

Sustainable Leadership on a Global Scale: A Bibliographic Analysis and the Evolution of Key Concepts

Küresel Düzeyde Sürdürülebilir Liderlik: Bibliyografik Bir Analiz ve Temel Kavramların Evrimi

*Artür Yetvart MUMCU**

Başvuru Tarihi: 21.11.2024

Kabul Tarihi: 11.12.2024

Makale Türü: Araştırma Makalesi

Abstract

The perspective of sustainable leadership is broadly covered in this investigation, which aims to uncover the main topics and the relations among them in the literature. The research underlines the trends and the thematic specifics in sustainable leadership studies through bibliographic analysis and keyword mapping using VOSviewer software. With the focus on the economic, environmental, and social dimensions of sustainable leadership, the article thoroughly gives the exposition of this multidimensional leading paradigm. The results emphasize the efforts of the leaders who develop strategies for economic sustainability, reduce the environmental impacts, and at the same time, improve social welfare. Besides, the study looks into the effects of digital transformation and the COVID-19 pandemic on the practices of sustainable leadership. The focus during the pandemic is on the leaders' crisis management skills, emphasis on the wellness of employees, and ability to strengthen organizational resilience which are discussed in detail. The results throw light on how sustainable leadership practices can effectively impact various areas like strategic management, employees' involvement, and green innovation. Finally, the study not only stresses the sustainable leadership but also the new paths for future research in the field of modern leadership theories.

Keywords: Sustainable Leadership, Sustainability, Leadership, Bibliography

* Dr. Öğr. Üyesi, İstanbul Kültür Üniversitesi, a.mumcu@iku.edu.tr, ORCID: 0000-0002-2276-0145

Özet

Bu araştırma, sürdürülebilir liderlik kavramını geniş bir perspektiften ele alarak, literatürdeki anahtar temaları ve kavramsal bağlantıları ortaya koymayı amaçlamaktadır. Çalışma, bibliyografik analiz ve VOSviewer yazılımıyla gerçekleştirilmiş kapsamlı bir anahtar kelime incelemesiyle, sürdürülebilir liderlik literatüründeki eğilimleri ve tematik yoğunlukları analiz etmiştir. Araştırma, sürdürülebilir liderliğin ekonomik, çevresel ve sosyal boyutlarına odaklanarak, bu liderlik modelinin çok boyutlu yapısını detaylandırmıştır. Veriler, liderlerin ekonomik sürdürülebilirlik stratejileri geliştirme, çevresel etkileri azaltma ve sosyal refahı artırma çabalarını ortaya koymuştur. Ayrıca, dijitalleşmenin ve COVID-19 pandemisinin sürdürülebilir liderlik uygulamaları üzerindeki etkileri analiz edilmiştir. Pandemi sürecinde liderlerin kriz yönetimi yetenekleri, çalışan refahını önceliklendirme ve örgütsel dayanıklılığı artırma kapasiteleri detaylı olarak değerlendirilmiştir. Çalışmanın bulguları, sürdürülebilir liderlik uygulamalarının stratejik yönetim, çalışan bağlılığı ve çevre dostu inovasyon gibi kritik alanlarda nasıl etkili olduğunu göstermektedir. Sonuç olarak, araştırma, sürdürülebilir liderliğin modern liderlik teorilerindeki yerini güçlendirmiş ve bu alandaki gelecekteki çalışmalara yeni perspektifler sunmuştur.

Anahtar Kelimeler: Sürdürülebilir Liderlik, Sürdürülebilirlik, Liderlik, Bibliyografi

Introduction

Sustainable leadership (SL) is a technique of leadership in which the leaders decide not only to concentrate on the financial benefits but to integrate environmental and social responsibilities into their strategic plans (Avery and Bergsteiner 2011). The change in the leadership styles is the decision that has to be made by the leaders to work with a multidimensional perspective that is related to the goals of sustainable development (United Nations 2015). SL is a management philosophy that balances the need for profit with the duty to protect the natural resources, care for the employees, and support the social equity (Epstein and Buhovac 2014).

