

Mapping the Intellectual Structure of Agile Leadership and Organizational Agility in Higher Education: A Bibliometric Review

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Abstract: Higher education institutions are increasingly required to develop adaptive leadership and organizational capabilities in response to digital transformation, institutional complexity, and environmental uncertainty. This study aims to map the intellectual structure of research on agile leadership and organizational agility in higher education through a bibliometric review. Bibliographic data were retrieved from the Scopus database and screened using the PRISMA 2020 flow diagram. The final corpus consisted of 141 Scopus-indexed documents published between 2003 and 2026. The data were analyzed using VOSviewer to examine annual publication trends, keyword co-occurrence, co-authorship networks, country collaboration, and co-citation structures. The findings show that scholarly attention to this topic has increased substantially after 2021, with 103 documents published between 2021 and 2026. Keyword co-occurrence analysis reveals that the field is strongly shaped by dynamic capabilities, organizational agility, digital transformation, knowledge management, and innovation, while agile leadership remains an emerging but increasingly relevant theme. Co-authorship analysis indicates fragmented collaboration among authors, while country collaboration shows international distribution with uneven network connections. Co-citation analysis confirms that the intellectual foundation of the field is interdisciplinary, combining dynamic capabilities, resource-based view, strategic management, adaptive leadership, and university innovation studies. This study contributes to higher education management literature by clarifying the conceptual structure, collaboration patterns, and theoretical foundations of agility-related research in higher education.

Keywords: Agile Leadership; Organizational Agility; Higher Education; Dynamic Capabilities; Digital Transformation.

INTRODUCTION

Higher education institutions are increasingly required to operate in environments characterized by uncertainty, technological disruption, intensified competition, and changing stakeholder expectations. Universities are no longer viewed merely as institutions responsible for teaching and research, but also as adaptive, innovative, and socially responsive organizations. This shift became more visible during and after the COVID-19 pandemic, when universities had

to maintain academic continuity, redesign learning systems, accelerate digital adoption, and respond to institutional uncertainty. In this context, leadership and organizational adaptability have become central issues in higher education management.

The concept of agility originally gained prominence through the Agile Manifesto, which emphasized responsiveness to change, collaboration, iterative improvement, and adaptability (Beck et al., 2001). Although the concept emerged from software development, its principles have expanded into broader organizational and leadership studies. In management literature, agility is associated with strategic flexibility, rapid decision-making, organizational learning, and the capacity to renew institutional directions in response to environmental turbulence (Doz & Kosonen, 2010; Harraf et al., 2015). From a strategic management perspective, agility is closely related to the resource-based view and dynamic capabilities, which explain how organizations use valuable resources and reconfigure capabilities to respond to changing environments (Barney, 1991; Eisenhardt & Martin, 2000; Helfat & Peteraf, 2003; Teece et al., 1997; Teece, 2007).

Dynamic capabilities provide an important theoretical foundation for understanding organizational agility in higher education. This perspective emphasizes the ability of organizations to sense opportunities and threats, seize strategic opportunities, and reconfigure resources to maintain relevance in dynamic environments (Teece et al., 1997; Teece, 2007). In universities, dynamic capabilities may be reflected in the ability to redesign governance structures, strengthen digital infrastructure, develop academic innovation, manage knowledge resources, and build external partnerships. Related concepts such as absorptive capacity also explain how institutions recognize, assimilate, and apply external knowledge to support innovation and transformation (Cohen & Levinthal, 1990; Zahra & George, 2002). Thus, organizational agility in higher education should not be understood only as speed or flexibility, but as a strategic capability rooted in learning, knowledge integration, and resource reconfiguration.

The need for agile and adaptive leadership is particularly important because universities are complex, pluralistic, and loosely coupled organizations. Decision-making in higher education often involves multiple stakeholders, academic autonomy, bureaucratic procedures, professional expertise, and competing institutional priorities. Complexity leadership theory suggests that leadership in knowledge-based organizations should enable learning, emergence, adaptation, and innovation rather than relying solely on top-down control (Uhl-Bien et al., 2007). Similarly, flexible and adaptive leadership is essential when organizations face uncertainty and competing demands (Yukl & Mahsud, 2010).

