

Article

Bibliometric insights into sustainable educational management practices in Indonesian Islamic universities

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Abstract: This research delves into sustainable educational management practices within Indonesian Islamic universities, aiming to shed light on the current trends, influential authors, co-authorship patterns, prevalent keywords, primary dissemination venues, gaps, and future research directions in this domain. Employing a bibliometric analysis methodology, data was collected using Lens.org software, encompassing publications from various academic databases to ensure a comprehensive exploration. The study reveals a growing interest in sustainability within Indonesian Islamic universities, emphasizing the need for concerted efforts to promote sustainable development. Key findings include identifying influential authors, prevalent keywords, and primary dissemination venues, offering valuable insights for researchers and practitioners in the field. Moreover, gaps and future research directions are highlighted, paving the way for further exploration and enhancement of sustainable educational management practices in Indonesian Islamic universities.

Keywords: educational management; Indonesia; Islamic universities; sustainability

1. Introduction

Sustainable Educational Management Practices encompass a range of strategies aimed at integrating sustainability principles into educational institutions. These practices involve promoting sustainable attitudes among students, enhancing energy efficiency, supporting lifelong learning opportunities, and fostering sustainable human resource management objectives through training programs (Aragon-Correa et al., 2017; Biancardi, Colasante, et al., 2023). They emphasize the importance of teaching resources that address the interconnected complexity of sustainability issues while balancing moral enthusiasm with precise problem analysis. Furthermore, sustainable educational practices focus on inducing lasting behavioral changes in students by enhancing scientific reasoning skills and promoting engagement and practice in applying, analyzing, and evaluating information (Blašková et al., 2019). Overall, Sustainable Educational Management Practices aim to create a culture of sustainability within educational institutions, preparing students to contribute to a healthy, ethical, and sustainable society (Rajiani and Normuslim, 2023).

In the context of Indonesian Islamic universities, sustainable educational management practices are crucial for ensuring long-term success and relevance in the higher education sector. Research indicates that Indonesian higher education institutions, including Islamic universities, are striving to enhance their sustainability efforts by incorporating elements such as dynamic capabilities, knowledge management, information technology readiness (Hamdani, 2023), and sustainability

courses in their curriculum (Wijaya and Putri, 2023). Moreover, marketing management plays a vital role in increasing enrollment sustainability and public trust in universities, with institutions like Universitas Islam Negeri (State Islamic University) Raden Mas Said Surakarta utilizing innovative strategies and social media platforms for promotion (Haryanti et al., 2023). To further standardize sustainable practices, universities are participating in rankings like the University of Indonesia Green Metric and Times Higher Education Impact Ranking, focusing on actions aligned with the Sustainable Development Goals (SDGs). Additionally, the successful adoption and implementation of IT innovations, such as self-development IT applications, are crucial for organizational success in Islamic-based higher education institutions, emphasizing the importance of managerial interventions and post-implementation strategies (Huda et al., 2023).

However, implementing Sustainable Educational Management Practices in Indonesian Islamic universities faces several challenges. Firstly, the lack of knowledge and standards, poor design practices, and financial constraints hinder the transition to sustainable practices in the Indonesian construction industry, impacting educational institutions (Mejía-Manzano et al., 2023). Additionally, the need for incorporating sustainable education goals into English language teaching in Indonesia to promote real-life problem-solving skills among students poses a challenge in integrating sustainability into the curriculum of Islamic universities (Fitriani and Ajayi, 2022). Moreover, the dichotomous nature of the Islamic education curriculum in Indonesia highlights the necessity for a holistic integrative approach, as seen in the Muhammadiyah education system, to address inadequacies and ensure the sustainability of education in Islamic universities (Ekawati et al., 2021). These barriers underscore the complexity of adopting and maintaining Sustainable Educational Management Practices in Indonesian Islamic universities, requiring concerted efforts to overcome them and promote sustainable development within these institutions.

