



Research Article

## Educational Management Publication Trends In The Scopus Database: An Analysis Of The Evolution Of Research Development

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### Educational Management Publication Trends In The Scopus Database: An Analysis Of The Evolution Of Research Development

**Abstract.** This analysis aims to see publication trends regarding the use of structural equation modeling in the field of education. By using predetermined keywords, researchers obtained 433 documents that had gone through the PRISMA method and analyzed using the R Program. From the analysis results, it can be concluded that research using the Structural Equation Modeling approach in the field of education shows a positive trend from 1984 to 2024, with an annual growth rate of 11.58%, and the peak publication is expected to occur in 2024 with 80 documents. The country with

the highest number of publications is China (Asia), with 54 publications (12.50%) and a total of 1,286 citations (12.27%). Jambi University from Indonesia is ranked first with the highest number of publications, namely 14 publications (3.24%). Sustainability Journal (Switzerland) was ranked first with an h-index of 9, recording 387 citations and 19 publications. Researcher Tsai Chin-Chung from National Taiwan Normal University was ranked first with an h-index of 8. The article with the highest number of citations was (Scherer et al., 2019) with 955 citations. The keyword "Structural Equation Modeling" is the most frequently used in research, with a total of 72 times, while the keywords "Confirmatory Factor Analysis" and "self-regulated learning" are also worthy of being a focus in further research.

**Keywords:** Structural Equation Modeling, Education, Bibliometric.

**Abstrak.** Penelitian ini bertujuan untuk menganalisis tren penelitian pada topik manajemen pendidikan. Dengan menggunakan kata kunci yang telah ditentukan, peneliti berhasil mengumpulkan sebanyak 212 dokumen yang kemudian dianalisis menggunakan metode bibliometrik. Analisis difokuskan pada informasi utama, tren publikasi, evolusi kata kunci, fokus penelitian, dan kebaruan kata kunci. Hasil analisis menunjukkan bahwa penelitian mengenai manajemen pendidikan mengalami peningkatan signifikan dalam beberapa tahun terakhir, dengan lonjakan publikasi tertinggi terjadi pada tahun 2024. Visualisasi three-field plot mengungkapkan adanya keterkaitan kuat antara penulis, afiliasi, dan kata kunci utama, yang menunjukkan fokus penelitian pada kepemimpinan, digitalisasi, dan pengembangan kurikulum. Meskipun tema utama penelitian masih berpusat pada topik-topik yang sudah mapan, analisis kebaruan kata kunci mengindikasikan bahwa "*Artificial Intelligence*" masih relatif jarang dieksplorasi. Oleh karena itu, topik ini direkomendasikan sebagai arah penelitian selanjutnya untuk mendorong inovasi dan meningkatkan relevansi manajemen pendidikan dalam menghadapi tantangan masa kini.

**Kata Kunci:** Manajemen Pendidikan, Bibliometrik.

## INTRODUCTION

Education serves as the foundational pillar for human development and national progress (Hamdi et al., 2023; Izzulhaq et al., 2024). Through education, individuals are equipped with the knowledge, skills, and values necessary to participate actively in social, economic, and cultural life (Muhamad Yunus et al., 2022; Wahyuni et al., 2024). As such, investment in the education sector not only enhances the quality of human resources but also contributes directly to national growth and stability (Andrian et al., 2020). Within this context, schools play a particularly strategic role in achieving these educational goals.

Schools are formal institutions that serve not only as centers for knowledge transmission but also as environments for character building, potential development, and social interaction for students (Ramadhani, Yakob, et al., 2024; Zafrullah, Meisya, et al., 2024). The effectiveness of schools in fulfilling these roles is highly dependent on how well they are organized and managed (Zafrullah, Gunawan, et al., 2024). Consequently, the central role of schools in the education system highlights the importance of implementing effective management practices (Hakim & Angga, 2023).

Effective management in educational settings plays a crucial role in coordinating resources, developing policies, and ensuring that teaching and learning processes are aligned with institutional goals (Larsson & Löwstedt, 2023). Key management functions such as planning, organizing, leading, and evaluating are vital to the success of any educational institution (Fawait et al., 2024). Without sound management, schools and other educational organizations may struggle to deliver quality and equitable education. This underlines the need for a distinct and robust field of educational management.

