

# The Significance of Agile Transformational Leadership in Organizational Change Management: A Bibliometric Analysis

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## Abstract

In the present BANI (brittle, anxious, nonlinear, and incomprehensible) world, agility and organizational change holds a great significance in an organization for its survival and growth. As per prior studies, organizational change doesn't deliver the anticipated results due to various reasons and challenges. Employee resistance being the main concern, leadership holds a great importance in handling resistance, managing conflicts, dealing with setbacks, and empowering the team. Transformational leaderships are often termed as change agents as they support and uplift their teams' creativity and innovation, thus motivating them towards change. This study's primary goal is to examine and discuss the mapping of research landscape, depicting the relationship between agile transformational leadership and organizational change management. For this analysis, bibliographical data of 1848 documents published between 2014 to 2023, was extracted from Dimensions database after applying exclusion criteria. This extracted database is used for analyzing and visualizing citation patterns, evolution, and growth of subject- performance, publication and journal sources, research locations, co-authorship relations and co-occurrence of keywords, using bibliometric software, VOSviewer and RStudio. The research shares the advancement of this topic in last ten years, providing theoretical support and substructure for future studies. As per this analysis, transformational leadership can be of a great support to organizations due to its affiliative management style, leading to a positive work environment that embraces change and innovation.

**Keywords:** change management, Agile Leadership, transformational leadership, agile organizations, change agility, bibliometrics

## 1. INTRODUCTION

The business climate of today is evolving quickly and getting harder to forecast (Lei et al., 2020). Everywhere there is change, it happens more quickly and complexly, which has placed a great deal of demand on professional to manage change and maintain firm's competitive advantage (Ramezan et al., 2013; Al-Haddad and Kotnour, 2015). Currently one of the biggest problem facing by change management is a proper guideship which calls for careful planning and resource provision to address both internal and external changes in the corporate environment and to determine practical fixes. Several earlier studies have addressed the relationship between leadership styles and change management, including the Alqatawenah's research (2012), which identified these relationships. Transformational leadership is the capacity to inspire followers to pursue excellence and scale new heights in their intellectual growth. According to Conger (2002), transformational leadership is the kind of guideship that goes above and beyond performance bonuses to support staff members' intellectual and creative development and assist them in transforming personal problems into essential elements of the organization's mission.

The potential mediating processes (HRM, learning, and innovation) in the link between transformational leadership and organisational performance were examined by Para-González et al. (2018). The results of a study that looked at the mediating function of meaning in work in the relationship between transformational leadership and job engagement are reported by Ghadi et al. (2013). According to their study's structural equation modelling results, followers' characteristics related to job engagement are influenced by transformational leadership styles. Majali (2014) sought to determine the role that Transformational Leadership had as a mediating variable in the performance of industrial Jordanian enterprises with an entrepreneurial orientation. The study's findings were comparable to those of the subsequent investigation, indicating that Transformational Leadership was a medium-level practice. On the other hand, Ghuzzayil (2021) examined the

connection between transformational leadership and organisational learning in the Saudi Public Universities and came to the conclusion that while there is a positive relationship between transformational leadership and organisational learning, leadership behaviour is positively existing. Trofino (2000) defined it as the type of leadership that establishes a distinct vision for their companies. According to Kirkan (2011), transformational leadership is a pattern of leadership that leaders use to identify people who follow the organization's problems and inspire, persuade, and excite them to achieve a high level of clarity in order to recognise shared goals.

In the context of the turbulent changes in business domain, transformational leadership (TL) has become one of the most successful leadership philosophies that helps most organisations achieve significant and beneficial results (Tayal et al., 2018; Pasamar et al., 2019). By gaining employee trust it can enhance employee confidence and resilience driving them to pursue the change strategy and achieve the change goals beyond expectations (Yasir et al., 2016; Lei et al., 2019). Enhancing organisational aptitude for change is crucial since significant changes largely rely on people's trust, competencies, and innovative talents to meet changing needs (Tayal et al., 2018; Berraies and Zine El Abidine, 2019). Research on the effects of transformational leadership on particular facets of employee trust for constructing and boosting an organization's chance potential is still lacking, but (Yasir et al., 2016; Lei et al., 2019). Therefore, this study intends to analyse and decipher the potency of agile leadership on change management, in order to accelerate the grasp of the varied ways by which transformational leaders can influence the team to improve change capability.

This study's main goal is to outline and evaluate the current body of knowledge regarding transformational leadership and change management. The research questions that follow guide the study's scope:

RQ1: What is the current trend in transformational leadership publications on change management, in terms of various academic fields, nations, writers, eras, institutions, and publications?

RQ2: Which studies and topics are most popular in the relevant field of study?

RQ3: How has the chosen topic's research changed over time, and how may the effects be charted?

