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**Nemzetközi tudományos konferencia**
**a Magyar Tudomány Ünnepe alkalmából**
International Scientific Conference
on the Occasion of the Hungarian Science Festival

**Sopron, 2023. november 23.**
23 November 2023, Sopron

# FENNTARTHATÓSÁGI ÁTMENET: KIHÍVÁSOK ÉS INNOVATÍV MEGOLDÁSOK

SUSTAINABILITY TRANSITIONS: CHALLENGES AND INNOVATIVE SOLUTIONS

**Szerkesztők** / Editors:
**OBÁDOVICS Csilla, RESPERGER Richárd, SZÉLES Zsuzsanna, TÓTH Balázs István**

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# Trends in Sustainable Leadership

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**Abstract:**
Over decades different leadership styles have been the topic for researchers worldwide. In the last few years, the catch phrase "sustainable leadership" has reached an ever-growing importance due to realizing the limitation of resources and environmental issues. Sustainable leadership is therefore understood as a leadership-style which uses KPIs of organizational performance with regards of social, environmental and economic results next to usual ones. The most outstanding bibliometric review by Philipp Hallinger and Suparak Suriyankietkaew (2018) describes the trends of the research in context of sustainable leadership from the 1990s until 2018. Using techniques like co-word analysis the research concluded that there are mostly co-occurrences to information management, corporate sustainability as well as transformational leadership. The results of this study were based on USA and Europe. As a continuation of the research, this paper follows a comparable approach defining the latest trends in research of sustainable leadership, focusing on Europe. It focuses on the published articles of the ongoing year 2023 by using a similar to the original approach with the help of AI-based research techniques. The intention of this study is to identify whether new trends emerged and if there is a match between AI-based research and already established researching techniques.

**Keywords:** sustainable leadership, co-word analysis, bibliometric review
JEL Codes: C99, G34, O32, Q56, M14

## 1. Introduction

Describing and researching different leadership styles has always been an important part of science. Over the years, this has led to the development of various terms for different leadership styles. In addition to leadership styles such as authoritarian or transformational leadership, the term sustainable leadership has also gradually become established (Hallinger & Suriyankietkaew, 2018). In this context, sustainable leadership consists of a leadership style that is aware of the limited resources of the environment and the planet and adds key figures and parameters accordingly to the KPIs already in use. There is also much talk of a "triple bottom line", in which factors such as social, environmental and economic aspects are summarised (Colbert & Kurucz, 2007). Several influencing factors can be identified as the causes of this change of mindset in management. On the one hand, organisations and their decision-making processes are influenced by issues such as migration, global warming, disruptive technologies, unrest and war (Mebratu, 1998). In order to give structure to this change, the UN has therefore launched the Sustainable Development Goals (SDGs), which provide guidance for companies and their managers in a globalised world (Sachs, 2012). By establishing it as an independent management

style, the relevance of sustainable leadership has increased more and more. It is therefore not surprising that research and publications on this topic have been ongoing. In order to provide an overview of the continuous development and increasing number of publications as well as the trends identified in research in the field of sustainable leadership, Hallinger and Suriyankietkaew (2018) have therefore carried out a bibliometric analysis to map these trends and developments for the period 1990-2018. This paper now follows a similar approach and attempts to map the trends and developments for the year 2023 in Europe by utilising the bibliometric method of co-word analysis (Hallinger & Suriyankietkaew, 2018) and AI-based literature analysis (Verma & Yuvaraj, 2023).

