

Review Article

# Transformational Leadership: A Hybrid Systematic Literature Review and Bibliometric Analysis

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**Abstract:** This study aims to conduct a systematic literature review and bibliometric analysis on Transformational Leadership (TL), based on empirical research. Despite extensive studies on TL in recent decades, comprehensive research remains limited. The methodology used is a Systematic Literature Review (SLR) of articles containing “Transformational Leadership” in the title, abstract, or keywords, sourced from the Scopus database, which yielded 1,297 publications from 1977 to 2025. The data were analyzed using VOSviewer software. The findings suggest that TL is an innovative model in vocational education, bridging industrial systems with academic environments for authentic, practice-based learning. However, challenges include limited resources, insufficient instructor training, and inadequate institutional support. Recent innovations, such as advanced ICT, holographic technology for real-time interaction, and digital twins for process optimization, have enhanced the model's effectiveness. The study also discusses the conceptual framework of TL. This research uses the Scopus database, and future studies could broaden its scope by incorporating other databases like Web of Science. Practically, the study's findings suggest integrating modern pedagogical strategies, including gamification, simulation, and project-based learning, to enhance student engagement and understanding of manufacturing processes. Socially, it encourages educational institutions to invest in infrastructure, strengthen industry partnerships, and provide continuous instructor training. This study highlights the growing global research on TL and calls for deeper exploration of the topic in existing literature.

**Keywords:** Digital Twins; Gamification; Holographic Technology; Transformational Leadership; Vocational Education

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## 1. Introduction

Conducting a Systematic Literature Review (SLR) on transformational leadership is crucial for several reasons, particularly in today's dynamic organizational environment. SLRs provide a comprehensive understanding of the evolution and impact of transformational leadership, offering theoretical and empirical insights into leadership styles, their effectiveness, and their implications for organizational performance (Roache, 2023; Malhotra & Aggarwal, 2022). SLRs help identify emerging trends and research gaps, such as the role of transformational leadership in cross-cultural contexts and its impact on innovation and digital transformation (Mohammad et al., 2024; Agazu et al., 2025). Furthermore, SLRs aid in refining measurement tools such as the MLQ and exploring under-researched areas, such as the role of leadership in knowledge management (Ismail Al-Alawi & Habeeb, 2025). By synthesizing existing research, SLR ensures a systematic and unbiased framework for advancing leadership theory and practice, guiding future research, and informing leadership development in organizations (Negara et al., 2024; Sam et al., 2025). This rigorous approach

is crucial for fostering academic growth and practical application in leadership (Idrisu & Mohammed, 2025).

This study seeks to examine the current landscape of research on Teaching Factories in depth and assess the extent to which this topic remains relevant as a focus for future research. Furthermore, this study reviews the development of scientific discourse related to Teaching Factories with the aim of identifying its contribution to the development of Learning by Doing theory and its application in organizational practice. The research questions formulated are as follows:

RQ1: What is the exploration of Transformational Leadership? is still a subject of significance for future academic research?

RQ2: How is the current allocation of research related to Transformational Leadership ?

RQ3: What are the theoretical and practical implications of the future research perspective?

This study uses a Systematic Literature Review (SLR) and Bibliometric Analysis to answer three research questions. The systematic literature review method is suitable for synthesizing existing research and helping identify gaps, trends, and future research directions, while providing evidence-based insights that can influence policy, practice, and further research. This method also allows researchers to evaluate the quality and relevance of existing research, so that the results can be relied upon for better decision-making (Sari et al., 2023).

Bibliometric analysis complements the review by measuring the distribution and impact of publications related to Teaching Factory. Using VOSviewer and the Scopus database, this study will analyze articles published through November 25, 2025. This methodology allows for a comprehensive mapping of the field's development and provides a deeper understanding of its growth and future research directions. This research is expected to provide valuable insights for researchers and educational institutions in developing more effective research strategies in the field of Transformational Leadership.