RQ4: What is the current research gap that should be taken into account for upcoming investigations?

## 2. METHODOLOGY

This study's primary goal is to perform an extensive bibliometric analysis on change management and agile leadership. The core of research is identified by means of bibliometric analysis, which also helps to identify co-author and author relationships, citations, various study countries, sources, documents, leading organisations, funding agencies, bibliographic coupling, co-occurrence of keywords, and co-relationships of any of the aforementioned factors. It facilitates the analysis of research papers' impact. Based on earlier publications, their sources, authors, citations, etc., this study is quantitative in nature. A field's bibliometric and intellectual structure is summarised through bibliometric analysis, which examines the connections among various research constituents such as authors, nations, institutions, and themes.

The purpose of this article is to present a comprehensive bibliometric analysis of research on electronic customer relationship management. First, using the retrieval approach, relevant publications are identified in the respective database. Bibliometric analysis, in the field of statistics, is the quantitative study of publication records, citations, and citation patterns [32]. It offers researchers reliable, high-quality academic material, and has gradually replaced other sources as the primary ones for bibliometric analysis. The method provides a set of data that helps researchers to evaluate: the status and growth of their research field, the relative 'importance' of different pieces of work in the overall literature, and their performance compared with other scholars. The fundamental traits of the articles are then discussed in terms of annual indicators, publication types and study areas, and highly referenced publications. Next, using a range of complementary bibliometric approaches and tools, influential and highly competent countries/regions, institutions, authors, and their collaboration connections are analysed. Future trends, hotspots, and research horizons are also noted. Finally, more discussion on current hot topics, upcoming trends and problems, and limitations. Bibliometric

techniques are scientific expertise and form a crucial component of research evaluation methodologies, particularly in the sciences and applied fields

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### 2.1. Data Retrieval

Using a combination keyword search, pertinent bibliographical information for 1848 publications released between 2014 and 2023 was retrieved from the Dimensions database. About 3712 related articles were first found by this search; 1848 of them were chosen and extracted using inclusion and exclusion criteria. Ten years, from 2014 to 2023, were chosen as the time frame for this. To preserve the quality and relevance, the majority of the analysis was done on papers that had more than ten citations.

### 2.2. Evolution & Growth of Research (2009-2023)

The fields of research on change management and transformational leadership have grown steadily during the past ten years. The graph (Fig. 1) below illustrates the development between 2014 and 2023. Despite a little decline in 2016, there is a significant increase following 2017. Furthermore, because of its necessity, it is discovered to have a significant impact on the topic both during and after pandemics.

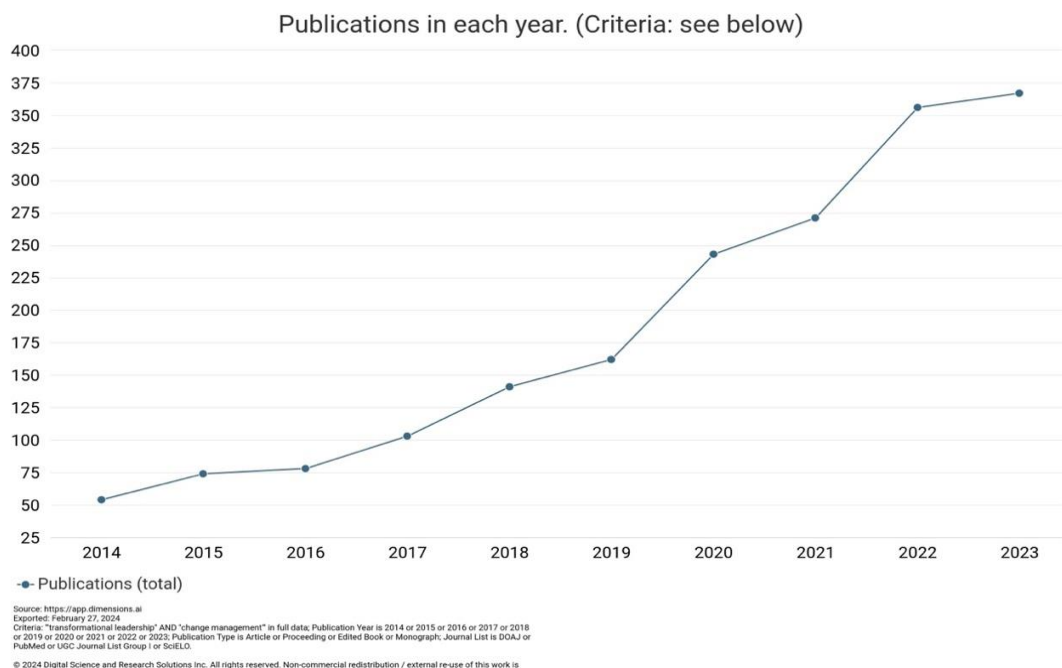


Fig1: Growth of research in relation to subject area from 2014-2023

2.1 Data Source and Retrieval Strategy

Meho, & Young [33] says that Google Scholar produces results with varying degreeof accuracy and citation analysis from Scopus offers 20% more coverage than Web of Science. Documents are retrieved from database by the following syntax as per Fig. 1.