Bibliometric analysis can significantly aid in addressing these challenges by providing a quantitative approach to understanding current trends and key research areas in sustainability (Ellili, 2023). By analyzing the literature on sustainability, including studies on sustainable development, environmental sustainability, and climate change, bibliometric analysis can offer insights into successful strategies and best practices that have been effective in similar contexts (Mejía-Manzano et al., 2023). Additionally, by examining the impact of frameworks like the Global Reporting Initiative on sustainability reporting and performance, bibliometric analysis can help identify successful models and policies that can be adapted to the unique challenges faced by Islamic universities in Indonesia (Mougenot and Doussoulin, 2023). This approach can guide universities in aligning their actions with international standards and rankings, such as the University of Indonesia Green Metric and the Times Higher Education Impact Ranking, to ensure they effectively contribute to the Sustainable Development Goals (SDGs) and enhance their sustainability practices. Hence, this study aims to address the following research questions:

- 1) What is the annual production of publications on sustainable educational management practices in Indonesian Islamic universities?
- 2) Who are the most influential authors in publications on sustainable educational management practices in Indonesian Islamic universities?

- 3) How do co-authorships occur in publications on sustainable educational management practices in Indonesian Islamic universities?
- 4) What are the most frequent keywords in publications on sustainable educational management practices in Indonesian Islamic universities?
- 5) Which journals and conferences are the primary venues for disseminating research on sustainable educational management practices in Indonesian Islamic universities?
- 6) What gaps and future research directions can be identified from the existing literature on sustainable educational management practices in Indonesian Islamic universities?

2. Method

This study employs a bibliometric analysis to explore sustainable educational management practices in Indonesian Islamic universities. The methodology involves several crucial stages, including data collection, data processing, and data analysis, to ensure a thorough and systematic investigation.

Data collection begins with the utilization of Lens.org software to harvest relevant bibliometric data. Lens.org is chosen for its ability to extract comprehensive citation data from various academic databases, including Google Scholar, which provides extensive coverage of academic literature. The search strategy involves using specific keywords such as Scholarly Works (239) = sustainable AND (educational AND (management; AND (Indonesia AND (Islamic AND (universities; AND (sustainability AND (practices; AND (higher AND education)))))). The time frame for the search includes publications from any year as long as the output contains the searched keywords, ensuring that the analysis captures the most recent trends and developments in the field. Both English and Bahasa Indonesia publications are included to provide a holistic view of the research landscape. The search is focused on peer-reviewed journal articles, conference papers, and review articles to ensure the inclusion of high-quality research.

Once the data is collected, it undergoes a meticulous cleaning process. Duplicate entries are identified and removed to maintain the accuracy of the dataset. Subsequently, the relevance of each publication is assessed by reviewing abstracts and titles to ensure that they align with the study's focus on sustainable educational management practices in Indonesian Islamic universities. Following this, key bibliographic information such as authorship, publication year, journal name, keywords, citations, and abstracts is extracted for further analysis.

The data analysis is conducted using VOSviewer and Biblioshiny, two powerful software tools designed for constructing and visualizing bibliometric networks. The analysis begins with a descriptive examination of the data, identifying publication trends over time, the most prolific authors and their co-authorships, the most used keywords for publications, and the leading relevant journals for publications. This provides a foundational understanding of the research landscape and its evolution.

Next, a co-occurrence analysis is performed using VOSviewer to identify the main themes and topics within the literature. This involves creating a co-occurrence network of keywords, which helps to visualize the relationships between different

research areas and uncovering predominant themes. Finally, the results of the bibliometric analysis are compiled into a comprehensive report. This report includes visual representations created using VOSviewer and Biblioshiny, such as network maps. The report highlights key findings, identifies research gaps, and provides recommendations for future research and practical implications for Indonesian Islamic universities.

3. Results

This study aims to analyze the annual production of publications on sustainable educational management practices in Indonesian Islamic universities and identify the most influential authors in this field. It will examine co-authorship patterns and highlight the most frequent keywords used in the literature. Additionally, the research will determine the primary journals and conferences for disseminating related studies. Finally, it seeks to identify gaps in the existing literature and suggest future research directions. Hence, the findings are presented following these orders.

3.1. The harvested data from Lens.org

The present study collected data from the Lens.org database. The data was harvested in the form of Comma-Separated Values (CSV). File and it is presented in summary as shown in **Table 1**.

Table 1. The data description.