## 2. Literature Review

Transformational leadership is defined as a process in which managers assess employees' personalities and provide personalized support to help them realize their responsibilities, stimulate latent needs, and achieve their full potential and performance (Zhang et al., 2021). This leadership focuses on motivating and empowering subordinates to collaborate in team building (Sameh et al., 2025). Transformational leadership is also described as a leadership style that inspires employees by fostering optimism, reducing failure, and serving as a role model, with a focus on achieving organizational and group goals (Zada et al., 2025). This leadership style has gained widespread acceptance among leadership scholars due to its unique approach to motivating innovation in employees, compared to other leadership styles (Jameel et al., 2021). Furthermore, green transformational leadership extends transformational leadership theory by applying it to environmental responsibility (Nagah et al., 2021). Finally, transformational leadership emphasizes developing individual abilities and skills to achieve continuous change and improvement (Matar et al., 2025).

**Table 1.** Defining Elements of Transformational Leadership

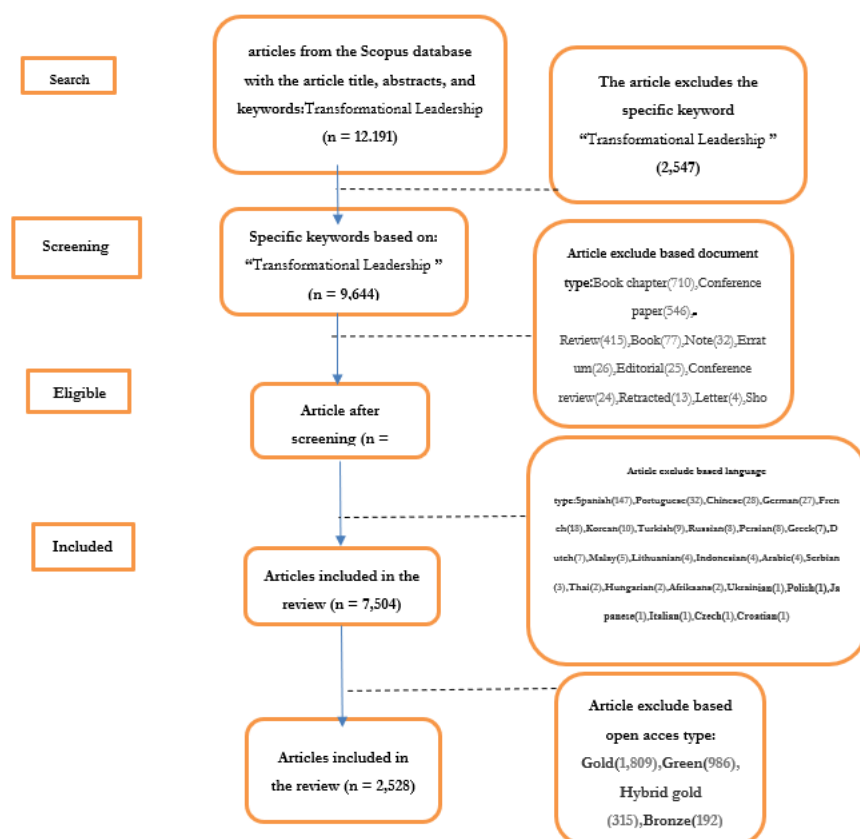
No	Defining Factors of Transformational Leadership	Reference
1	Transformational leadership is a process in which managers assess employees' personalities and provide personalized support to help them realize their responsibilities, stimulate latent needs, and achieve their maximum potential and performance.	(Zhang et al., 2021)
2	Transformational leadership focuses on individuals motivating and empowering subordinates to collaborate in building teams.	(Sameh et al., 2025)
3	Transformational leadership is a leadership style that inspires workers by fostering optimism and reducing failure, and serves as a role model for workers, with a focus on achieving organizational and group goals.	(Zada et al., 2025)
4	Transformational leadership (TL) is a leadership style that has gained wide acceptance among leadership academics because of its unique way of motivating employee innovation compared to other leadership types.	(Jameel et al., 2021)
5	Green transformational leadership style is an extension of transformational leadership theory applied to environmental responsibility.	(Nagah et al., 2021)
6	Transformational leadership focuses on developing individual abilities and skills to achieve continuous change and improvement.	(Matar et al., 2025a)