From Scopus indexed publication 1,687 were retrieved for the period 2000–2022. Makes customer engagement easy. It reduces costs and enables real-time interactions.

2.2 Number of Publications by year

The number of publications in the ECRM field over time are compiled in order to examine the development trend of this category as per in Fig. 2 According to the data retrieved from 2000–2022, it is observed that only 49 articles in the field of ECRM were published in 2002, and until 2004 the number of publication is seen increasing. The upward tendency also suggests that these subjects will receive attention from the academic and research community in the coming year

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2.3 Number of Publications

After applying the exclusion criteria, the number of publications in the relevant field is displayed in the table (1) below

Table 1: Total number of publications (2014-2023)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Publications (total)	<a href="#">54</a>	<a href="#">74</a>	<a href="#">78</a>	<a href="#">103</a>	<a href="#">141</a>	<a href="#">162</a>	<a href="#">243</a>	<a href="#">271</a>	<a href="#">356</a>	<a href="#">367</a>

From a period of 2014 to 2023, a total of 1848 articles were extracted. It shows in 2014, only 54 research were made in agile transformational leadership and change management, whereas by 2023 it had increased to 367. Even though the data shows comparatively moderate development from 2014 to 2016, it began to pick up speed in 2017. It demonstrates the necessity and applicability of the study as well as its significance for an organisation.

2.4. Publications in Different Research Category

Regardless of the field or type of research, the impact of agile transformational leadership in change management is a crucial subject. According to the figure (Fig. 2) below, the discipline with highest number of publication is Commerce, Management, Tourism and Hospitality (827 documents) . Next is Philosophy and Religious Studies with 164 articles, followed by Human Society with 145, Health Sciences with 126, Education with 114, Information and Computer Sciences with 111, Psychology with 100, Biomedical and Clinical sciences with 83, Language, Communication and Culture with 55, Economicsl with 33, Engineering with 33, Built Environment and Design with 31, Environmental Sciences with 8, Law and Legal Studies with 6, Creative Arts and Writing with 4, Physical Sciences with 4, Earth sciences with 2, legal studies with 3, Agricultural, Veterinary and Food Sciences with 1 and biological sciences with 1.