It is imperative to acquire knowledge about the historical evolution of leadership theories as a primary necessity in understanding the elementary components of SL. According to Stogdill (1948), leadership is more related to the context and behavior than to the personal skills. Bass (1985) proposed transformational leadership as a concept, particularly focusing on leaders' potential to envision, motivate and lead change. Nevertheless, transformational leadership is primarily focused on sustainability and often ignores social and environmental impacts. The environmental leadership

model created by Egri and Herman (2000) is one of the most significant early models promoting leaders' environmental liabilities and not only that, but it also represents the origins of SL.

Avery and Bergsteiner (2011) "Honeybee Model," a leadership approach developed by these authors, is based upon SL literature. This is a systematic layout of this leadership model which prescribes strategies focusing on long-term value creation rather than short-term profits. The intention of SL is not only to change individual decisions but also to reposition organizational processes and social practices (Freeman 1984). Committed to stakeholder theory, it claims that in addition to the shareholders, leaders should take into account the interests of all stakeholders as well (Donaldson and Preston 1995).

The role of SL has been explicated greatly in digital transformation and global crises times, which have taken place in the past years. Findings acquired during the COVID-19 period showed the central position of sustainable leaders in the process of enhancing employee well-being and resilience of the organization in times of crisis (Davis, Wang, and Tsaoussidis 2022). The pandemic has made it clear that leaders must give priority to employees' health, safety, and psychological well-being, thereby proving that SL is not only a financially driven approach (Bennett, Lemoine, and Martin 2021). Digital sustainability, in contrast, refers to that approach to the use of technology being environmentally friendly and at the same time increasing efficiency (Westerman, Bonnet, and McAfee 2014).

The other major focus on SL literature is social sustainability. The theme contains components such as employee well-being, equality, social inclusion, and organizational ethics (Kim and Scullion 2013). Literature has it that trust in leaders and the commitment of leaders to sustainable practices are two major factors contributing to rising organizational loyalty and employee satisfaction (Hargreaves and Fink 2006). The concept of environmental sustainability gives emphasis to leaders conserving natural resources and promoting environmentally friendly practices, often associated with "green innovation" and "circular economy" models (Lozano 2018).

The main objective of this paper is to reflect on SL literature from a broader perspective, to examine the current state of research, to find out which themes are considered to be new, as well as to establish the possible conceptual connections that the literature indicates. By pointing out the inadequacies in the literature and promoting newly developed areas of study, it will give more comprehensive reasons for the underlying central position of SL in the area of modern leadership theories.

Literature Review

Sustainable Leadership

Sustainable leadership (SL) is a paradigm of leadership in which decision-making is done by leaders through addressing not only the financial results of their organizations but also their environmental and social consequences. The leadership principle diverges from the traditional short-term profit-oriented models by aiming for the creation of value over the long term, thereby stating its distinction. The root of the concept can be traced back to the alteration of leadership theories in the 20th century.

Over the years since the 1950s, studies on leadership have shifted from concentrating on leader characters to including the effects of situations and contexts (Stogdill 1948). The 1980s, which was when transformational leadership became popular, emphasized the skills of the leaders in motivating and guiding societies to change (Bass 1985). Nevertheless, many have noted that transformational leadership is focused on economic growth while not considering the question of sustainability.

Gradually, the idea of SL was widely used starting in the 2000s. Egri and Herman (2000) were the ones to first bring in the idea of environmental leadership which directed attention toward the value of environmentalist forms of leadership and which indeed led to the SL debate. Next, Hargreaves and Fink (2006) contended that SL has to consist of not just economic success but also ecological and social duties. Avery and Bergsteiner (2011) Honeybee model laid out the SL theory systemically and made it more practical. The model suggests that CEOs are required to not only create wealth for their firms but also for stakeholders and the earth.

Lately, SL has also been re-evaluated within the framework of digitalization, global crises, and the sustainable development goals. The COVID-19 pandemic, in particular, has emphasized the need for leaders to prioritize employee well-being and social sustainability (Davis et al. 2022). The notion of digital sustainability is a manifestation of how management practices can help the environment through the reduction of energy usage and waste generation (Bennett et al. 2021). However, this historical viewpoint does not arise from a vacuum: it is SL that invigorates its relevance in modern literature and that paves the way for further research.

The SL grounding comes from three primary concepts: economic sustainability, environmental sustainability, and social sustainability. Economic sustainability refers to the creation of a long-term strategy which is imbued with profitability, while environmental sustainability is about the proper use of resources (Bhutto 2024). Social sustainability entails ethical governance, social equity, and employee well-being (Ajmal et al. 2018). These dimensions should be considered in a negotiable manner when making decisions as leaders. Avery and Bergsteiner (2011) Honeybee Model is a

depiction of these schemes; it explicitly lays out a framework for SL that privileges the long-term creation of value as opposed to the short-term profitability.