Previous studies have mostly focused on higher education management and have not specifically examined educational management comprehensively at the primary and secondary levels (Olaleye et al., 2024). In addition, many of these studies rely on data from the Web of Science, leaving publication trends in the Scopus database relatively unexplored within the context of educational management. In fact, educational management contributes not only to improving institutional performance but also to strengthening the broader educational ecosystem, including school leaders, teachers, students, and the community. Therefore, gaining a deeper understanding of how research in this field has evolved is essential for identifying key themes, trends, and scholarly contributions worldwide. In light of this, the present study aims to analyze publication trends on educational management within the Scopus database, with the goal of mapping the evolution of research development in this important field.

## **METHOD**

This analysis focuses on publication trends in educational management within the Scopus database using a bibliometric approach. Bibliometric analysis is a quantitative method used to measure and map the characteristics of scientific literature, such as the number of publications, citations, author collaborations, and frequently occurring keywords (Zafrullah, Hardi, et al., 2024; Zafrullah, Sembiring, et al., 2024). This approach helps identify patterns, trends, and the development of research in a particular field systematically. In this study, the researchers applied predefined keywords to filter relevant publications. The filtering was limited to the *Social Sciences* subject area to ensure alignment with the context of educational management. As a result, a total of 212 publications were retrieved for further analysis. The specific keywords used are presented in Table 1.

Table 1. Keywords and Number of Publications

| Keywords                                                                                     | Number of Publications |
|----------------------------------------------------------------------------------------------|------------------------|
| TITLE("education management") AND (LIMIT-TO (SUBJAREA,"SOCI")) AND (LIMIT-TO (DOCTYPE,"ar")) | 212 Publications       |

Source: Data by Researcher

The researchers limited the search to the “*Social Sciences*” subject area and document type *article*, resulting in 212 publications analyzed using a bibliometric approach. The analysis focused on core information, publication trends, keyword evolution, research focus, and keyword novelty within the selected publications. This restriction was applied to ensure the relevance of the data to the context of educational management. Focusing on these elements allowed the researchers to gain a more specific and in-depth understanding of how research in this field has developed. As a result, the analysis provides a clear overview of emerging scholarly trends in educational management. The ultimate goal is to identify research gaps as well as opportunities for collaboration and further study in the future.

**RESULTS AND DISCUSSION**  
**Main Information**

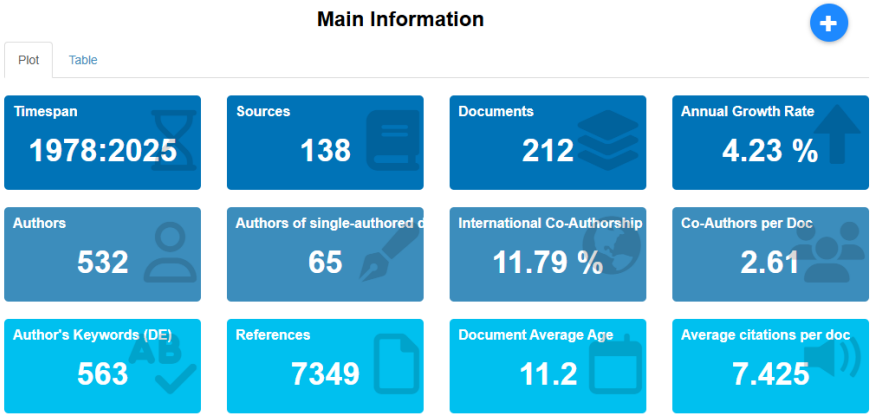


Figure 1. Main Information

Based on the bibliometric data analyzed from the timespan 1978 to 2025, a total of 212 documents related to educational management were retrieved from 138 sources ranging from Q1 to Q4. With an annual growth rate of 4.23%, this indicates a steady increase in scholarly interest and engagement in this field. The average document age is 11.2 years, reflecting the presence of both foundational and contemporary studies over time. An average of 7.425 citations per document suggests that many of the publications have made a notable impact within the academic community. A total of 7,349 references across these documents further

highlights the strong literature base supporting research in educational management.

In terms of document content, there are 195 Keywords Plus and 563 author-provided keywords, indicating a wide range of themes and research approaches. A total of 532 authors contributed to the publications, with 70 documents written by single authors, showing a balance between individual and collaborative research. The average number of co-authors per document is 2.61, and international co-authorship accounts for 11.79%, suggesting a relatively low level of cross-country collaboration. This highlights the importance of encouraging greater international cooperation to enrich the diversity and relevance of research in educational management on a global scale.