Description	Results	
Main Information About Data	Timespan	1971:2024
	Sources (Journals, Books, etc)	125
	Documents	239
	Annual Growth Rate %	2.09
	Document Average Age	13.8
	Average citations per doc	0
	References	3117
Document Contents	Keywords Plus (ID)	21
	Author's Keywords (DE)	21
Authors	Authors	2862
	Authors of single-authored docs	53
Authors Collaboration	Single-authored docs	57
	Co-Authors per Doc	13.1
Document Types	journal article	239

Table 1 shows that a total of 239 articles were published from 1971 to mid-2024. These articles appeared in 125 journals, with an annual publication growth rate of 2.09%. Among the 2862 authors, 53 articles were published by a single author. This data summary indicates that the publication trend on sustainable educational management practices has increased over the research period.

3.2. The annual production of publications on sustainable educational management practices in Indonesian Islamic universities

Figure 1 offers a glimpse into the publication landscape of Indonesian Islamic universities over a significant timeframe, spanning from 1971 to mid-2024. The graph depicts a dynamic scene characterized by fluctuations in the number of articles published each year. There is no consistent pattern of growth or decline evident across the entire period. However, the general observation shows that the publication numbers trend tends to rise in various margins of numbers difference.



Figure 1. Annual scientific production of articles.

One interesting observation is a potential peak in publication activity around the year 2000. This is suggested by a rise in the number of published articles exceeding 10 per year. Therefore, it is interesting to understand the context of the specific factors that contributed to this increase or whether it had a lasting impact on publication trends.

3.3. The most influential authors in publications on sustainable educational management practices in Indonesian Islamic universities

Figure 2 shows that Hosseini M. and Tatnall A. are the most prolific authors in sustainable educational management practices, with five articles each published between 1971 and mid-2024. They are followed by Kim HJ, who published four research articles in this field. The list of leading authors with three articles each includes Behzadifar M., Bhargava S., Haj-Mirzaian A., Mishra S., Rezei N., Sharma S., and Taheri MMH.

Looking at the trend in the number of publications, **Figure 2** indicates that the number of publications by each author has been very limited, considering the data spans 53 years. Additionally, it can be seen that many authors produced only three articles during this period. This fact shows that publications in this field are scarce.

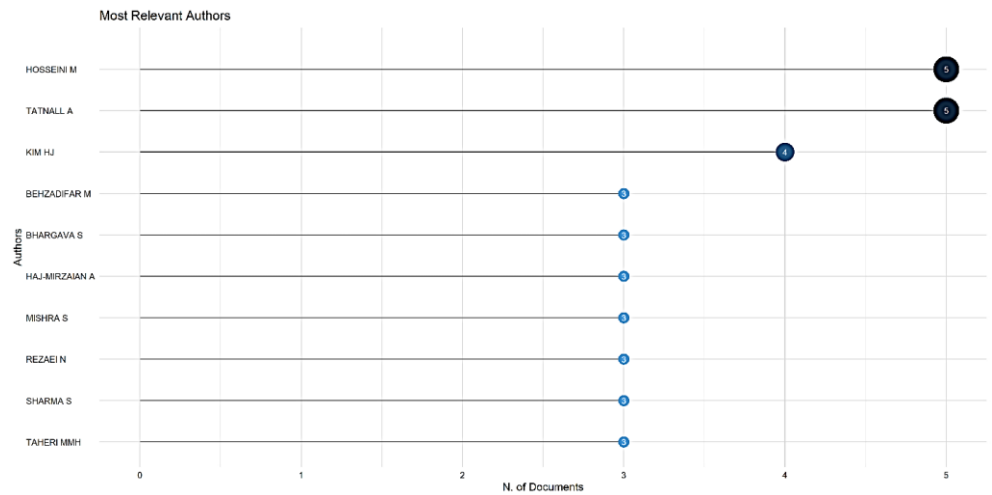


Figure 2. The most relevant authors.

3.4. Co-authorships occur in publications on sustainable educational management practices in Indonesian Islamic universities

Figure 3 shows the co-authorships for article publications on sustainable educational management in Indonesian Islamic universities, as seen in the lens.org database. The figure reveals that Arthur Tatnall is the only author with numerous co-authorships, indicated by the largest dots representing his relationships. This suggests that many authors with similar interests in sustainable educational management have published articles with him. Regarding the color of the dots and comparing them with the color description over the years in the bar, it is clear that Arthur Tatnall’s publications and productivity began in early 2020, highlighting him as a prolific author in recent discussions and issues.