The literature on SL highlights the direction in which ethical practices of leaders affect the performance of organizations. Brown and Treviño (2006) study that the ethical leadership being a positive growth driver to the employee engagement level and organizational citizenship behaviors. Additionally, increases in the SL strategies not only translate into better long-term financial health but also have positive impacts on the corporate reputation and stakeholder satisfaction (Suriyankietkaew and Avery 2016). Above all financial outcomes, SL also influences the company's reputation and the satisfaction of its stakeholders.

Moreover, employee impacts generated by SL have received close attention in the studies. Employee trust in the leaders is directly explained by the leaders' long-standing commitment to sustainability (Kim and Scullion 2013). The trust of employees is bolstered and the intention to leave is lowered because of this. What is more, the SL practices seem to have the effect that fosters stronger organizational commitment and a sense of community among the employees (Davis 2020).

In their recent studies, the relationship between SL and digital transformation has also been investigated. Bennett et al. (2021) underscore that digital sustainability creates a new research avenue for incorporating eco-friendly practices into digital workspaces. On the other hand, during the time of the COVID-19 pandemic, it was the sustainable leaders who proved to be effective in crisis management and the well-being of employees being their priority (Haque 2021). During this time, not only did the leaders concentrate on monetary goals but they also provided resources that would benefit the physical and mental health of the employees.

In summary, the literature on SL explores the theoretical and practical aspects of this leadership model. It brings forward the vital tools for leaders to construct long-term flourishing strategies by addressing not only economic but also environmental and social aspects. In the future, the studies are anticipated to delve more into the cultural applicability of SL, as well as its association with technological advancements. Under the same tones, SL emerges as a remedy for the intricate organizational and environmental challenges during the 21st century.

Methodology

In the current research project, qualitative methodology and content analysis are the main tools used. Content analysis is a systematic research process which is conducted to locate the structures and hidden meanings in electronic texts (Elo and Kyngäs 2008; Krippendorff 2004). Thus, the content

analysis specifically identifies the words and phrases which are common in the literature on "sustainable leadership" by looking at their in the titles and abstracts of articles indexed in the Web of Science (WOS) database.

This bibliographic review is prepared by systematically analyzing data collected through an extensive literature review (White et al. 2006). The understanding of bibliographic reviews as an appropriate method to identify the main themes, trends, and gaps in a field or topic based on the existing publications by thoroughly assessing literature is supported by Tranfield, Denyer, and Smart (2003). To guarantee the highest quality of contributions in the literature, the research was conducted on English-language scientific articles exclusively available on the Web of Science database (Zhu et al. 2021).

At first, a literature search was made with the keyword "sustainable leadership" in the Web of Science database. This was an overview of the releases related to the issue from 2002 to 2024. Research articles with the identified key terms in the titles were selected, with only scientific articles written in English included.

A list of keywords and corresponding network maps were created for each of the concepts studied. A keyword was featured in the network map only, if it was found in at least five articles, hence the study results were based on solid literature (Van Eck and Waltman 2010). The outstanding phase of the study was to depict the relationships among keywords laid-out using VOSviewer software. It is an excellent tool for bibliometric analysis that allows creating the visual map of the keyword's frequencies and their relations in the literature. So, network maps were devised for this research by emphasizing on the keywords most commonly appearing in SL studies Leydesdorff and Rafols (2009).

This methodological strategy is designed to systematically analyze the notion of SL by thoroughly investigating the existing literature at the keyword level. Thus, the project will highlight the literature gaps for future research by providing valid evidence (Flick 2018).

Findings

Network Analysis

The study's findings are as follows. The research effort that was carried out identified 329 papers that the expression "sustainable leadership" was included in their titles. As far as these 329 articles are concerned, the number of keywords was 933 in total. The references like the study, network maps, and keyword lists were obtained. In the keyword list the similar concepts were combined to form the

oriented themselves in the context of sustainability making SL move beyond the traditional leadership methods. In the text, leadership and sustainability come together in instances such as teamwork, ethical values, and long-term strategic planning, which are in fact forms of leadership change that focus not only economic achievements but also social and environmental ones.