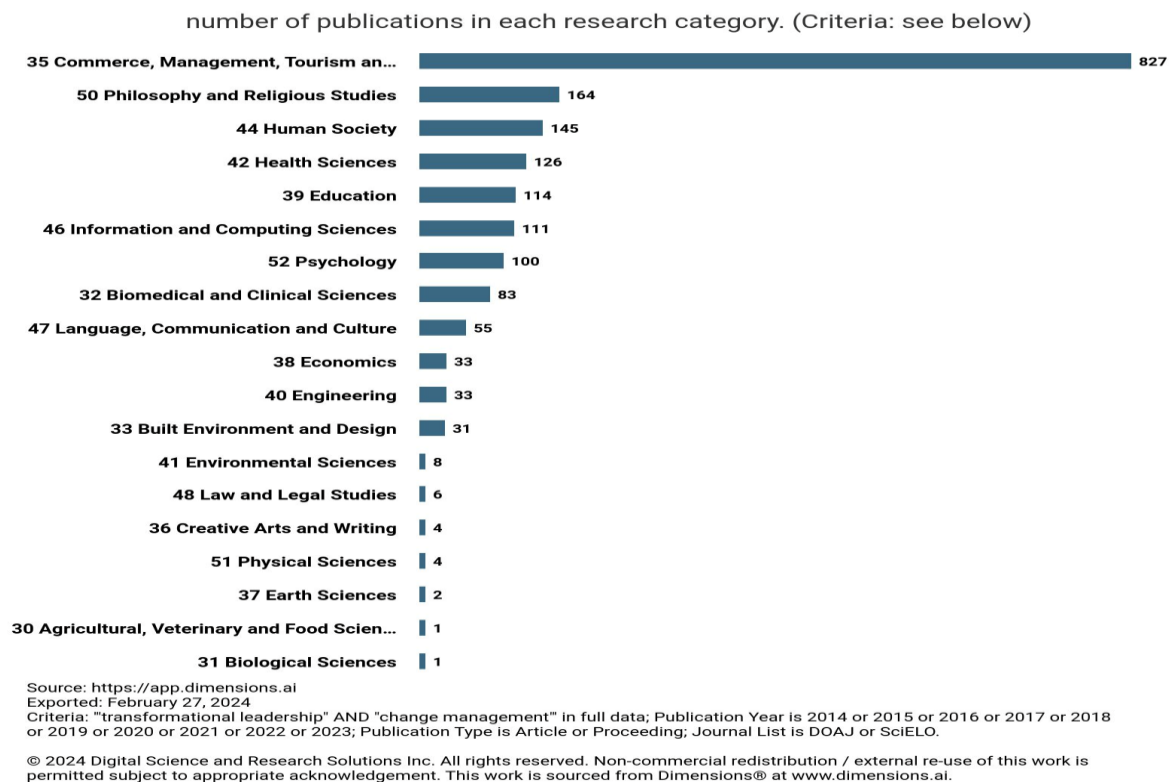


Fig 2: publications in different research area

2.5 Types of Publication

For this analysis main publication types selected are articles, conference proceedings, books, and monograph. Articles being the main source constituted about 1812 out of 1848 documents (97.577%) followed by proceedings 22 (1.19%), books 11 (0.76%) and monograph1 (0.05%).

Table2: Document types, its numbers and percentage

Publication Types	No:	Percentage
Articles	1812	97.577%
Proceedings	22	1.19%
Book	14	0.76%
Monograph	1	0.05%

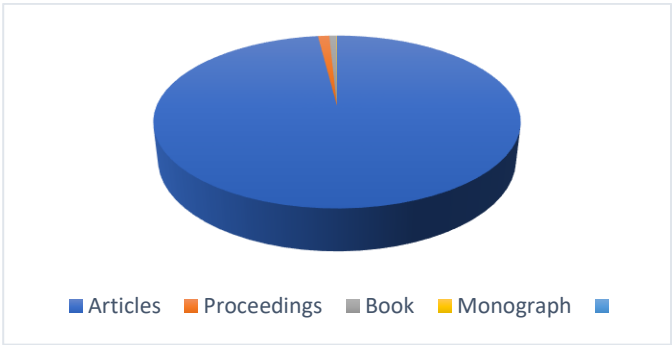


Fig3: Document types (selected)

2.6 Publications – Country Wise

Based on both publication and citation, an area- or country-wise analysis was conducted. The following are density visualisation based on citation (Fig. 5) and network visualisation based on publishing (Fig. 4). The data shows that the

United States has the most publications (210) as well as citations (4503). Tables 3 and 4 below lists the top 10 countries in terms of publications and citations, respectively.

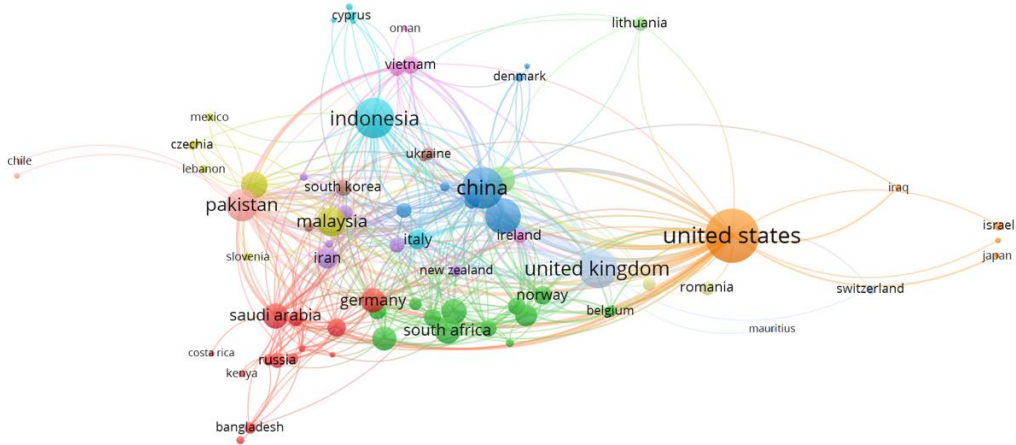


Fig 4: Countries with the highest number of publications based on citations

Table3: Top 10 Countries, Publication 2014-2023

Country	Documents
United States	210
China	123
Indonesia	120
United Kingdom	93
Australia	78
Pakistan	60
Malaysia	57
Canada	53
Spain	50
South Africa	49

Countries, Citations 2014-2023

Table 4: Top 10

Country	Citations
United States	4503
United Kingdom	2333
Australia	1978
China	1546
Italy	1177
Pakistan	1090
Canada	1034
Germany	871
Spain	764
Netherlands	736