## 2. Sustainable Leadership

In order to ensure comparability between the results of the previous and this study, a standardised understanding of the concept of sustainable leadership must be assumed. The authors of the previous study understand sustainable leadership as a construct of partially overlapping motives (Hallinger & Suriyankietkaew, 2018). In doing so, they draw on the Rhineland approach to capitalism, which the two authors define as a precursor to the principle of sustainable leadership (Hallinger & Suriyankietkaew, 2018). Hallinger and Suriyankietkaew (2018) also borrow from the definitions developed later by Hargreaves and Fink (2003) and Ferdig (2007). In this context, Hargreaves and Fink (2003) define sustainable leadership as a style that should serve current needs in such a way that the prosperity and development of future generations is not jeopardised. Ferdig (2007), on the other hand, emphasises the leadership personality and defines it as someone who formally or informally assumes responsibility and faces up to the challenges of sustainability in cooperation with others. Furthermore, it also plays a role to consider long-term consequences in decision-making by promoting technological innovations and employees who help to create long-lasting and high-quality products and services (Avery & Bergsteiner, 2011) Overall, Hallinger and Suriyankietkaew (2018) derive from the state of research that many aspects of other leadership styles such as transformational, authentic leadership can also be applied in sustainable leadership. This can then be summarised in the following definition of sustainable leadership: A leadership style with an emphasis on leadership, rather than a single leader, which pursues long-term goals that bind organisations to society. It emphasises ethical behaviour and social responsibility and promotes change and innovation. This view is also partially supported by Cuhadar and Rudnák (2022) whereas they put more emphasis on the sustainable leaders as individuals describing them as the driving motion behind sustainable leadership and its implementation. For them a good sustainable leader has a strong ethical foundation, is highly committed to social responsibility and has a long-term thinking capacity. Furthermore Cuhadar and Rudnák (2022) insist on the fact, that sustainable leadership does not stop at solving social and environmental problems, but extents to even sustainable business models. Last but not least, it should not be forgotten, that sustainable leadership also involves stakeholders and seeks to expand the number of stakeholders (Hallinger & Suriyankietkaew, 2018). The aspect of stakeholders is yet broadened by Liao (2022) in terms of scope. For him also the planet and its whole ecosystem are sort of stakeholder in terms of sustainable leadership. He also sees this style of leadership as more inclusive and participative, encouraging as many stakeholders as possible to be involved in the decision-making process. In contrast to Cuhadar and Rudnák's (2022) leader-centric view on sustainable leadership, Liao (2022) distinguishes between charismatic leadership, which relies more on persuasive attributes of leaders and sustainable leadership, which focuses on leadership as a general topic rather than on individuals. Furthermore, Liao (2022) distinguishes other leadership styles from sustainable leadership, as defined by Hallinger and Suriyankietkaew (2018), such as green transformational leadership, moral leadership, and responsible leadership. While Liao's (2022) perspective may

suggest the presence of correlating factors, sustainable leadership aims to balance the economy, society, and ecology, whereas other leadership styles may prioritize certain aspects over others. Though many of those above-mentioned definitions vary in detail, all papers agree on defining sustainable leadership as an integrative as well as holistic approach to align the behaviour of organisations to achieve their economic goals with sustainability objectives of social and/or environmental well-being in their minds as well as anticipating long-term effects of their decision-making process.

## 3. Methods and results of the previous study

Hallinger and Suriyankietkaew (2018) wanted to map the current state of knowledge on the topic of sustainable leadership as accurately as possible. This state of knowledge can be determined within four dimensions - number, location, time period and composition (Hallinger & Suriyankietkaew, 2018). Size determines the number of publications, time the publications over a period of time, while location describes the spatial distribution of said publications. The authors consider the spatial influence of the various researchers to be particularly relevant here (Hallinger & Suriyankietkaew, 2018). According to Zupic & Čater (2015), the authors understand composition to mean patterns in authorship, publication and the topics researched in relation to sustainable leadership. A bibliometric analysis was used as the method of data collection. Scopus was used as the database, as the authors found it more suitable than other databases such as Web of Sciences (WoS). The reason for this lies foremost in the fact that though having a higher visibility Scopus's exceeds that of Web of Sciences in terms of management affiliated coverage by nearly 20% especially when it comes to citation analysis (Falagas et al., 2008).

The results of the analyses used led to the conclusion that sustainable leadership was primarily an issue in the West between 1990 and 2018. Furthermore, the authors documented a steady increase in publications in this subject area since the term sustainable leadership first emerged. The authors also identified six schools of thought that deal with the topic:

- Managerial Leadership,
- Sustainable Leadership,
- Leadership for Corporate Sustainability,
- Leadership for Sustainable Change,
- Responsible Leadership,
- Ethical and transformational leadership.

To summarise, these schools of thought describe a multi-layered network of different aspects of sustainable leadership. In this case, **Managerial Leadership** lays the foundations and the intellectual basis by emphasising the role of individual managers who implement sustainable leadership. **Sustainable Leadership**, on the other hand, looks at the long-term development of sustainable leadership and does not focus on individuals, but on all individuals involved in leadership. **Leadership for Corporate Sustainability** explores the extent to which managers can promote sustainability by considering social and environmental aspects. Emerging dynamics within a transformation process towards a sustainably managed organisation are the research focus of the fourth school, **Leadership of Sustainable Change**. **Responsible Leadership** is concerned with the ethical responsibility of leaders in relation to the social and environmental impact of their decisions. The sixth school, **Ethical and Transformational Leadership**, deals with the ethical and moral directives which, in combination with transformational action, are an integral part of sustainable leadership(Hallinger & Suriyankietkaew, 2018).