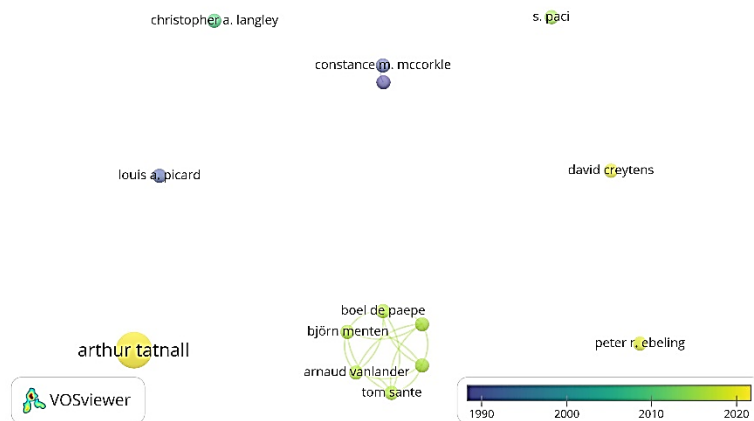


Figure 3. The co-authorships mapping.

On the other hand, Hosseini M. does not appear in Figure 3, indicating that he has not collaborated with others for publications in this field. He tends to publish articles as a sole author in sustainable educational management practices. Observing the green dots grouped in a circle at the bottom of Figure 3, several authors commonly collaborate on publications. They include Tom Sante, Boel de Paepe, Bjorn Menten, and Arnaud Vanlander.

3.5. The most frequent keywords in publications on sustainable educational management practices in Indonesian Islamic universities

Figure 4 illustrates keywords commonly used by authors in publications on sustainable educational management practices. From the figure, no single dominant word surpassed others in frequency; all appeared only once. The diversity of keywords spans areas such as medicine (e.g., kidney acute injury), management (e.g., entrepreneurship), education (e.g., curriculum), generations (e.g., Gen Z), research methods (e.g., comparative study), psychology (e.g., attitude), and countries (e.g., Iran). These data show a wide range of discussions when authors investigate issues in sustainable educational management practices. In other words, the study of sustainable educational management practices covers various fields, encompassing general management and focusing on education.

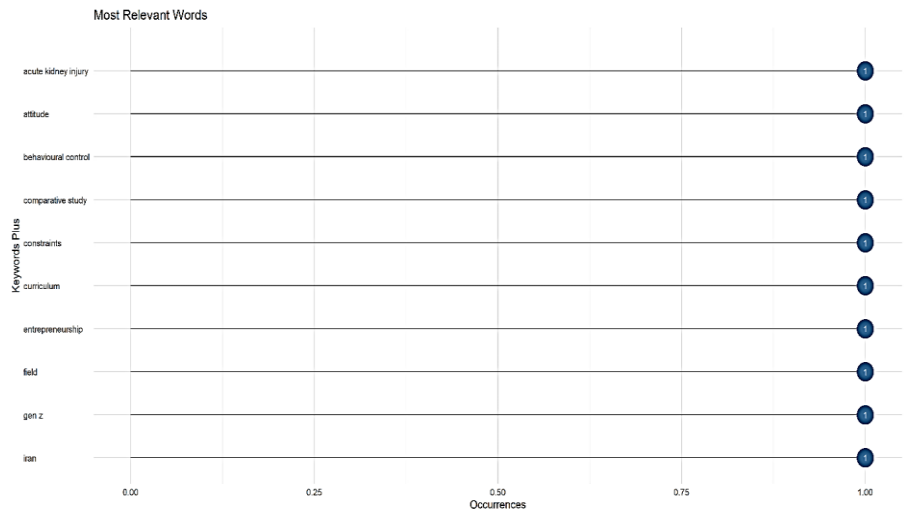


Figure 4. The most relevant keywords.