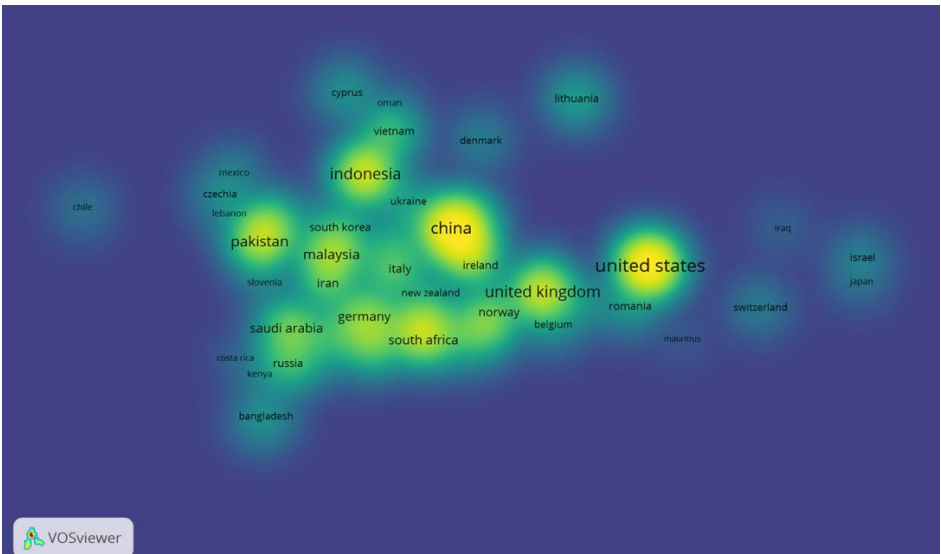


Fig 5: Density Visualization- Citation Analysis, Country wise



2.7. Co Occurrence Analysis of Keywords

One of the most important aspects of bibliometric analysis is the co-occurrence of keywords, which reveals the co-relation of variables or items. Intricate keyword combinations facilitate the process of removing pertinent documents from a database for researchers. The networking figure (Fig. 6) below illustrates how various variables or keywords relate to one another to form the search. Table 5 displays the most relevant variables or keywords based on their frequency of occurrences.

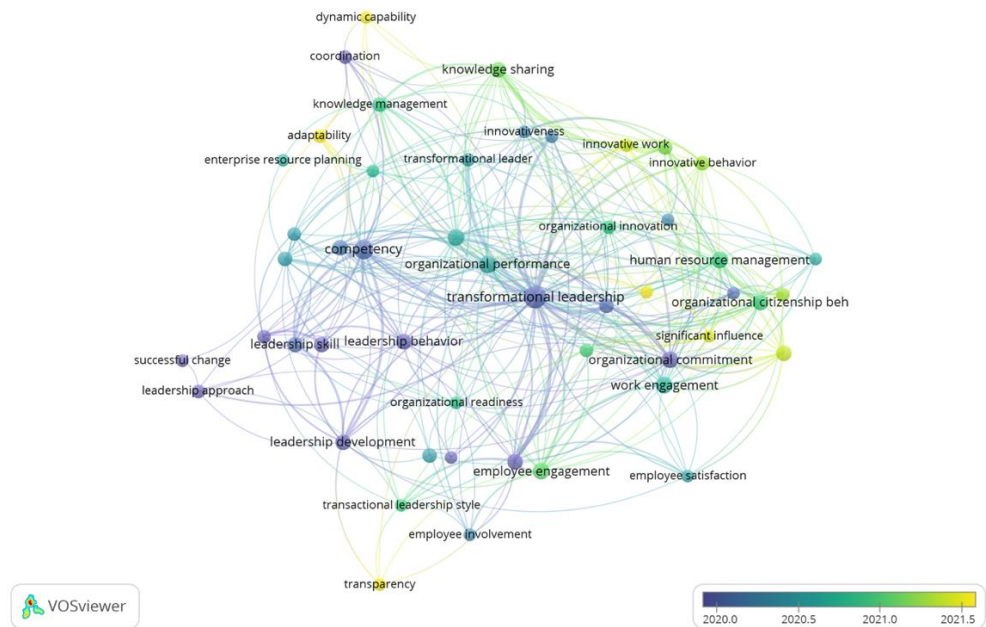


Fig 6: Co-occurrence analysis of keywords

Table 5: co-occurrence analysis details- Keywords their relevance

Keywords	Occurrences	Relevance
Transformational leadership	197	0.46
Organizational Performance	87	0.54
Competency	84	1.06
Innovative Work	84	0.99
Knowledge Sharing	81	1.07
Leadership Skills	77	0.97
Adaptability	71	0.99
Successful Change	67	0.99
Organizational commitment	55	0.99
Leadership Development	41	0.92
Employee engagement	38	0.92
Knowledge management	26	0.40
Transparency	23	0.63

2.8. Author & Co- author Analysis

The authors listed in table (6) below are ranked based on citations and link strength for the period of 2014–2023. It is evident that the entire link strength is not determined by the citation, and the table (6) below is arranged according to link strength. Top of the list with an astounding 515 citations are Bakker and Arnold B. The analysis of the writings of authors who have the greatest number of publications and citations is helpful in identifying research gaps for future investigations, and their work is crucial in providing important points to the study.

