-highest number of citations (2,777) among the top 10 journals. The findings also showed that six distinct publishers own six of the top ten most productive journals (Table 2). Emerald Group Holdings Ltd. Published the top journal. Top 6 journal was also published by Emerald Group Holdings Ltd. Top 4, top 8 and top 10 journals were published by SAGE Publications Ltd as shown in the above table. Top 3 and top 7 journals are owned by Elsevier Inc. And the remaining three journals are published by Routledge, Springer Netherlands.

Table 2: Most productive journals on Transformational Leadership research with their most cited article

S No.	Journal	TP (%)	Number of Citations	Cite Score	The most cited article	Times Cited	Publisher
1	Leadership and Organization Development Journal	132 (2.17)	2777	3.923	"Ambidextrous leadership and team innovation"	174	Emerald Group Holdings Ltd.
2	Sustainability (Switzerland)	101 (1.66)	1361	4.39	"The continuous mediating effects of GHRM on employees' green passion via transformational leadership and green creativity"	121	MDPI
3	Leadership Quarterly	58 (0.95)	5179	9.924	"Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust"	402	Elsevier Inc.
4	Educational Management Administration and Leadership	47 (0.79)	1140	3.44	"A systematic review of studies on leadership models in educational research from 1980 to 2014"	185	SAGE Publications Ltd
5	Journal of Business Ethics	42 (0.67)	2224	6.331	"The Determinants of Green Product Development Performance: Green Dynamic Capabilities, Green Transformational Leadership, and Green Creativity"	372	Springer Netherlands
6	Journal of Management Development	40 (0.66)	1002	16.82	"A Jordanian empirical study of the associations among transformational leadership, transactional leadership, knowledge sharing, job performance, and firm performance: A structural equation modelling approach"	186	Emerald Group Publishing Ltd.
7	Journal of Business Research	39 (0.62)	2373	10.969	"Transformational leadership influence on organizational performance through organizational learning and innovation"	499	Elsevier Inc.

| 8	Journal of Leadership and Organizational Studies	35 (0.57)	1169	4.8	"Leadership, commitment, and culture: A meta-analysis"	122	SAGE Publications Inc.
9	International Journal of Leadership in Education	35 (0.57)	303	2.8	"Evaluating the effect of transformational leadership on knowledge sharing using structural equation modelling: the case of Iraqi higher education"	38	Routledge
10	SAGE Open	33 (0.54)	374	1.6	"Transformational Leadership and Job Performance: The Mediating Role of Work Engagement"	77	SAGE Publications Inc.

Source: Scopus Database
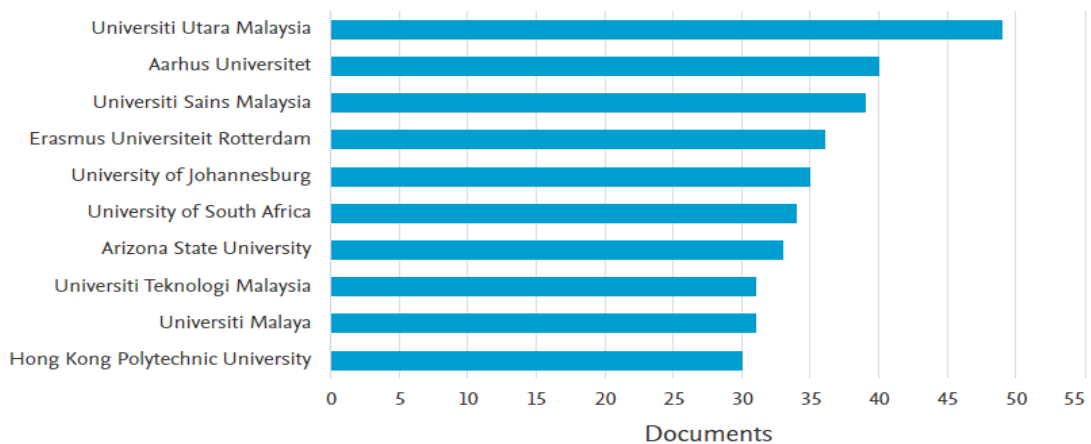
Fig. 3: Most productive institutions in Transformational Leadership research
Source: Scopus Database

With 49 articles, Universiti Utara Malaysia was the university with the most in the category of transformational leadership publications. Moreover, with 40 publications, Aarhus Universitet came in second. Universiti Sains Malaysia ranked third with 39 articles on transformational leadership, the most of any university. These universities were followed by the University of Johannesburg with 35 publications and the Erasmus Universiteit Rotterdam with 36 articles. (S**ee figure 3**)

The 6,090 papers in the transformational leadership research were produced by 130 countries and territories in total, with the top ten most productive and renowned countries and territories accounting for 71.63% (4,362 publications) of the total publications. In the realm of transformative leadership, the United States constituted the primary or most significant nation. With 1,614 publications, or around one-third of all publications, it has made the greatest contribution. Australia and the United Kingdom come next, with 516 and 364 publications created, respectively. China comes in second with 351 publications, while Malaysia came in fifth place with 326 publications. (Figure 4)