**Publication Trends**

The publication trend from year to year is an important indicator to see the development and consistency of researchers' interest in the topic of educational management (Istiawanto et al., 2024; Ramadhani, Setiawan, et al., 2024). This trend is analyzed to understand the dynamics of scientific literature growth and to identify periods of increasing or decreasing research productivity (Ayuni et al., 2024).

Table 2. Publication Trends

| Years     | Number of Publication | %     |
|-----------|-----------------------|-------|
| 1978      | 1                     | 0.47% |
| 1979      | 1                     | 0.47% |
| 1980      | 0                     | 0.00% |
| 1981      | 1                     | 0.47% |
| 1982      | 4                     | 1.89% |
| 1983      | 2                     | 0.94% |
| 1984      | 0                     | 0.00% |
| 1985      | 1                     | 0.47% |
| 1986      | 1                     | 0.47% |
| 1987-1988 | 0                     | 0.00% |
| 1989      | 2                     | 0.94% |
| 1990      | 3                     | 1.42% |
| 1991      | 1                     | 0.47% |
| 1992      | 0                     | 0.00% |
| 1993      | 2                     | 0.94% |
| 1994      | 1                     | 0.47% |
| 1995      | 1                     | 0.47% |

|      |    |        |
|------|----|--------|
| 1996 | 1  | 0.47%  |
| 1997 | 3  | 1.42%  |
| 1998 | 2  | 0.94%  |
| 1999 | 3  | 1.42%  |
| 2000 | 3  | 1.42%  |
| 2001 | 2  | 0.94%  |
| 2002 | 5  | 2.36%  |
| 2003 | 2  | 0.94%  |
| 2004 | 1  | 0.47%  |
| 2005 | 0  | 0.00%  |
| 2006 | 3  | 1.42%  |
| 2007 | 2  | 0.94%  |
| 2008 | 2  | 0.94%  |
| 2009 | 9  | 4.25%  |
| 2010 | 2  | 0.94%  |
| 2011 | 4  | 1.89%  |
| 2012 | 5  | 2.36%  |
| 2013 | 3  | 1.42%  |
| 2014 | 4  | 1.89%  |
| 2015 | 3  | 1.42%  |
| 2016 | 5  | 2.36%  |
| 2017 | 6  | 2.83%  |
| 2018 | 8  | 3.77%  |
| 2019 | 19 | 8.96%  |
| 2020 | 14 | 6.60%  |
| 2021 | 13 | 6.13%  |
| 2022 | 11 | 5.19%  |
| 2023 | 23 | 10.85% |
| 2024 | 26 | 12.26% |
| 2025 | 7  | 3.30%  |

Publications related to educational management in the Scopus database began in 1978 with only one document, and the numbers remained relatively low and fluctuating until 2008. A notable increase occurred in 2009 with 9 publications, but consistent growth became evident starting in 2019 when the number of publications jumped to 19. This upward trend continued, reaching its peak in 2024 with the highest number of publications at 26 documents. This indicates a growing academic interest in educational management issues, especially over the past five years.

The increase is likely driven by the growing complexity of modern educational challenges, such as digitalization, school leadership, and post-pandemic adaptation.

The peak in productivity in 2024 suggests that educational management has become a highly relevant and prioritized research topic. However, the number of publications dropped to 7 in 2025 (based on the latest available data), which may be due to publication cycles or incomplete data accumulation. Therefore, it is recommended that researchers and educational institutions continue to encourage scholarly output in this field and strengthen international and institutional collaborations to sustain and enhance scientific contributions over time.