3.6. Journals for publishing articles on sustainable educational management practices in Indonesian Islamic universities

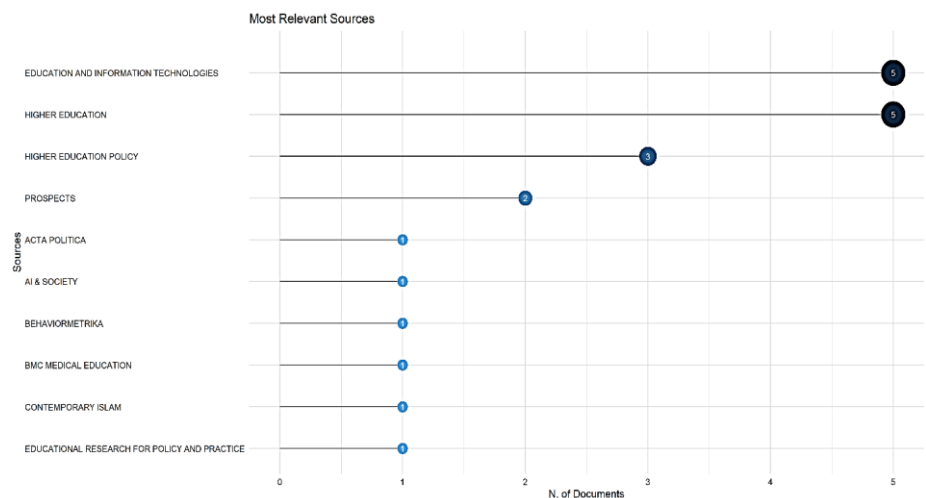


Figure 5. The most relevant journals for publications.

As a potential author seeking publication in a reputable journal, **Figure 5** provides valuable insight into the most relevant journals for articles on sustainable educational management practices. The journals listed in the figure have significant potential to accept and publish articles within this scope. The potential journals include Education and Information Technologies, Higher Education, Higher Education Policy, Prospects, Acta Politica, AI & Society, Behaviormetrika, BMC Medical Education, Contemporary Islam, and Educational Research for Policy and Practice. Among these, the first two journals are the most promising targets for publication, as they have published the most topic-related articles (five publications each) during the research period.

Considering the journals mentioned in **Figure 5**, it is evident that some belong to the law field, while others are from education or technology. These findings further support the results shown in **Figure 4**, indicating that the study of sustainable educational management practices can encompass various fields, as long as the focus remains on management and education.

3.7. Gaps and future research directions on sustainable educational management practices in Indonesian Islamic universities publications

The co-occurrence visualization of research article keywords on sustainable educational management practices in Indonesian Islamic universities offers valuable insights into current publication trends and potential areas for further exploration. Therefore, this study provides insight into current publication trends and potential areas for further exploration by showcasing **Figure 6**.

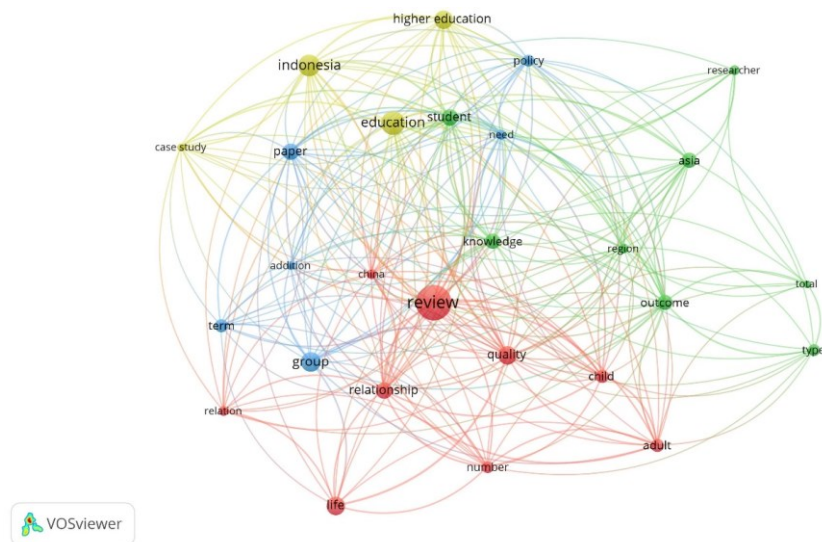


Figure 6. The co-occurrence of keywords.