### 3. Research Methods

A systematic literature review using a bibliometric approach quantitatively assesses the literature to identify trends, patterns, and key research entities within a discipline. Using a framework such as PRISMA, this approach ensures a comprehensive and replicable examination of the literature, providing a clear and transparent overview of the topic under study. In the context of this research, bibliometric analysis can also help identify gaps in the existing literature, as well as provide direction for further research (Moodaley & Telukdarie, 2023). The inclusion criteria set include: (1) articles published up to November 30, 2025, (2) publications in English, and (3) focusing on the topic of Transformational Leadership. Bibliometric analysis was conducted using VOSviewer, by visualizing bibliographic data to analyze citation networks, collaborations between authors, and keywords that frequently appear together, thus revealing the intellectual structure and dynamics of the research field.

Understanding the development, historical trajectory, and future directions of a field of research makes it highly useful in interdisciplinary studies to gain deeper insights (Marzi et al., 2025; Wang & Yi, 2025). Bibliometric analysis is also used for strategic purposes in scientific publications, which was first introduced by Bertrand et al. (1970) to evaluate scientific journals based on their economic weight.

The initial stage in this scientific study involves keyword selection, which can be done through a macro (top-down) methodology, starting from a broad search path to more narrowly defined studies and topics. Therefore, after evaluating the limitations inherent in previous research and the scarcity of studies discussing (Transformational Leadership), this study adopted the keyword "Transformational Leadership" as the focal point in the article title, abstract, and keywords section. In addition, the Scopus database is used by researchers for various investigative purposes, including conducting literature reviews, identifying experts in specific fields, and monitoring research trends.



**Figure 1.** Systematic Literature Review information flow using PRISMA

Based on the search results obtained on the 31st November 2025 from the Scopus database using article titles, abstracts, and keywords: "Transformational Leadership" across various academic disciplines, spanning from the earliest publications in 1977 to the latest in 2025, the total number of articles on Transformational Leadership is 12,191 documents (see Figure 1). Based on these findings, a screening process was carried out to filter the documents according to their classification. Articles were eliminated based on document types include:

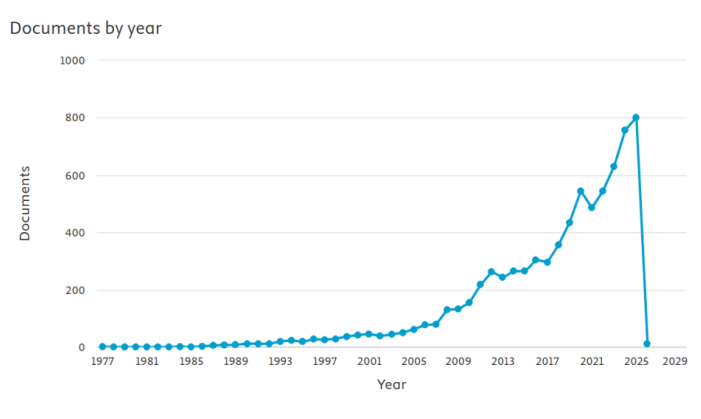
Book chapter (710), Conference paper (546), Review (415), Book (77), Note (32), Erratum (26), Editorial (25), Conference review (24), Retracted (13), Letter (4), Short survey (3), Data paper (3) and articles that were also eliminated based on languages, Spanish (147), Portuguese (32), Chinese (28), German (27), French (18), Korean (10), Turkish (9), Russian (8), Persian (8), Greek (7), Dutch (7), Malay (5), Lithuanian (4), Indonesian (4), Arabic (4), Serbian (3), Thai (2), Hungarian (2), Afrikaans (2), Ukrainian (1), Polish (1), Japanese (1), Italian (1), Czech (1), Croatian (1), and articles that were also eliminated based on Open access, Gold (1,809), Green (986), Hybrid gold (315), Bronze (192) resulting in a total of 2,528 excluded documents. The screening results, categorized by document type, yielded 2,528 eligible articles. These documents were then further analyzed in this study to answer the following research questions: RQ1: Is the exploration of Transformational Leadership still a subject of significance for future academic research? RQ2: How is the allocation of current research related to Transformational Leadership? Transformational Leadership? RQ3: What are the theoretical and practical implications of this future research perspective?