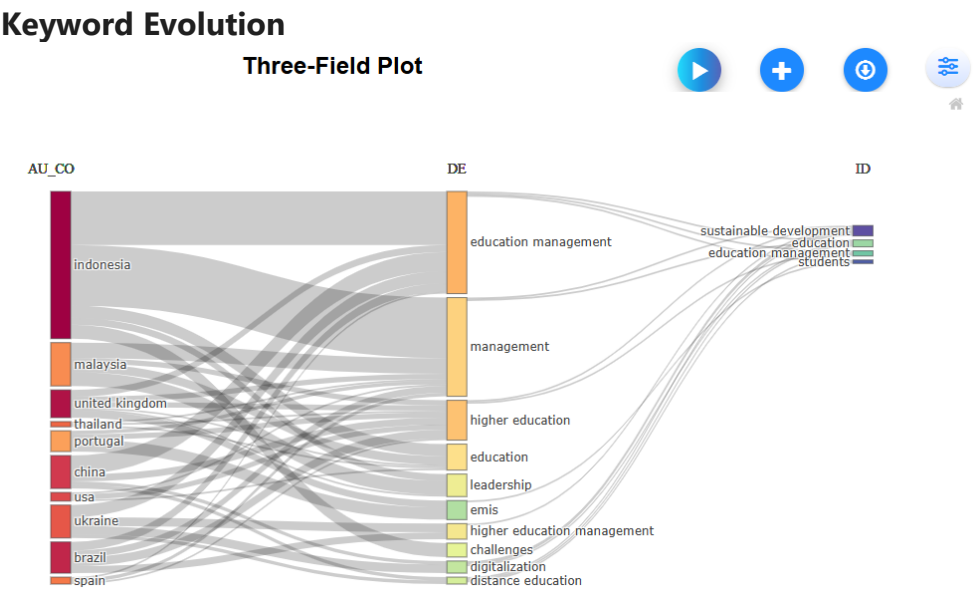


Figure 2. Three-Field Plot Illustrates

The Three-Field Plot illustrates the relationship between the authors' countries (AU\_CO), the authors' keywords (DE), and the indexed keywords (ID) in the Scopus database. The visualization shows that Indonesia is the most prominent contributor to publications on educational management, followed by countries such as Malaysia, the United Kingdom, China, and the United States. This highlights the significant role that Asian countries—particularly Indonesia—play in advancing the literature on educational management, especially within the context of emerging economies.

The most frequently used author keywords include "education management", "management", "higher education", and "leadership". These are closely linked to indexed terms such as sustainable development, education, and students, indicating a strong research focus on institutional aspects of education and their connection to broader global development goals. Additionally, emerging topics like digitalization, distance education, and challenges reflect the academic response to modern-day educational shifts and issues.

Although the number of publications varies across countries, the level of international collaboration remains relatively low, as indicated by the limited cross-

country connections in the plot. This points to the need for greater global cooperation to enrich perspectives, enhance research quality, and expand the scholarly impact of educational management studies. Thus, this visualization not only reveals thematic concentrations but also underscores important geographical patterns in the development of research in this field.

### Focus Research

Keyword clustering is the process of identifying main themes in the literature based on the occurrence and co-occurrence of keywords. The purpose is to understand the intellectual structure of a research field and to identify the focus and direction of its development.

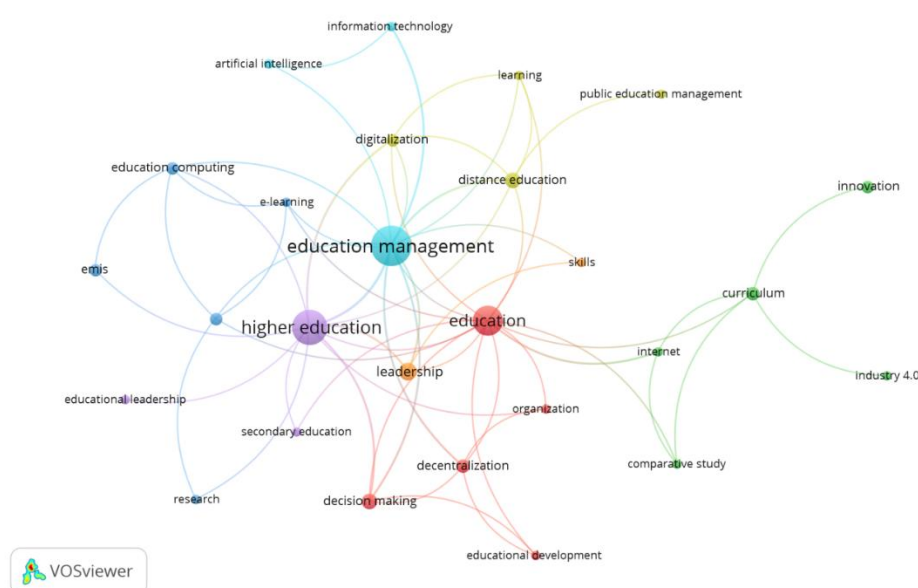


Figure 3. Focus Research

The keyword co-occurrence network visualization above reveals key thematic clusters in the field of educational management research. The largest and most central node in the network is "education management", indicating that it is the most dominant and frequently occurring keyword, acting as a hub that connects various subtopics across the network. Closely connected to it are terms like "education", "higher education", and "digitalization" which also appear as relatively large nodes, suggesting their significant contribution to the overall discourse in the field.