Hallinger and Suriyankietkaew (2018) consider the integration of sustainability principles into leadership behaviour to be particularly relevant in this context, which can be assigned to

the sustainable leadership school of thought. This is primarily about the development of managers who, in addition to their actual tasks, are also good at further developing sustainability in their organisations. Another important school of thought is the corporate sustainability school of thought. This is primarily concerned with developing strategies to create added value in sustainability for stakeholders and to promote corporate social responsibility (CSR). Hallinger and Suriyankietkaew (2018) also consider responsible leadership and the ethical and transformational leadership school of thought to be important. Both are more concerned with social, ethical and environmental aspects and the extent to which these leadership styles can be used in transformative processes in particular (Hallinger & Suriyankietkaew, 2018). On the co-word analysis side, Hallinger and Suriyankietkaew (2018) divide the research into two areas. Sustainable Leadership, Information Management, Corporate Sustainability, Transformational Leadership, Decision-Making, Higher-education, Culture, Professional Development are particularly important on the one hand, and Innovation, Capacity Building, Learning, Training, Human Resource Management, Organisational Culture Values on the other. This is also where Hallinger and Suriyankietkaew (2018) see the most research potential for the coming years.

## 4. Research Design and Method

The main purpose of this paper is to map current trends in research on the topic of sustainable leadership for the year 2023. As a comparable research project to that of Hallinger and Suriyankietkaew (2018) would go beyond the scope of this paper, the focus was on a single year and on the smaller geographical area of Europe in order to highlight European topics in particular. A geographical categorisation as well as a chronological one was therefore avoided. Instead, the focus was on the compilation. Similar to the approach taken by Hallinger and Suriyankietkaew (2018), Scopus was also used as a database for reasons of comparability on the one hand and for better results on the other (Herrera-Franco et al., 2020). In order to ensure more in-depth comparability, the procedure of this study was based on the criteria of the PRISMA guideline (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (Moher et al., 2009). Accordingly, this study also searched Scopus using the keywords sustainable leadership (TITLE-ABS-KEY "sustainable leadership") for corresponding publications in conference papers, books, book chapters and articles. However, the keywords were not expanded. Subsequently, duplicate titles were sorted out manually and in a second step, analogous to Hallinger and Suriyankietkaev's (2018) procedure, the remaining publications were analysed for thematic relevance based on the abstracts and sorted out if necessary. To determine the research frontline (De Solla Price, 1965), the method of a co-word map is used in this context, with which the current trends for the year 2023 are presented in topic-specific clusters (Boyack & Klavans, 2010). This analysis searched for words in the titles of the respective publications that were linked to the keyword sustainable leadership. For this purpose, the study uses the VOSViewer programme, in which the cleansed Scopus file is loaded for evaluation (van Eck & Waltman, 2017). For better visualisation, the number of links to be displayed was raised to a threshold value of nine.

To ensure the internal validity of the results, an AI-driven database was then queried for the latest trends in research on sustainable leadership. The use of AI in the bibliometric review results can lead to an improvement in the results and an increase in the quality of the results (Verma & Yuvaraj, 2023). Scispace was selected as the appropriate website for this purpose. The system consists of an AI system based on dialogues, which has answers to specific questions from a database with the metadata of 200 million papers and 50 million full-text PDFs. In this context, the AI was asked about the latest scientific findings on sustainable leadership for the year 2023 in Europe. The system's response was then scrutinised again for the latest trends. The results were then compared with the findings of the co-word analysis.

## 5. Results

A total of 651 documents were analysed. Most articles on the topic were published in the United Kingdom, followed by Spain and Italy. Germany follows in fourth place (see Figure 1).