As shown by **Figure 6**, a clear trend emerges in the focus on keywords like higher education, Indonesia, policy, researchers, and educational students. This suggests a strong emphasis on the national context, policy frameworks, and the role of researchers and students within the field. Additionally, the presence of keywords like case studies and needs points towards a growing interest in practical applications and identifying the specific requirements for sustainable practices within these universities.

However, **Figure 6** also reveals a potential gap in areas like review, outcomes, and quality. While a focus on policy and practice is crucial, a more comprehensive understanding could be gained by examining the concrete outcomes and long-term impact of implemented sustainable management strategies. Similarly, delving deeper into quality assessment methods and best practices for maintaining high educational standards within a sustainable framework could be valuable.

Intriguingly, the co-occurrence of keywords in **Figure 6** hints at a potential research area exploring the interconnection between policy, research, and on-the-ground practices. This suggests a growing awareness of the need to bridge the gap between theoretical frameworks and practical implementation.

While **Figure 6** provides a strong starting point, it is important to acknowledge the limitations. The lack of information on the strength of connections between keywords makes it difficult to definitively identify the most developed and underdeveloped research areas. Taking this into account, some potential research gaps emerge as fertile ground for further exploration. For example, a closer examination of the relationship between implemented sustainable management practices and student learning outcomes could provide valuable data on the effectiveness of these strategies. Additionally, investigating the role of Islamic values in shaping a unique approach to sustainable education within Indonesian universities could be a fascinating avenue for research. The challenges of implementing these practices and the effectiveness of various approaches are also areas that warrant further investigation. Understanding the specific hurdles faced by universities and comparing the efficiency of different sustainable management models could provide valuable insights for future endeavors.

Moreover, to understand the research trends across the years, **Figure 7** can give insightful thought regarding the viable research trends on sustainable educational management practices.

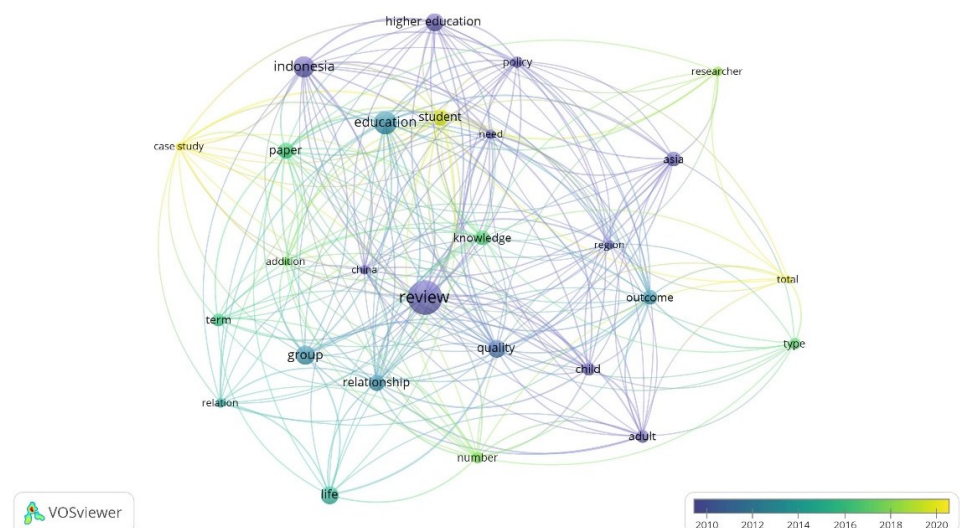


Figure 7. The co-occurrence of keywords over the years.

Figure 7 offers valuable insights into potential areas for further exploration, particularly for publications in 2025. Previously discussed gaps, such as the relationship between sustainable management practices and student outcomes, the role of Islamic values, and the challenges of implementation, are all intriguing avenues for

research. Additionally, the visualization reveals another interesting area for future publications:

Focusing on specific keywords over time, **Figure 7** shows a concentration of keywords around certain years. For instance, terms like “higher education”, “Indonesia”, and “policy” were more prominent in the early years (around 1971). This suggests a foundational focus on establishing the national and policy context of sustainable educational management in Indonesian Islamic universities. Later terms, such as “case study” and “need”, cluster around 2020, potentially indicating a shift towards a more practical, needs-based approach in the field.