Each cluster of keywords is color-coded, reflecting distinct thematic groupings. The blue cluster is focused on digital and technological dimensions, including terms such as "e-learning", "computing", "artificial intelligence", and "information technology". These keywords illustrate the increasing integration of digital tools in educational management. Meanwhile, the red cluster emphasizes organizational and policy-related themes like "leadership", "decision making",



"decentralization", and "educational development", which highlight governance and structural issues in educational systems. The green cluster revolves around curriculum-related innovations, with keywords such as "curriculum", "innovation", "industry 4.0", and "comparative study". This indicates a growing research interest in modernizing and benchmarking educational content and methodologies.

The spread of keywords across various clusters reflects the interdisciplinary nature of educational management research. Connections between clusters (e.g., between "education management" and terms in the green, red, and blue clusters) reveal the integrative role that educational management plays in bridging technology, leadership, and curriculum development. This network not only maps the current intellectual structure but also helps identify key areas where future research might further explore underrepresented intersections—such as between digitalization and curriculum innovation or leadership and distance education.

### Keyword Novelty

The novelty of keywords can be observed from the colors displayed in the figure. Brighter colors, particularly yellow, indicate that the keywords have been used less frequently in previous publications. This suggests that these topics are still underexplored and may serve as valuable recommendations for future research in the field of educational management.

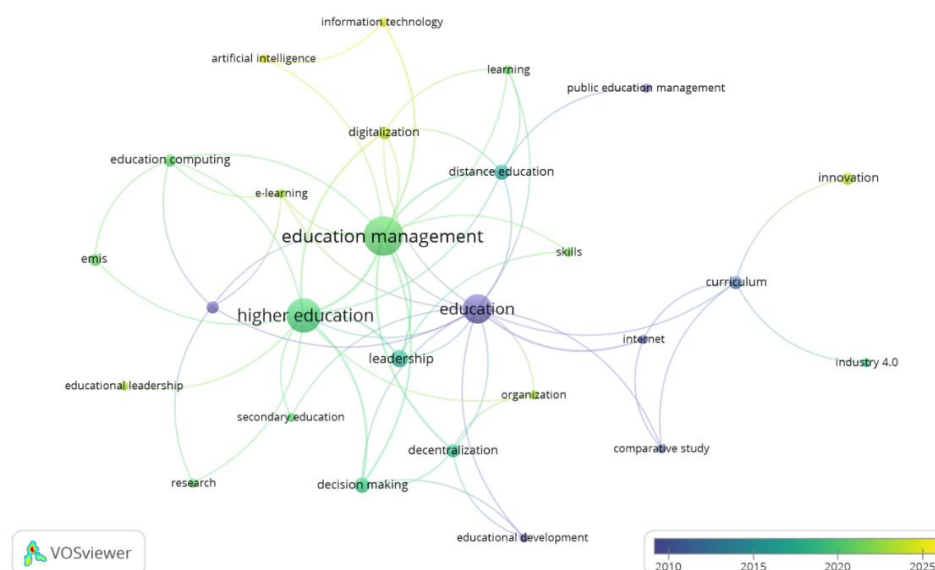


Figure 4. Keyword Novelty

From Figure 4, it can be observed that most of the keywords are dominated by dark colors such as purple, blue, and dark red. These colors indicate that the keywords have been frequently used in various publications related to educational management, representing themes that have already been extensively explored by previous researchers. Interestingly, only one keyword appears in yellow "Artificial

Intelligence". The yellow color signifies that this keyword is relatively new and has not been widely studied in the context of educational management. Therefore, it is recommended as a potential area for future research that could enrich the literature and offer new perspectives on technology-based educational management.

## **CONCLUSION**

The analysis concludes that research on educational management has experienced a significant increase in recent years, with the highest surge in publications occurring in 2024. The three-field plot visualization reveals a strong connection between authors, affiliations, and key keywords, indicating a research focus on leadership, digitalization, and curriculum development. While the main research themes remain centered on well-established topics in educational management, the keyword novelty analysis shows that "Artificial Intelligence" is still relatively underexplored. Therefore, this topic is recommended as a direction for future research to promote innovation and advance the relevance of educational management in addressing contemporary challenges.

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