Key terms such as "corporate sustainability" and "sustainable development" occupy important places in the map, thus showing their direct link with the organizational sustainability and development goals. The phrase "corporate sustainability" highlights the organization's endeavors which are in place to reduce the environmental impact and implement sustainable practices in corporate processes. This is the course observed in combination with "green innovation" and "sustainable entrepreneurship," pointing out that SL is not only influential for individual choices but also for reshaping the organizational processes and strategies.

The map carries out the presentation of the social aspects of SL as well. Terms such as "social sustainability," "employee well-being," and "social justice" are significantly featured in the literature by showing the relationship between leadership practices and employee welfare and social equity. This view underlines the positive impact of sustainable leaders on trust-building, inclusivity, and social-responsibility in organizational cultures. The three particular issues are teamwork, empowerment and job satisfaction, which again show how the acceptance men and women are given in terms of empowerment leads to the commitment they feel towards the organization.

The connection between education and leadership is another essential point on the map. Terms like "education for sustainable development" and "higher education" reveal how SL is a part of the educational settings. Furthermore, the literature strongly underlines the significant part of educational establishments and leadership programs in nurturing individuals with an attitude oriented towards sustainability. Moreover, the specifics like "school management" and "talent management" tend to mark the application of SL in educational leadership and talent management and further state its worth in other than the business sphere fields of study and society.

A further field of interest that stands out is the environmental and economic aspects of SL. Terms like "circular economy" and "green innovation" bring to the fore the essential environmentalist orientation that SL bears. These terms insist upon the overall leadership approach and good practice of environmental resources' effective use and carbon reduction that flows from them. In a like manner, the terms "emerging economies" and "developing country" hint at the pivotal part SL could play in the global economy of the future.

The COVID-19 pandemic is one of the major factors that have become a new area of discussion in SL studies. The term "COVID-19 pandemic" has a unique place in the network map as it marks the intersection leader's strategies have taken during the crisis and the role sustainable leaders play in the crisis's management as well as the impact of those strategies on employee's welfare. In this context, SL is contemplated as a closely associated model with the idea of protecting the physical and psychological employees through crises.

Lastly, emotional intelligence and communication are terms that stress the significance of interpersonal connections in SL literature. Emotional intelligence is interlinked with the capacity for empathy on the leader's side to realizing employees' emotional needs which are crucial for motivating people in a proper manner. As for communication, it refers to the adequacy of leaders to state green plans properly and with the collaboration that follows.

The network map stands as testimony to the overwhelmingness of the SL literature sprawling all over the economics, social, environmental, and educational fields. The multidimensionality organizational questions SL research forms a great academic and practical domain for carrying out relevant and trending research. The connections and clusters shown in the map offer a helpful orientation to updated literature stock and focus points for ensuing research.

Keyword Analysis

A keyword analysis was performed, and, thus, the frequently used keywords in SL were identified and their distribution was examined. The key concept of the study was to find out the main phenomena in the literature referring to the SL and also the relationships between these concepts.

The analysis of the keywords is an important means of finding out the thematic structures in a certain field of literature. In the case of SL, this analysis aims to determine conceptual trends, highlight topics that receive greater emphasis, and identify concepts that occupy a central position within the literature. Moreover, it provides a critique which is meant to highlight the areas in SL literature that have not been properly covered or are still underexplored.

Table 1: Sustainable Leadership Keyword List

Keyword	Occurrences	Total link strength	Percentage
Leadership	66	148	7%
Sustainability	48	110	5%
Education	37	62	4%
Sustainable Development	27	79	3%
Environmental Sustainability	19	40	2%
Organizational Culture	11	38	1%
Leadership Development	10	17	1%
Corporate Sustainability	9	38	1%
Thailand	9	43	1%
Transformational Leadership	9	25	1%
Inovation	8	27	1%
Strategies	8	24	1%
Sustainable Performance	7	17	1%
Methodology	6	11	1%
Smes	6	18	1%
Asia	5	21	1%
Competitiveness	5	12	1%
Covid-19	5	7	1%
Emerging Economies	5	9	1%
Knowledge Management	5	16	1%
Sufficiency Economy	5	25	1%

Source: Prepared by the author

Note: The table above includes the top 1% of the most frequently repeated keywords. The full list is provided as an appendix.