Most influential countries/territories and their co- authorships

Figure 5 displays the allocation of nations and territories by geographical area. The stronger connection between the two countries is indicated by the thicker line in VOSviewer. Two countries' closeness in VOSviewer indicates their strong relationship. Throughout the past ten years, the field of transformational leadership has experienced remarkable growth. Using
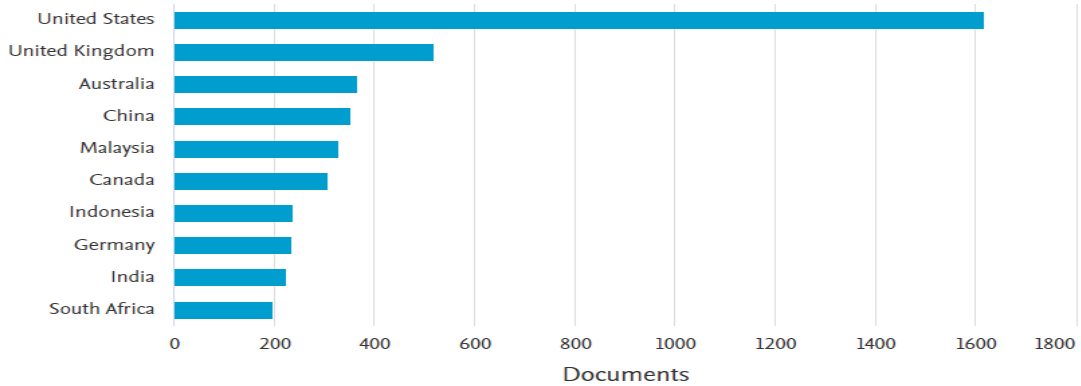

Fig. 4: Most productive countries in Transformational Leadership research
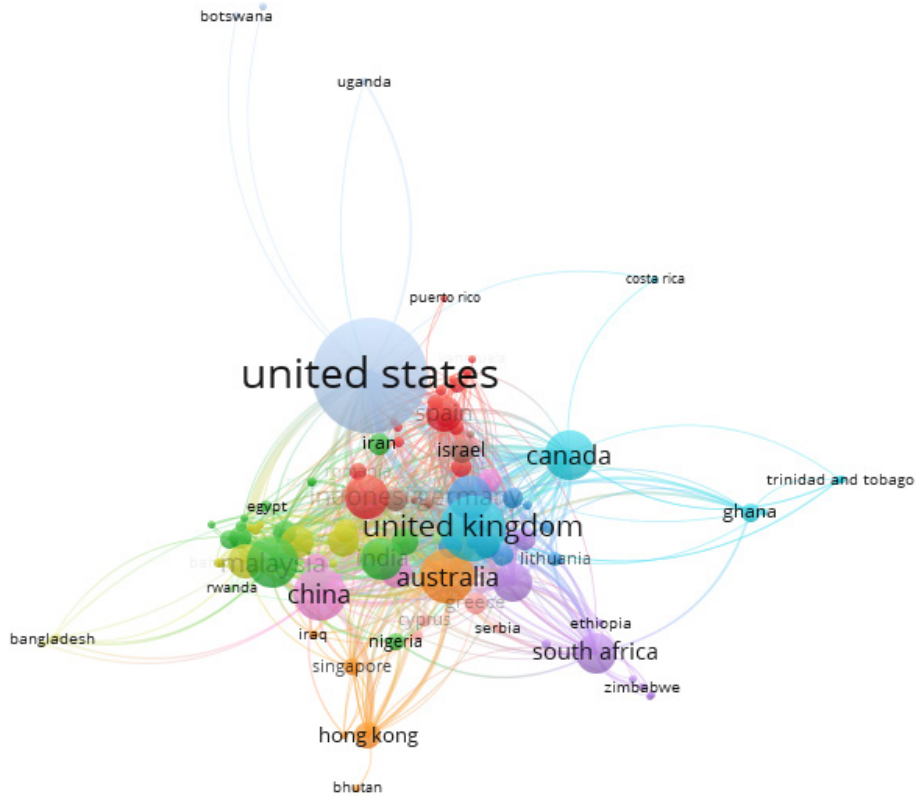*Source: Scopus Database*

Fig. 5: A bibliometric map created based on co- authorships with network visualization mode
Source: VosViewer

a bibliographic coupling analysis, Figure 5 illustrates the transformational leadership countries with the highest productivity. The outcomes align with the ones shown in Figure 4. With the most publications, the US was leading the world in transformative leadership. Furthermore, the co-authorship results indicated that, with 67 countries and territories linked, the UK was the most affiliated nation. The list was followed by US with 64 links and Australia 52 links.

Author Keywords

Prior to processing the analysis, the author keywords were re-labeled by making a thesaurus file. Following the modification of the complete keyword's information, the analysis produced 1000 author keywords (minimum five occurrences) split into 7 groups.

Terminology and Concept

With 2,175 occurrences and 888 linkages to other terms, the author's co-occurrences study of keywords found

that "transformational leadership" was the most often used keyword in earlier studies, as seen in Figure 6.