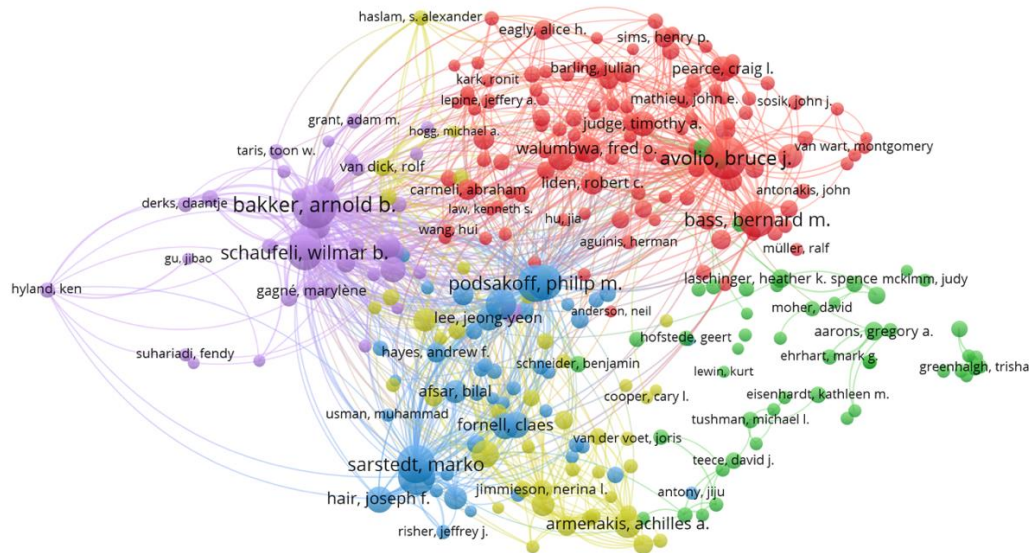


Fig 7: Network Visualization of author analysis

Table 6: Top 10 Authors based on citation

Authors	Citations	Total Link Strength
Bakker, Arnold b.	515	19706
Avolio, Bruce J.	483	15807
Sarstedt, Marko	400	11108
Ringle, Christian M.	373	12100
Podsakoff, Philip M.	363	8141
Bass, Bernard M.	347	12501
Schaufeli, Wilmer B.	337	10742
Mackenzie, Scott B.	322	11472
Demerouti, Evangelia	282	8561
Podsakoff, Nathan P.	247	6723

2.9. Analysis Based on Journal Source

The selection of a peer-reviewed scientific publication with a strong reputation for publishing genuine and standard studies is necessary for an analysis based on a journal source, as the calibre of journals is crucial. Table below lists the top 10 journals along with their citation and document counts. The citation level has nothing to do with the quantity of papers. The Sustainability Journal receives highest score, with 1469 citations and 115 documents.



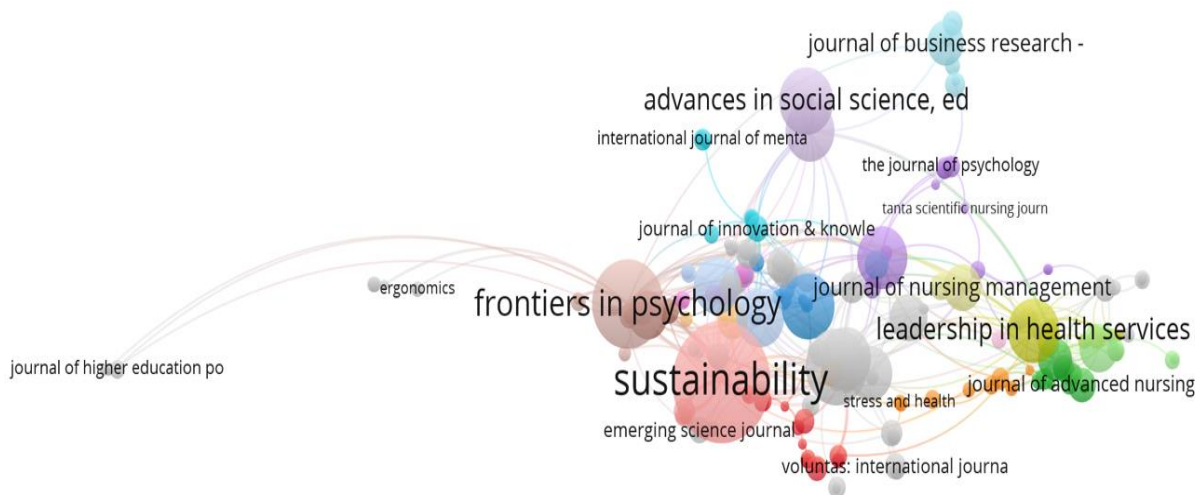


Fig 8: Network Visualization of Journal -Source analysis

Table 7: Top 10 Journals based on publication and citation

Source	Documents	Citations
Sustainability	115	1469
Frontiers of Psychology	62	1166
Sage Open	45	497
Advances of Social Science, Education	35	26
Journal of Business Research	33	133
Journal of Psychology	32	293
Leadership in health services	31	336
Cogent Business & Environment	30	260
Management Science letters	29	155
Administrative sciences	29	355