### 3. Results and Discussion

The results of this study focus on findings from 2,528 articles in the Scopus database that discuss Transformational Leadership. This data was obtained by identifying the number of articles published, publications throughout the year, and their journal sources. This study also highlights the most influential elements in the study. Transformational Leadership, including authors, affiliations, and countries involved.

#### **RQ1: What is the exploration of Transformational Leadership? is a subject that continues to have significance for future academic research?**

Based on data obtained from the Scopus database, it has been confirmed that for more than four decades, scientific works regarding Transformational Leadership includes 2,528 articles; this shows that research on Transformational Leadership is still relatively rare, as shown in ( Figure 1 ). Exploration of Transformational Leadership Based on publication trends in the graph, studies on transformational leadership show increasingly intensive growth from year to year, reflecting the increasing academic attention to this theme across various disciplines. The significant surge after 2010 indicates that research led by the main authors in that period began to explore key topics such as the influence of transformational leadership on organizational performance, affective commitment, innovation, and strategic change as evidenced by the diversification of study titles focusing on “employee empowerment” “organizational change readiness” and “vision-driven leadership outcomes”. The peak of publications around 2024 indicates that the contributions of the first authors in this year greatly encouraged the expansion of the theme, with more measurable and empirical titles, and strengthened the position of transformational leadership as one of the main pillars of contemporary leadership theory.



**Figure 2.** Number of Publications on Transformational Leadership

Source: Scopus Database November 2025

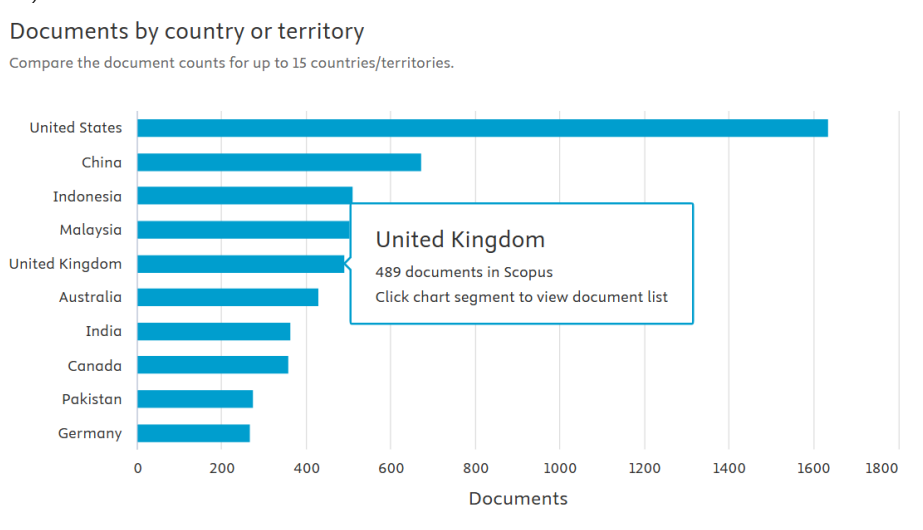
This graph shows the number of documents indexed by Scopus from 1977 to 2029. At the beginning of the period (1977 to 2000), the number of documents was relatively low and stable, ranging from tens to hundreds of documents per year. However, after 2000, the number of documents increased significantly, especially after 2010, with a very sharp spike in 2025, reaching nearly 1,000 documents. This increase reflects an acceleration in scientific

publications, possibly related to technological advances and wider access. At the end of the graph, a sharp decline is seen in 2029, which may be a prediction or an estimate of unrecorded data. Overall, this graph illustrates the rapid growth of publications over the past two decades.