Furthermore, a potential publication topic for 2025 could involve a more in-depth analysis of how keyword co-occurrence has evolved over time. By employing a technique called time-series VOSviewer analysis, researchers could map the emergence and prominence of different keywords across the entire period (1971–2024). This analysis could reveal interesting trends in research focus and identify areas that have gained or lost importance over time. For example, the analysis might show a decline in keywords related to policy after the initial foundational years, suggesting a shift towards more practical or theoretical areas of research. Conversely, keywords like “quality” or “outcomes” might appear with increasing prominence in recent years, indicating a growing focus on evaluating the effectiveness of sustainable management practices.

4. Discussion

The imperative to incorporate sustainability into educational management practices has gained substantial momentum in recent years. This growing interest is driven by the global recognition of the critical role that educational institutions play in fostering sustainable development (Biancardi et al., 2023). As hubs of knowledge and innovation, universities are uniquely positioned to lead the charge in promoting sustainability through education, research, and community engagement. This review aims to provide a comprehensive analysis of sustainable educational management practices within Indonesian Islamic universities, offering insights into current trends, key contributors, and potential areas for further research.

The purpose of this bibliometric analysis is to map the landscape of research on sustainable educational management practices in Indonesian Islamic universities (Ellili, 2023). By identifying influential authors, prevalent keywords, and primary dissemination venues, this study seeks to highlight the key elements that shape this field of study. Furthermore, understanding the gaps and future research directions will assist scholars and practitioners in enhancing the sustainability efforts within these institutions.

The academic background for this review is rooted in the intersection of sustainability science and educational management. Sustainable educational management practices involve integrating principles of sustainability into the governance and operation of educational institutions. This includes fostering sustainable attitudes among students, enhancing energy efficiency, supporting lifelong learning opportunities, and promoting sustainable human resource management. Previous studies have emphasized the importance of teaching resources that address

the interconnected complexity of sustainability issues and the need for precise problem analysis to balance moral enthusiasm (Aragon-Correa et al., 2017; Biancardi et al., 2023).

Moreover, the focus on Indonesian Islamic universities provides a unique cultural and religious context that influences the implementation of these practices. These institutions are actively striving to enhance their sustainability efforts by incorporating elements such as dynamic capabilities, knowledge management, and information technology readiness into their curricula (Hamdani, 2023; Mejía-Manzano et al., 2023; Wijaya and Putri, 2023). The successful adoption and implementation of IT innovations and the integration of sustainability courses into the curriculum are crucial for achieving long-term sustainability in these universities (Ellili, 2023; Huda et al., 2023). Moreover, the examination of research trends over the years can offer insightful thoughts on viable research directions in sustainable educational management practices (Mougenot and Doussoulin, 2023).

The annual production of publications on sustainable educational management practices in Indonesian Islamic universities reflects a growing interest in this field. By analyzing the literature on sustainability, including studies on sustainable development, environmental sustainability, and climate change, researchers can identify successful strategies and best practices that have been effective in similar contexts. This knowledge can guide universities in aligning their actions with international standards and rankings to contribute effectively to the Sustainable Development Goals (SDGs) and enhance their sustainability practices (Chankseliani and McCowan, 2020).

The co-occurrence of keywords in research articles on sustainable educational management practices reveals evolving trends and potential areas for further exploration. While there is a strong emphasis on the national context, policy frameworks, and the role of researchers and students within the field, gaps exist in areas such as review, outcomes, and quality. Addressing these gaps through in-depth research can provide a comprehensive understanding of the impact of sustainable management strategies on student learning outcomes and educational standards (Wong et al., 2021).

The visualization of keyword co-occurrence over time suggests a shift towards a more practical, needs-based approach in the field of sustainable educational management practices (Su and Lee, 2010). This evolution highlights the importance of bridging the gap between theoretical frameworks and practical implementation to ensure the effectiveness of sustainable practices within Indonesian Islamic universities.

In addition, sustainable educational management practices play a vital role in promoting sustainability, enhancing educational quality, and addressing the challenges faced by Indonesian Islamic universities (Aragon-Correa et al., 2017; Biancardi et al., 2023). By leveraging bibliometric analysis and building on previous research findings, institutions can develop tailored strategies to integrate sustainability principles effectively and contribute to a more sustainable future for higher education in Indonesia.