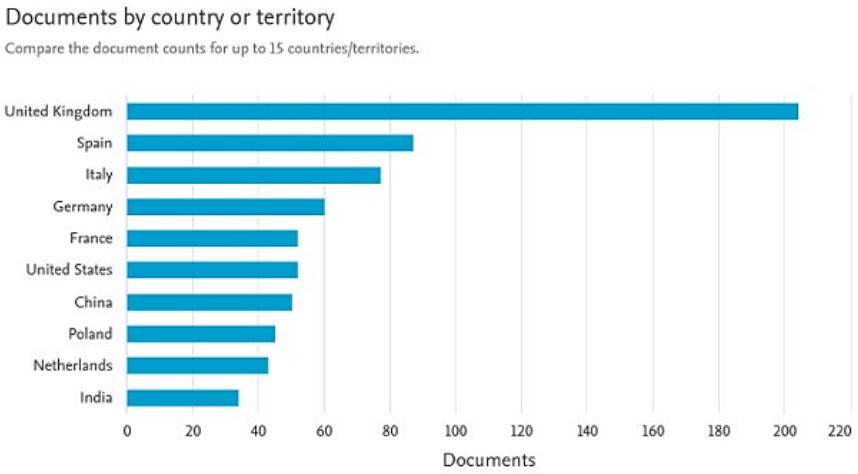


**Figure 1: Documents by country or territory**
Source: Own research (2023)

Interestingly, despite being explicitly excluded from the Scopus analysis of publications by country, India and the United States of America were also included in the list. This is presumably due to co-authorships, which could not be precisely resolved by Scopus.

At 92%, the majority of current research is published as articles. Books, book chapters and conference papers are only marginal (see Figure 2).

**Figure 2: Documents by country or territory**
Source: Own research (2023)

In the science mapping, the co-word analysis revealed five thematic clusters using the VOSViewer. These are: Sustainable Development, CorporateSocial Responsibility, Leadership, Sustainable Development Goals, Innovation (see Table 1).

**Table 1: Results of the Co-Word Analysis**

| Cluster | Topics |
|---|---|
| ***Sustainable Development*** | Circular Economy<br>Corporate Sustainability<br>Decision Making<br>Regression Analysis<br>Bibliometric Analysis<br>Regression Analysis<br>Supply Management<br>Organizational |
| ***Corporate Social Responsibility*** | Corporate Governance<br>Climate Change<br>Environmental Topics<br>Green Innovation<br>HR-Management |
| ***Leadership*** | Education<br>Management<br>Theoretical Study<br>Interview Leadership Management<br>Female |
| ***Sustainable Development Goals*** | Conceptual Framework<br>Digitalization<br>Health Care<br>Higher Education<br>Sustainability |
| ***Innovation*** | Transformational Leader<br>Communication<br>Business Development<br>Governance Approach<br>Organizational Culture |

Source: Own research (2023)

The AI survey revealed four relevant trends. On the one hand, the AI considered the examination of the intellectual structure within existing publications and the identification of potential research gaps to be a relevant research trend. It also found that there is a growing interest in understanding the concept of sustainable leadership. This includes, above all, the positioning of sustainability in the context of leadership. There is also a trend in the assumption that sustainable leadership is now itself an important component of theoretical leadership theory research. In conclusion, the AI found that sustainable leadership has a positive effect on organisational identification in universities, which makes it relevant to build a sustainable society and ecosystem through future academic institutions.

## 6. Discussion

Using the bibliometric method, this paper has attempted to identify trends in research in the field of sustainable leadership in 2023 and compare them with existing findings for the years 1990-2018 in order to confirm existing trends or identify new ones. At the same time, this attempt served to determine whether AI-based research methods lead to comparable results. Overall, it can be seen that the research frontier has broadened. In addition to topics such as leadership and sustainable development, factors such as SDGs, CSR and innovation will also

play a major role in 2023. However, it is clear from the topics located in the clusters that areas previously identified as trends by Hallinger and Suriyankietkaew (2018) have now become established. An important factor for the future, in addition to well-known topics such as understanding how to build capacity for innovation and change (Hallinger & Suriyankietkaew, 2018), will also be areas such as how bibliometric methods are used to identify new research gaps or the extent to which sustainable leadership has an impact on processes such as climate change, healthcare and digitalisation. The communication aspect of sustainable leadership should also not be neglected in the area of innovation.

This assumption is additionally supported by statements from the AI, which primarily confirms the search for further research gaps and focus on training and education via universities for future sustainable leaders. However, it should be borne in mind that the AI partly draws on existing texts for evaluation purposes, which is why it cannot be certain whether the AI comes to its own conclusions or only quotes existing papers. However, it is important to note that scientific output has increased rapidly in recent years. While Hallinger and Suriyankietkaew (2018) came up with a total of just under 952 documents in their global analysis for a period of almost 28 years, almost 651 publications with similar search criteria were recorded in Europe alone in 2023.

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