This research included a keyword frequency analysis to study the main keywords in the SL literature and their interrelations. The analysis investigated the concepts that were at least in the top 1% of the entire dataset. These results give a picture of how keywords related to SL are distributed and the correlation between these terms.

Using keyword analysis, we find the concepts that occupy a dominant position in the SL literature and the thematic trends as shaped by their connections. Maximally cited keyword is “leadership,” which appears 66 times, including a total link strength of 148, thus it is the most central term in this field. This fact is indicative of the base function of leadership in the ministry of SL. With terms making up 7% of the total, leadership goes hand in hand with sustainability and is the main connecting link to other central ideas, demonstrating the power of leadership in the field of study.

The term "sustainability" comes next, occurring 48 times with a link strength of 110. It represents 5% of the total and sustainability as a concept is the one that highlights the unification of ethical, environmental, and economic factors and their application to leadership, besides frequently co-occurring with leadership in literature.

"Education" comes in the third position, being addressed 37 times with a link strength of 62 and constituting 4% of the total keywords. This symbolizes the concentration on the SL's effect in the sphere of education, especially in regard to the sustainable development goals. Education is recognized as a main topic in explaining the development of leadership and the relationship it has with sustainable systems.

The term "sustainable development" has 27 occurrences with a link strength of 79, which means it accounts for 3% of the total terms. This is a reflection of the relation between the leadership conduct and the achievement of the developmental aims. It highlights the association between the social and environmental goals as well as the corporate success.

"Environmental sustainability," which is reflected in 19 occurrences with a link strength of 40, makes up 2% of the total keywords. This idea is often linked to green innovations and sustainable entrepreneurship, which is a more precise area of study compared to wider topics like leadership and education.

"Phrases such as "organizational culture" and "leadership development" which are mentioned 11 and 10 times each, accounting for 1%, highlight such concepts as organizational structure and leadership training, which are elements of the enterprise to promote sustainability."

"Corporate sustainability" or "transformational leadership" are the ones that both appear nine times each, reflecting the integration of sustainable practices into corporate strategies and the role of transformational leadership in advancing sustainability goals. Both represent 1% of the total, emphasizing their significance in linking leadership to corporate sustainability.

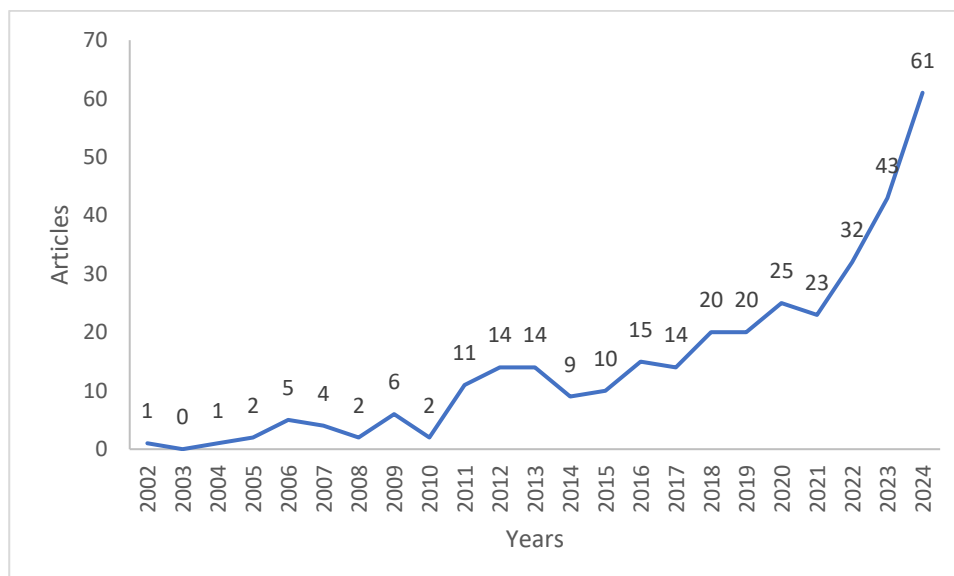
Other relevant terms such as "strategies," "innovation," and "sustainable performance" indicate that the management of innovation, strategy, and performance is a key part of SL activities, as they come out between 7 and 8 times.