**RQ2: How is the distribution or allocation of research related to Transformational Leadership ?**

Distribution analysis of research on Transformational Leadership in 2,528 The articles were categorized based on classifications such as country, region, affiliation, source, and author, with a limit of only the top 10 articles in each classification. Understanding the allocation of scientific works relevant to Transformational Leadership will benefit academics and practitioners in explaining future research agendas, particularly in the sustainable development of the Transformational Leadership paradigm. Transformational Leadership

First, the allocation of scientific studies related to Transformational Leadership The graph shows the number of documents indexed by Scopus by country or region. The data shows the country with the largest number of documents is the United States, followed by China, Indonesia, and Malaysia. The United States tops the list with a very large number of documents, over 1,800, while China comes in second with a slightly lower number. Indonesia and Malaysia also record significant numbers, demonstrating their significant contribution to Scopus-indexed scientific publications. Other countries, such as the United Kingdom, Australia, India, Canada, Pakistan, and Germany, are also included in the graph, with smaller numbers of documents but still demonstrating their active role in international research and publications. This data reflects the differences in scientific publication contributions between countries, with large countries like the United States and China dominating, while other countries, such as Indonesia and Malaysia, show significant growth in the scientific field (see Figure 2).

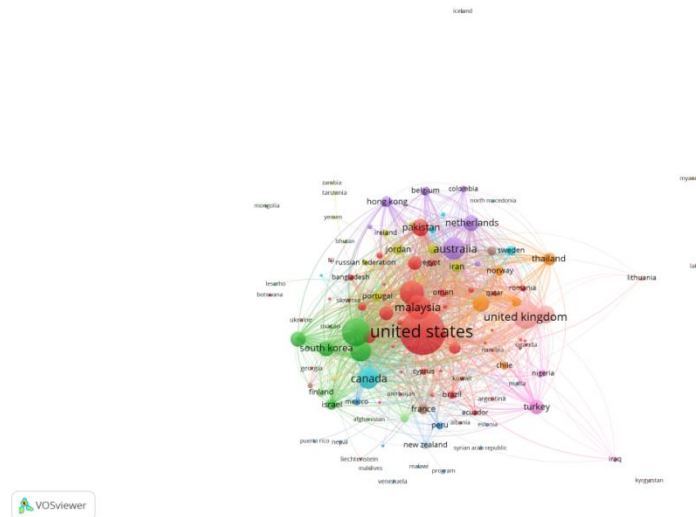


**Figure 3.** Number of Articles by Country or Region (top 10 countries)

Source: Scopus Database November 2025

Distribution of academic research related to Transformational Leadership, shows the number of documents indexed in Scopus by country or region. From the graph, it can be seen that the United States has the largest contribution, with the number of documents more than 1,800, far exceeding other countries. China is in second place with a lower, but still significant number of documents, around 1,200 documents. The following countries, namely Indonesia and Malaysia, show a fairly large contribution, with almost the same number of documents and are in the range of 600-800 documents. The United Kingdom is recorded with 489 documents, ranking fifth in this graph, which shows a fairly significant contribution although lower than other large countries. Below the UK, other countries such as Australia, India, Canada, Pakistan, and Germany recorded a smaller number of documents, each in the range of 100 to 500 documents. Despite their lower numbers, the contributions of these countries remain important in the context of global scientific publications, reflecting their active participation in international research and publications. Overall, the United States and China dominate scientific publications indexed by Scopus, while countries such as Indonesia, Malaysia, and the United Kingdom show significant contributions with a smaller but still relevant number of documents in the global distribution of scientific publications.

This finding shows that the issue Transformational Leadership has attracted attention not only in Muslim-majority countries but also in Western and other countries, reflecting the topic's global relevance. Researchers will also analyze the relationships between countries involved in research on Perceived Usefulness using VOSviewer software. This stage is crucial in formulating a systematic prospective research agenda. The analysis results from VOSviewer indicate a relationship between countries in an investigation of the topic of Transformational Leadership (see Figure 3).