**2.10. Analysis based on Organizations**

The table 9 shows the top 10 organizations with research publications. The Airlangga University has the highest number of publications, 210, Whereas University of Sydney top in Citation (477). This shows the absence of any type of correlation between number of publications and citations

Fig (9) illustrates the network visualization of organizations with highest number of publications. Tables 9 & 10 shows the top 10 universities or organizations with highest number of publications and citations respectively

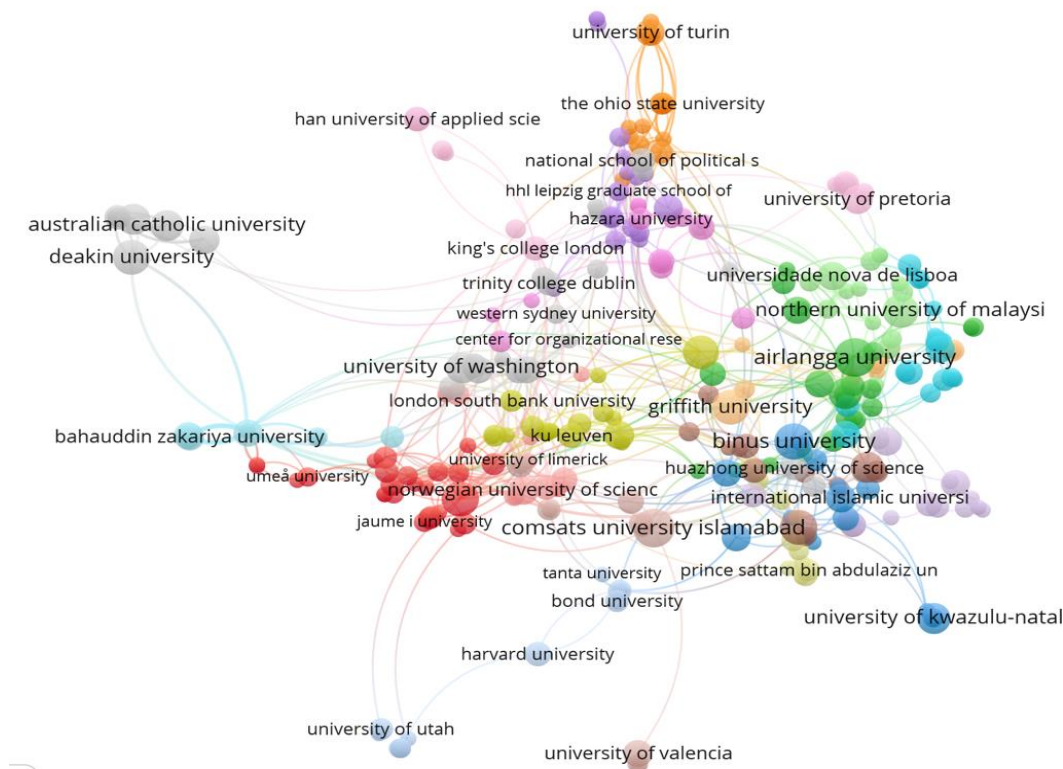


Fig 9: Network Visualizations of correlations between universities with highest publications

Table8: Top 10 Universities, Publication 2014-2023

Country	Documents
Airlangga University	210
Comsats University, Islamabad	123
Binus University	120
University of Indonesia	93
Daekin University	78
Griffith University	60
University of Toronto	57
Northern University of Malaysia	53
Erasmus University Rotterdam	50
University of Kwazulu- natal	49

Table9: Top 10 Universities, Publication 2014- 2023

Country	Citations
The University of Sydney	477
Michigan State University	447
UNSW Sydney	432
Vanderbilt University	417
University of Oxford	394
Erasmus University Rotterdam	377
San Diego State University	319
Ca' Foscari University of Venice	284
University Of California	282
Yale University	281

### 3. DISCUSSION

Bibliometric studies constitute a quantitatively oriented scientific analysis of research publications. This aids in measuring the impact on works and sources as well as the evolution of a certain topic area's knowledge level (Bouyssou and Marchant, 2011, Daim et al., 2006). There is an increasing demand for the use of quantitative analytical methods in scientific outputs due to the increased requirements and publications volume.