Some words, like "Covid-19" and "emerging economies," are the least covered, each with a frequency of 5. These terms showcase the consequences of the pandemic on leaders' strategies and the adjustment of SL practices in developing countries. The term "sufficiency economy" also points to the correlation between economic sufficiency and SL.

At the same time, the analysis has confirmed that the literature on SL is mainly associated with fundamental issues like leadership, sustainability, education, and development as well as showing the subareas like environmental sustainability, corporate strategies, and leadership development. Specific topics of the pandemic effect and SL practices in emerging economies among others also were pointed out. The findings show that the concepts in SL research are not only interconnected but also the literature presents a broad thematic scope as well.

Trend Analysis

Graphic 1: Trend Analysis



Source: Prepared by the author

The trend of the studies on sustainable leadership which have been made from the year 2002 to the present is arranged year by year and analyzed; The yearly distribution of these studies is as follows: In 2002, with the first use of the concept, 1 article was published. In 2003, no publications were found. In 2004 and 2005, 1 and 2 articles were published, respectively. In 2006, 5 articles were published, while in 2007, this number dropped to 4. In 2008 and 2009, 2 and 6 articles were published, respectively. In 2010, 2 articles were published, and in 2011, this number increased to 11. In 2012, 2013, and 2014, the number of published articles was 14, 14, and 9, respectively. In 2015, 10 articles were published, and in 2016, this number rose to 15. In 2017, 14 articles were published, while in 2018 and 2019, 20 articles were published each year. In 2020, the number of published articles increased to 25. In 2021, 23 articles were published, and in 2022, this number rose to 32. In 2023, 43 articles were published, and in 2024, the number reached 56. A total of 329 articles were analyzed.

The information we have suggests that the academic studies that include the concept of sustainable leadership were first presented in the year 2002, and the curiosity related to this topic has grown over the years. The most outstanding fact is that a considerable increase in the number of studies that deal with the matter of sustainable leadership has been seen since the year 2020. This upward trend in research marks the beginning of the establishment of the concept as a subject that is deemed to play an ever-larger part in academic circles and practical application, resultantly giving rise to an expanse of the study field.

Conclusion

Unlike the others in the literature, this piece has gone the extra mile of closely looking into the scope and the multi-thematic richness of the concept SL, making it remarkably different from the rest. Although the predominant context of studies on SL is a material one, the present research takes an analytical approach providing a brief but significant discussion of the different dimensions of the economy, society, and the environment as the main theme. Consider for example the works of Avery and Bergsteiner (2011) who developed the "Honeybee Model" that systematically categorizes SL practices by outlining 23 leadership principles that emphasize long-term value creation. This research, however, goes beyond the model by dealing with more profound issues and the variety of leadership applications found in the literature.

Egri and Herman's (2000) leadership study deals exclusively with environmental responsibilities and the narrower view which is solely environmental leadership. Reflected as a contrast, the current

research study incorporates along with social sustainability the employee well-being which offers the greater view of SL. Also, Hargreaves and Fink (2006) pointed out that SL plays a major role in the education sector; the leadership is the central factor in promoting sustainable practices in schools. This piece of work builds on their findings with the addition of the exploration of topics like the digitalization and the effects of the pandemic on the leadership in the educational contexts.

Epstein and Buhovac (2014) offered research concerning the link between corporate sustainability and leadership, as well as the findings that organizations create better financial outcomes through SL strategies. Notably, while their work is propriety-focused, the present paper brings together social, environmental, and financial dimensions into a single framework thus fostering a more extensive understanding of corporate sustainability within the literature.

Leadership during the pandemic was also a topic of research such as Davis et al. (2022) who pointed out that the essential leaders of sustainable development took care of the employees' well-being and their resilience amidst the crisis. This study echoes their findings while it broadens the context to discuss SL's role in reaffirming social solidarity and well-being in the times of crises. Further, Bennett et al. (2021) brought the topic of digital sustainability into the leadership literature. This research piece introduces this perspective more broadly through the investigation of both environmental and social effects of the digital transformation of SL practices.

The survey report depicts that the idea of sustainable leadership appeared in academic studies for the first time in 2002 with the publishing of an article. At this point, the term was introduced into the scholarly conversation and since it has ever been alive. Afterward, it went unnoticed for a while, as the sporadic rates of publication between 2003-2009 suggest. For example, there was no publication in 2003, and in most of the years until 2009 only one or two articles were delivered on average. The statistics imply that the concept had barely reached the academic community at that time.