**Figure 4.** Visualization of the Network between Countries

Source: VOSviewer software output

Shows a visualization of the collaborative network between countries in Transformational Leadership scientific publications generated using the VOSviewer tool. The country collaboration map in the study shows that the United States acts as the center of the global network with the highest level of connectivity, followed by the United Kingdom, Australia, Canada, and the Netherlands as large, strongly interconnected clusters. The dominance of these countries confirms that knowledge production and scientific partnerships are still concentrated in the world's major academic centers. Countries such as Malaysia, South Korea, Pakistan, and Turkey appear to be active regional hubs, indicating the expansion of contributions from the Asian region. Meanwhile, several countries such as Iceland, Lithuania and Myanmar are in a more peripheral position with limited collaborative engagement. This pattern indicates that the international research ecosystem develops through dense and interconnected networks, with high-research-capacity countries serving as key drivers that facilitate knowledge flows, multidisciplinary collaborations, and the dissemination of research results to the global level.

Second, the allocation of scientific works related to Transformational Leadership. A table showing the number of documents by institutional affiliation contributing to the research shows that Universiti Utara Malaysia tops the list as the institution with the highest document contributions, followed closely by Binghamton University, State University of New York, and Erasmus Universiteit Rotterdam, highlighting the strong role these institutions play in driving scholarly production. Regionally, Malaysian universities such as Universiti Malaya, Universiti Sains Malaysia, and Universiti Teknologi Malaysia dominate, reflecting a vibrant and competitive national research ecosystem. International affiliates such as Monash University, Arizona State University, The Hong Kong Polytechnic University, and The University of Queensland also exhibit high publication intensity, signaling broad global engagement in related fields. Overall, this distribution pattern illustrates a strong combination of Asian and Western institutions, which together serve as key drivers of knowledge production, while also reflecting the dynamics of increasingly intensive cross-border academic collaboration (see Figure 4).

Documents by affiliation

Compare the document counts for up to 15 affiliations.

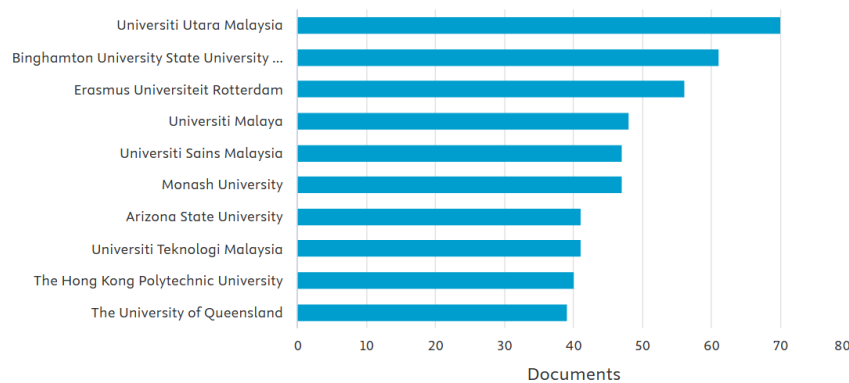


Figure 5. Visualization of the Country Network

Source: Scopus Database November 2025

Third, based on the graph “Documents per year by source” The distribution of the number of documents per source shows different growth dynamics across journals, with the most striking spike occurring in Sustainability Switzerland, which peaked at around 35 documents in 2022 before declining back to the 15–18 range in 2024–2025. Frontiers in Psychology also showed a significant increase, moving from almost no publications before 2015 to around 25 documents in 2023, marking an acceleration in contributions over the past decade. Meanwhile, Leadership Quarterly maintained a more stable pattern with fluctuations between 5 and 15 documents since 2008, reaching around 10 documents in 2021. Leadership and Organization Development Journal recorded a stable production in the range of 5–12 documents per year, with a peak of around 13 documents in 2019. On the other hand, the Journal of Nursing Management showed a moderate trend with the number of publications ranging from 3–10 documents, reaching around 9 documents in 2024. Overall, this pattern shows rapid growth in more multidisciplinary and open journals, while established journals maintain a relatively consistent publication rhythm (see Figure 5).