In this particular study, many keywords were used in conceptualizing the background of transformational leadership, for instance, "leadership" (1,190 occurrences), "human resource management" (91 occurrences), "organizational performance" (68 occurrences), "human experiment" (74 occurrences), "organizational commitment" (113 occurrences), "job satisfaction" (137 occurrences), "emotional intelligence" (77 occurrences), "knowledge sharing" (65 occurrences), "human" (296 occurrences), "organization" (71 occurrences), "work engagement" (81 occurrences), "organization and management" (72 occurrences).

Summary of most cited publications

Table 3 shows the publications that covers the concept of transformational leadership field that are most influential which had the highest citations. The article "Industry 4.0: State of the art and future trends" had been declared as the most cited one with 1,548 times citations, followed by "Data science, predictive

Fig. 6: A screenshot of the bibliometric map created based on author keywords co- occurrence with overlay visualization mode
Source: VosViewer

Table 3: The top 10 most cited publications

S No.	Authors	Titles	Year	Journal	TC
1	"Xu, L.D., Xu, E.L., Li, L."	"Industry 4.0: State of the art and future trends"	2018	"International Journal of Production Research"	1548
2	"Waller, M.A., Fawcett, S.E."	"Data science, predictive analytics, and big data: A revolution that will transform supply chain design and management"	2013	"Journal of Business Logistics"	860
3	"Knippenberg, D., Sitkin, S.B."	"A critical assessment of charismatic—transformational leadership research: Back to the drawing board?"	2013	"Academy of Management Annals"	767
4	"Singh, S.K., Giudice, M.D., Chierici, R., Graziano, D."	"Green innovation and environmental performance: The role of green transformational leadership and green human resource management"	2020	"Technological Forecasting and Social Change"	533
5	"Hoch, J.E., Bommer, W.H., Dulebohn, J.H., Wu, D."	"Do Ethical, Authentic, and Servant Leadership Explain Variance Above and Beyond Transformational Leadership? A Meta-Analysis"	2018	"Journal of Management"	517
6	"García-Morales, V.J., Jiménez-Barrionuevo, M.M., Gutiérrez-Gutiérrez, L."	"Transformational leadership influence on organizational performance through organizational learning and innovation"	2012	"Journal of Business Research"	499
7	"Robertson, J.L., Barling, J."	"Greening organizations through leaders' influence on employees' pro-environmental behaviors"	2013	"Journal of Organizational Behavior"	475
8	"Shin, S.J., Kim, T.-Y., Lee, J.-Y., Bian, L."	"Cognitive team diversity and individual team member creativity: A cross-level interaction"	2012	"Academy of Management Journal"	409
9	"Braun, S., Peus, C., Weisweiler, S., Frey, D."	"Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust"	2013	"Leadership Quarterly"	404
10	"Lim, M."	"Clicks, Cabs, and Coffee Houses: Social Media and Oppositional Movements in Egypt, 2004-2011"	2012	"Journal of Communication"	394

Source: *Scopus Database*

analytics, and big data: A revolution that will transform supply chain design and management" which also had higher citations (860 times). The major journals that were cited among the top 10 journals were Journal of Business Logistics, Journal of Management, Journal of Business Research etc. It could also be observed that job satisfaction, organizational performance, environmental performance, human resource management were mostly studied with transformational leadership.

Discussion and Conclusion

This paper sought to locate and evaluate publications on transformational leadership. For this, the Scopus database was searched using the bibliometric analysis approach between 2012 and 2022. A systematic evaluation and analysis of the literature on transformational leadership from a global perspective was offered, based on 6,090 papers published between 2012 and 2022. VOSviewer software was used to evaluate

and visualize various aspects of publications. The most important writers, journals, nations, institutions, and co-occurring authors have been highlighted in the study's tables and figures.

The results showed that, between 2012 and 2022, there was a ten-year trend of rising publication outputs and interest in transformational leadership research. It's expected that interest will keep growing in the future.

It has been established that between 2012 and 2022, the number of publications on transformational leadership grew steadily. Furthermore, Rowold, J., Andersen, L.B., Dartey-Baah, K., and Jacobsen, C.B. were the most prolific writers on transformational leadership.

The study founded the top journals in the field of transformational leadership. The top journals were Leadership and Organization Development Journal, Sustainability (Switzerland) and Leadership Quarterly.

The study also established the top ten papers with the highest citation counts in the subject of transformational leadership.

Implications

This study contributes to a better understanding of the direction that transformational leadership research is taking. Its goal is to make this topic's research more visible by showcasing its present features and providing a thorough and retrospective evaluation of publications. The search and bibliometric analysis produced some fascinating results that could direct and support academics in their future study on transformative leadership.

Limitations and Future Recommendations

The sample of Scopus accurately represented the transformational leadership field, future researchers are suggested to try other databases such as to get the bibliometric information on transformational leadership we can use science direct also.

The information collected for this study is limited from 2012 to 2022. It can also collect the information depending upon the other tendencies to gather more and conclude more as other researchers.

There is no guarantee that every noteworthy journal article is considered for the study; occasionally, "stray citations" may lead to the omission of crucial material.

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