A remarkable rise in papers published occurred from the year 2010 and forward when the total number of articles climbed to 11 by 2011 and remained stable at around 14-15 papers per year between 2012 and 2016. This has been the period when the idea of sustainable leadership gained its first foothold and began to be recognized as an area of research. Possibly the environmental leadership, the ethical leadership, and the embedding of sustainability in leadership practices have been the key factors behind the constant rise.

Between 2017 and 2019, the situation witnessed an actual leap which saw the annual publication count of 20 articles per year. This in no small measure indicates the point at which leadership and sustainability became integrated into the fields of corporation, education, and social responsibility.

A comparative analysis of the most attractive area and the least interesting period of research discloses that the greatest spike in interest began with the year 2020. The numbers of the published articles rose to 25 in 2020, 32 in 2022 and the peak was set at 56 in 2024. The massive jump can be accredited to global occurrences like the COVID-19 pandemic, which underlined the importance of resilience in leadership, employee well-being, and being grounded in sustainability principles. Furthermore, the digital transformation was seen as the main developing factor and the integration of it with the goals of sustainability has been the major cause of academic interest rocketing during this period.

This increase serves to characterize the process by which sustainable leadership has developed from a niche topic in academia into a crucial affiliate of inter-disciplinary research. The integration of the approach in multiple spheres, such as business, education, and public policy, notifies of the issues of modernity it addresses. More and more studies of sustainable leadership reveal that the idea shifts and changes with the times thus entering the field of new technology, world crises, and the targeting of sustainable development goals.

Indeed, the trend analysis has shown the rising popularity and-potential for growth--sustainable leadership is the most discussed mode in academic writing. The steady growth in publication, especially in the last few years, is a clear indication of the field's challenge to promote sustainability in all three aspects—economics, society, and the environment. The aforementioned development brings a bright future for the research area of sustainable leadership, for instance, in developing countries, technological transformation, and the global sustainability endeavor.

In contrast to these studies, this research is the one that brings the four main sections: economic, social, environmental, and digital into a multidimensional framework of SL. Additionally, it reveals new insights into the pandemic's effects on leadership practices, SL strategies in emerging economies, and crisis management. While the previous studies have concentrated on a single context, this work is unique in showing how SL can be applied in various sectors and thereby broadens the conceptual framework.

In this sense, the study represents the development of a bridge in the literature of SL, which joins the academic theories with the practical processes. Becoming the focal point of modern leadership theories reflects the argument that SL theory has made through its support of evidence from earlier studies. Hence, this study both enriches the literature and also presents a design for future studies on SL.

The study shows that the findings related to the sustainability leadership literature are not only insightful but also subject to certain limitations. One of the limitations is that the study only includes

English-language scientific articles that are indexed in the Web of Science database. This exclusion of the studies includes the ones in different languages or from other databases that are not available in the analysis. Future research can explore global SL trends from a wider perspective through the examination of literature in different languages and the use of diverse databases.

Secondly, the study utilizes keyword analysis for the conceptual connectivity search. This method is not only a fast way to discover them but also a reliable one. However, it does not give an in-depth qualitative or case study-based insight into the implementation of SL in practice. Future research could incorporate case studies or qualitative interviews of the real-world application of SL and thus give a better understanding of the experiences of the leaders.

Thirdly, the study expands the economic, social, environmental, and digital dimensions of SL in a general framework. Religion, on the other hand, presents the fountain of knowledge on every one of these perspectives, which makes it all the more important to thoroughly investigate them. The future research agenda could consist of one or more of these dimensions to offer a more sophisticated analysis of SL in particular contexts.

A potential recommendation for future studies is that the comparative analysis could measure the implementation of SL in different cultural environments and the impact of these settings on the leadership strategies. Quantitative methods and simulation-based techniques could also be utilized to demonstrate the effectiveness of technological change on SL in such projects. They would also help in the identification of the thematic gaps in the literature and the further practical application of SL concepts.