Documents per year by source

Compare the document counts for up to 10 sources.

[Compare sources and view CiteScore, SJR, and SNIP data](#)



Figure 6. Number of Articles by Source (top 10 sources)

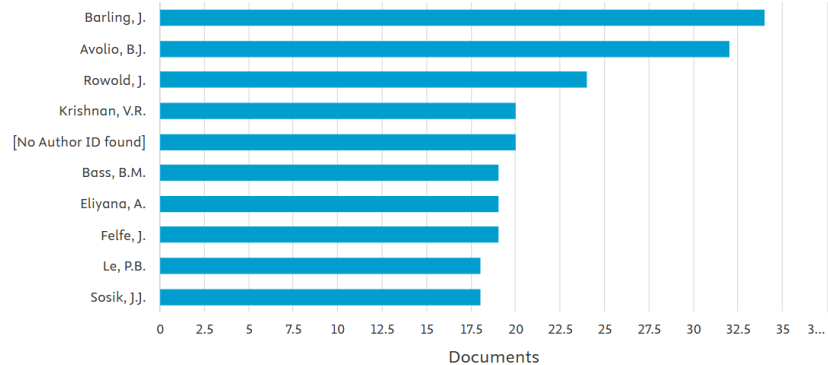
Source: Scopus Database November 2025

Fourth, research distribution Based on the “Documents by Author” graph, displays the number of documents produced by authors based on their contributions to scholarly publications. The data shows that Barling, J. is the highest contributor with approximately 35 documents, followed by Avolio, BJ, who produced approximately 33 documents, confirming their position as central figures in leadership research. Rowold, J. follows with approximately 24 documents, while Krishnan, VR, and a group of publications without clear author identities each recorded approximately 20 documents. Other contributors such as Bass, BM, Eliyana, A., Felfe, J., Le, PB, and Sosik, JJ have a production range of 17 to 19 documents, indicating

fairly consistent involvement in the development of the literature. Overall, this pattern reflects that research in this field is driven by a small number of highly productive authors, while being supported by other researchers who contribute steadily to enriching the academic discourse (see Figure 6).

#### Documents by author

Compare the document counts for up to 15 authors.



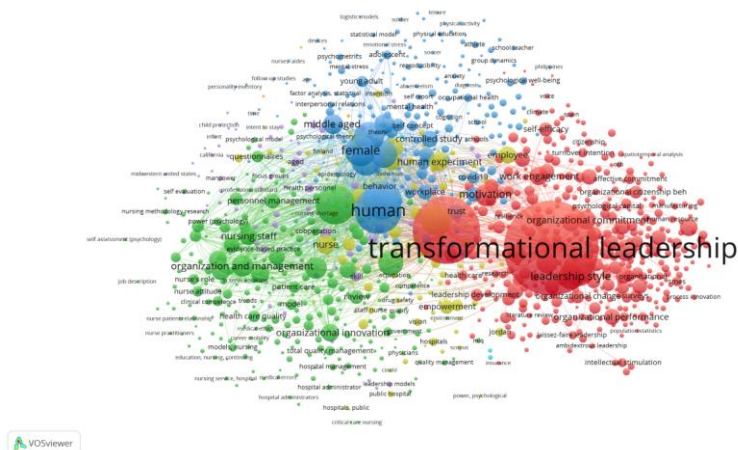
**Figure 7.** Number of articles by Author (10 top sources)

Source: Scopus Database November 2025

### **RQ3: What are the theoretical implications and perspectives for future research?**

This study was conducted on 2,528 articles collected from the Scopus repository. VOSviewer was used to illustrate that the results can have theoretical and pragmatic implications for further research on Transformational Leadership. The results of metadata analysis using VOSviewer will help researchers and practitioners to better understand the assumptions and findings related to Transformational Leadership. The results of bibliometric analysis using VOSviewer can also show which variables have been widely studied by previous researchers and which variables have not been widely explored, so that they can be a basis for future research. From a practitioner's perspective, the results of literature analysis using VOSviewer will help practitioners in implementing Transformational Leadership. sustainably in the future and promote the Transformational Leadership style