Analyzing the literature on Sustainable Educational Management Practices in Indonesian Islamic Universities provides valuable insights into various aspects that can influence the advancement of sustainability initiatives within educational institutions. The works by Ekawati et al. (2021), Fitriani and Ajayi (2022), Hamdani

(2023), Hamdani (2023), Haryanti et al. (2023), Huda et al. (2023) and Huda et al. (2023) offer diverse perspectives on healthcare management, sustainability barriers, organizational strategies, marketing management, and IT innovations in the context of Islamic higher education. These studies contribute to a deeper understanding of the challenges and opportunities in promoting sustainability within Indonesian Islamic universities.

In the context of Indonesian Islamic universities, the integration of Islamic values serves as the foundational pillar (the Holy Qur'an and Hadiths) that shapes the implementation of sustainability practices in educational management (Kosim et al., 2023). It guides individuals and institutions toward responsible and sustainable behavior. These values instill a sense of ethical responsibility towards the environment, society, and future generations, aligning closely with the core tenets of sustainability (Sanjotis, 2011). By incorporating Islamic values into educational management practices, institutions can foster a culture of environmental consciousness, social justice, and ethical decision-making (Brooks and Mutohar, 2018). For example, the concept of 'Amanah' (trustworthiness) underscores the importance of upholding integrity and accountability in all endeavors, including the management of resources and the implementation of sustainable initiatives. Moreover, the principle of 'adl' (justice) emphasizes fairness and equity, encouraging inclusive practices that consider the needs of all stakeholders within the university community. By embracing these Islamic values, Indonesian Islamic universities can not only advance sustainability goals but also nurture a holistic approach to educational management that reflects the ethos of Islamic teachings (Biancardi et al., 2023).

Proposing improvement directions and prospects for future research, it is essential to leverage the findings of the bibliometric analysis conducted in this article. By integrating insights from influential authors, prevalent keywords, and primary dissemination venues identified through bibliometric analysis, researchers can identify emerging trends, gaps, and potential research directions in sustainable educational management practices (Baako and Abroampa, 2023). Future research could focus on exploring collaborative opportunities among influential authors, investigating the impact of key keywords on research outcomes, and identifying novel dissemination strategies to enhance the visibility and impact of sustainability initiatives in Indonesian Islamic universities. Additionally, leveraging co-authorship patterns and analyzing the evolution of research themes over time can provide valuable insights for shaping future research agendas and fostering interdisciplinary collaborations to advance sustainable educational management practices in the Indonesian context.

5. Conclusion

In conclusion, this research underscores the significance of sustainable educational management practices in Indonesian Islamic universities and the pivotal role of bibliometric analysis in understanding and advancing this field. By identifying influential authors, prevalent keywords, and primary dissemination venues, this study provides a roadmap for researchers and practitioners to navigate the landscape of sustainable educational management practices. The gaps and future research directions outlined offer opportunities for further investigation and innovation, fostering the

integration of sustainability principles into higher education institutions in Indonesia. As the pursuit of sustainability gains momentum globally, Indonesian Islamic universities stand poised to embrace and champion sustainable educational management practices, contributing to a more sustainable and resilient future for academia and society at large.

This research on sustainable educational management practices in Indonesian Islamic universities offers both theoretical and practical implications. The identification of influential authors, prevalent keywords, and primary dissemination venues enriches the theoretical understanding of sustainability in higher education. Practically, the study provides actionable insights for stakeholders to enhance sustainability practices within academic settings. By bridging theory and practice, this research contributes to the advancement of sustainable management strategies in Indonesian Islamic universities, fostering a culture of sustainability and resilience within educational institutions.

Future research in the field of sustainable educational management practices in Indonesian Islamic universities could address the limitations of this study by delving deeper into the dynamics of co-authorship patterns to understand collaboration dynamics better. Additionally, conducting in-depth case studies to explore the practical implementation and outcomes of sustainability strategies in specific institutional contexts could provide valuable insights. Further research could also investigate the influence of Islamic values on sustainability practices and student outcomes, as well as evaluate the effectiveness of different sustainability frameworks in promoting sustainable development. By addressing these areas, future studies can contribute to a more comprehensive understanding of sustainable educational management practices in Indonesian Islamic universities and guide the implementation of effective sustainability initiatives.

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