References

- Ajmal, Mian M., Mehmood Khan, Matloub Hussain, and Petri Helo. 2018. "Conceptualizing and Incorporating Social Sustainability in the Business World." *International Journal of Sustainable Development & World Ecology* 25(4):327–39.
- Avery, G. C., and H. Bergsteiner. 2011. *Sustainable Leadership Practices*. Routledge.
- Bass, B. M. 1985. *Leadership and Performance Beyond Expectations*. Free Press.
- Bennett, N., G. J. Lemoine, and C. Martin. 2021. "Digital Sustainability and Leadership Practices in the Digital Era." *Journal of Business Research*.
- Bhutto, Sara Malik Shaheed Zulfikar Ali. 2024. "Sustainability in Business Management: Strategies

- for Long-Term Success.” *Journal for Business Research Review* 2(1):39–50.
- Brown, M. E., and L. K. Treviño. 2006. “Ethical Leadership: A Review and Future Directions.” *Leadership Quarterly*.
- Davis, T. 2020. “Long-Term Value Creation Through Sustainable Leadership.” *Journal of Business Ethics*.
- Davis, T., S. Wang, and C. Tsaoussidis. 2022. “Leadership Resilience and Employee Well-Being during COVID-19: A Sustainable Leadership Approach.” *Journal of Business Ethics*.
- Donaldson, T., and L. E. Preston. 1995. “The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications.” *Academy of Management Review* 20(1):65–91.
- Van Eck, Nees, and Ludo Waltman. 2010. “Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping.” *Scientometrics* 84(2):523–38.
- Egri, C. P., and S. Herman. 2000. “Leadership in the North American Environmental Sector: Values, Leadership Styles, and Contexts of Environmental Leaders and Their Organizations.” *Academy of Management Journal* 43(4):571–604.
- Elo, Satu, and Helvi Kyngäs. 2008. “The Qualitative Content Analysis Process.” *Journal of Advanced Nursing* 62(1):107–15.
- Epstein, M. J., and A. R. Buhovac. 2014. *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts*. Berrett-Koehler Publishers.
- Flick, Uwe. 2018. “Triangulation in Data Collection.”
- Freeman, R. E. 1984. *Strategic Management: A Stakeholder Approach*. Cambridge University Press.
- Haque, Amlan. 2021. “The COVID-19 Pandemic and the Role of Responsible Leadership in Health Care: Thinking beyond Employee Well-Being and Organisational Sustainability.” *Leadership in Health Services* 34(1):52–68.
- Hargreaves, A., and D. Fink. 2006. *Sustainable Leadership*. Jossey-Bass.
- Kim, S., and H. Scullion. 2013. “The Role of Leadership in Sustainable Human Resource Management.” *Human Resource Management Review* 23(3):259–69.
- Krippendorff, Klaus. 2004. “Reliability in Content Analysis: Some Common Misconceptions and Recommendations.” *Human Communication Research* 30(3):411–33.

- Leydesdorff, L., and I. Rafols. 2009. "A Global Map of Science Based on the ISI Subject Categories." *Journal of the American Society for Information Science and Technology* 60(2):348–62.
- Lozano, R. 2018. "Sustainable Business Models: Providing a More Holistic Perspective." *Business Strategy and the Environment* 27(4):577–84.
- Stogdill, R. M. 1948. "Personal Factors Associated with Leadership: A Survey of the Literature." *Journal of Psychology* 25(1):35–71.
- Suriyankietkaew, Suparak, and Gayle Avery. 2016. "Sustainable Leadership Practices Driving Financial Performance: Empirical Evidence from Thai SMEs." *Sustainability* 8(4):327.
- Tranfield, David, David Denyer, and Palminder Smart. 2003. "Towards a Methodology for Developing Evidence-informed Management Knowledge by Means of Systematic Review." *British Journal of Management* 14(3):207–22.
- United Nations. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. United Nations.
- Westerman, G., D. Bonnet, and A. McAfee. 2014. *Leading Digital: Turning Technology into Business Transformation*. Harvard Business Review Press.
- White, Marilyn Domas, Emily E. Marsh, Emily E. Marsh, and Marilyn Domas White. 2006. "Content Analysis: A Flexible Methodology." *Library Trends* 55(1):22–45.
- Zhu, Ruifang, Mengyue Liu, Yanbing Su, Xin Meng, Shifan Han, and Zhiguang Duan. 2021. "A Bibliometric Analysis of Publication of Funded Studies in Nursing Research from Web of Science, 2008–2018." *Journal of Advanced Nursing* 77(1):176–88.