Figure 7, a bibliometric mapping network visualization generated using VOSviewer, displays a keyword network visualization map generated using VOSviewer, depicting thematic relationships between research topics. This concept map shows the relationship between transformational leadership and various related topics in the research. The largest cluster (red) that focuses on transformational leadership is closely related to keywords such as organizational commitment, leadership style, and organizational behavior, reflecting a primary interest in the influence of leadership on organizational culture and performance. On the other hand, the blue cluster, which leads to the topic of human experience and motivation, highlights the relationship between transformational leadership and individual psychological factors, such as trust and employee behavior, which focuses more on internal aspects. The green cluster, which leads to organization and management, focuses on broader themes, including innovation and management in an organizational context. Overall, this map indicates that transformational leadership research is not only limited to direct influences on organizations, but also includes individual dimensions, psychology, and managerial innovation.



**Figure 8.** Co-Occurrence Framework and Key Term Representation  
 Source: Output of VOSviewer software

**Table 2.** Keywords by authors

Rank	Keyword	Total Link Strength
1	Leadership	2 6149
2	Human	22039
3	Article	1 5360
4	Job Satisfaction	6412
5	Organization	4792
6	Work environment	1575
7	Work engagement	1544
8	Comparative Study	435
9	Transformasional	656
10	Perception	560

Sumber: Output VOSviewer software

Based on the results of the keyword analysis, "Transformational Leadership" shows the ten main keywords that appear most frequently and have the highest total link strength in the research network analysis. This data shows the distribution of the strength of the relationship between various keywords in leadership-related research. Leadership dominates with a total link strength of 26,149, confirming that this is the main theme in the study, followed by Human with 22,039, which shows the importance of psychological and social aspects in the context of leadership. The keyword Article is ranked third with 15,360, reflecting the large volume of articles discussing this theme. The keyword Job Satisfaction with 6,412 reflects a significant focus on the relationship between leadership and job satisfaction. Organization (4,792) shows the relevance of organizations in leadership research, while Work Environment and Work Engagement recorded figures of 1,575 and 1,544, indicating a more specific relationship with job factors. Comparative Study and Transformational had lower scores, 435 and 656, respectively, indicating that while these topics are important, they are more focused and less broadly defined than the main keywords. Perception, at 560, adds a psychological dimension to understanding individual perspectives on leadership. Overall, these data reflect that leadership research focuses heavily on its impact on individuals within organizations, as well as related factors such as job satisfaction and the work environment.

**5. Conclusion**

This study examined 2,528 academic publications sourced from the Scopus repository and Transformational Leadership explains five main conclusions, namely: First, research related to relatively rare, since 1977, literature on Transformational Leadership is still limited due to the lack of research published in reputable journals. Second, the study on Transformational Leadership shows that Overall, it shows the active involvement of universities in Indonesia together with international institutions in producing scientific publications in the field studied. Third, research on Transformational Leadership, that the United States has the largest contribution, with the number of documents more than 1,800, far exceeding other countries. China is in second place with a lower, but still significant number of documents, around 1,200 documents. The following countries, namely Indonesia and Malaysia, show a significant contribution, with a number of documents that are almost

equal and are in the range of 600-800 documents. The United Kingdom is recorded with 489 documents, ranking fifth in this graph, which shows a significant contribution although lower than other large countries. Finally, the researchers also acknowledge that this study has several limitations. First, this study only uses publications taken from the Scopus database, which may have limitations in terms of generalization. It is hoped that further research will combine findings from the Scopus and Web of Science databases to enhance the comprehensiveness of the research findings. Future research could also explore other areas within this discipline to enrich the findings. Finally, although the researchers implemented a rigorous methodology to reduce interpretation bias, future studies could employ new research techniques that could complement the findings of this study.

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