**Analysis 1: Evolution & Growth, 2014-2023:** The outcome illustrates how, between 2014 and 2023, research on agile transformational leadership and change management developed and expanded. It showed a gradual increase through 2016 before gaining speed in 2017. This suggests that interest in the study's subject is increasing.

**Analysis 2: Number of Publications, from 2014-2023:** It demonstrates that in 2014, there were only 54 studies conducted on transformational leadership and change management; but by 2023, that number had risen to 367. It demonstrates a seven-fold rise in research, which is very high for any field of study. This demonstrates the interest and need in the chosen field of study.

**Analysis 3: Subject Area:** This shows how publications are distributed among various subject areas or fields. It demonstrates that there have been more studies undertaken in the fields of commerce and management (827), accounting for 83.05% of all publications. Simultaneously, it is observed that studies have been conducted across multiple domains, suggesting the topic's relevance.

**Analysis 4: Publication Sources:** For this analysis main publication types selected are articles, conference proceedings, books, and monograph. Articles being the main source constituted about 1812 out of 1848 documents (97.577%) followed by proceedings 22 (1.19%), books 11 (0.76%) and monograph1 (0.05%).

**Analysis 5: Research - Country Wise:** In area-based analysis, it illustrates two different results based on "highest number of publications" and "highest number of citations". The data shows that the United States has the most publications (210) as well as citations. (4503)

**Analysis 6: Co-occurrence of keywords:** analysis on co-occurrence of keywords, which reveals the co-relation of variables or items. Researchers find it easier to extract relevant documents from a database by using complex keyword combinations. It displays the frequency with which each term appears or the intricate word combinations together with their significance. It is essential for choosing criteria, figuring out factors, and carrying out research.

**Analysis 7: Author & Co-author correlation:** As per this analysis, Bakker and Arnold B. top the list with an incredible 515 citations. Writings by authors with the highest number of citations and publications can be analysed to find research gaps for additional studies, and these authors' contributions are essential to the study's main points.

**Analysis 8: Journal Source:** For this analysis based on a journal source, the choice of a peer-reviewed scientific publication with a solid reputation for publishing authentic and standard studies is required, as the quality of journals is vital. The table below shows the number of citations and documents for each of the top 10 journals. The number of papers has no bearing on the citation level. The Sustainability Journal, with 115 documents and 1469 citations, gets the highest score.

**Analysis 9: Research Organization:** The Results indicated that The Airlangga University has the highest number of publications, 210, Whereas University of Sydney top in Citation (477). This shows the absence of any type of correlation between number of publications and citations

We have attempted to examine how Agile transformational leadership affects change management in this study. According to this analysis conducted on articles published between 2014 and 2023, the result constituted two phases: a seeding (2014-2016) and growth stage(2017-2023). This demonstrates the growing patterns in the relevant field of study.

### 4. CONCLUSION

The research topic "impact of agile transformational leadership on change management" has seen an increase in publications, which indicates that there is a growing demand for and interest in this area of study across various academic disciplines, countries, authors, time periods, organisations, and journals. Due to the topic's continued relevance in today's environment, there has been a noticeable increase in popularity between 2014 and 2023. We were able to determine from this study that organisations require guided transformational leadership in order to become more nimble with their workforce. Employees may become more resilient as a result, decreasing their resistance to any organisational change. We were able to identify and assess the impact of various transformational leadership characteristics on change management

through this approach. The study will likely expand its scope and opportunities in the future and is highly significant to pandemic and post-pandemic organisational adjustments.

## 5. LIMITATIONS

Since "Dimensions" is an open-access database, the documents have been filtered out using stringent selection criteria. Only articles with ten or more citations were taken into consideration, which may have led to the loss of numerous excellent research papers with less citations. A thorough qualitative study was not feasible due to the selection of a 10-year time frame, which resulted in a higher number of publications; bibliometric analysis was conducted for the quantitative portion.

## 6. IMPLICATIONS

By understanding the influence of transformational leadership on change management it can help organizations in understanding the need for a properly planned and supervised change. It mainly demonstrates how transformational leadership may help organisations in managing change by raising the calibre of their output. Well supervised and guided environment can make workers more self-assured and driven, by enabling them to work more easily and efficiently. Employee resilience and morale can be increased by effective leadership. This can contribute to the success of change management by absorbing resistance

## 7. RECOMMENDATIONS FOR FUTURE STUDY

For this study, numerous factors including dynamic capabilities and agility in the change process, that are relevant to transformational leadership and change management are not considered. When examining employee resistance to change, these create a study gap. Agile leaders help organizations in recognising the need for training, assessing ongoing improvements, establishing appropriate lines of communication, accelerating execution, and being more open. Employee confidence and resilience may grow as a result, overcoming opposition. Future study on leadership and change management can explore new avenues thanks to these crucial elements and their effects.

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