In the university context, Schopphuizen et al. (2023) argue that educational innovation requires the interaction of administrative, adaptive, and enabling leadership so that strategic direction can be connected with bottom-up innovation.

Empirical studies have begun to show the relevance of agile leadership in higher education. Nissim and Simon (2023), for example, examined agile leadership in an Israeli higher education institution during the COVID-19 pandemic and found that institutional continuity required agile leadership, multifaceted competencies, and direct communication channels. Varga-Atkins et al. (2021) also demonstrated that universities in Australia and the United Kingdom adopted student-centred agile decision-making by rapidly gathering student voice data, increasing flexibility, equalizing access to technology, and prioritizing student welfare. Beyond crisis response, Samodien et al. (2024) found that agile leadership, together with transformational and transactional leadership, positively influenced institutional performance in South African higher education. These studies indicate that agile leadership is relevant not only for responding to disruption but also for supporting responsiveness, collaboration, experimentation, and long-term institutional transformation.

Digital transformation has further strengthened the relevance of agility in higher education. Digital transformation is not merely the adoption of technology; it involves strategic, organizational, cultural, and processual changes that reshape how institutions create and deliver value (Vial, 2019; Verhoef et al., 2021). In higher education, this includes the redesign of teaching and learning systems, governance models, student services, research infrastructure, and stakeholder engagement. Benavides et al. (2020) show that digital transformation in higher education involves technological, organizational, and social dimensions, while Fernández et al. (2023) emphasize that digital transformation initiatives require strategic alignment and institutional maturity. Srivastava et al. (2023) further show that digital transformational leadership contributes to digital agility in higher education institutions. These findings suggest that digital transformation becomes meaningful when supported by agile leadership, organizational readiness, knowledge processes, and dynamic capabilities.

Organizational agility in universities is also closely linked to knowledge management, strategic agility, and innovation ecosystems. Elayan and Sleimi (2021) show that dynamic capability mediates the relationship between human resource information systems and competitive advantage in Jordanian higher education institutions. Abuanzeh et al. (2022) demonstrate that strategic agility contributes to competitiveness through knowledge management, while Shaban (2024) shows that strategic agility supports organizational excellence in universities. In addition, universities increasingly operate within broader

innovation ecosystems involving government, industry, and society. The Triple Helix model emphasizes university–industry–government relations in knowledge-based innovation systems (Etzkowitz & Leydesdorff, 2000), while studies on academic engagement show that universities contribute to innovation through collaboration, knowledge transfer, and commercialization (Perkmann et al., 2013; Siegel & Wright, 2015). Therefore, agility in higher education involves not only leadership behaviour but also knowledge processes, digital systems, strategic responsiveness, and external collaboration.

Despite growing scholarly interest, the literature on agile leadership and organizational agility in higher education remains conceptually fragmented. Existing studies examine related themes such as crisis leadership, digital transformation, adaptive leadership, strategic agility, dynamic capabilities, knowledge management, innovation ecosystems, and organizational excellence, but these themes are often discussed separately. As a result, it remains difficult to determine how the field is intellectually structured, which themes dominate the research landscape, which theoretical foundations are most influential, and how scholars and countries collaborate in developing this area of inquiry. This fragmentation creates the need for a bibliometric review that can systematically map the intellectual structure of research on agile leadership and organizational agility in higher education.

Bibliometric analysis is appropriate for addressing this gap because it enables researchers to examine patterns of scientific production, thematic relationships, intellectual foundations, and collaboration networks within a defined research field (Donthu et al., 2021; Zupic & Čater, 2015). Through techniques such as keyword co-occurrence analysis, co-authorship analysis, country collaboration analysis, and co-citation analysis, bibliometric mapping can reveal both the conceptual structure and intellectual roots of a field. VOSviewer is particularly useful for constructing and visualizing bibliometric networks, allowing researchers to identify clusters of related concepts, influential references, and patterns of scholarly collaboration (Van Eck & Waltman, 2010). Therefore, this study aims to map the intellectual structure of research on agile leadership and organizational agility in higher education through a bibliometric review. Specifically, it examines publication trends, dominant themes, author collaboration patterns, country collaboration networks, and co-citation structures in Scopus-indexed literature.

RESEARCH METHODOLOGY

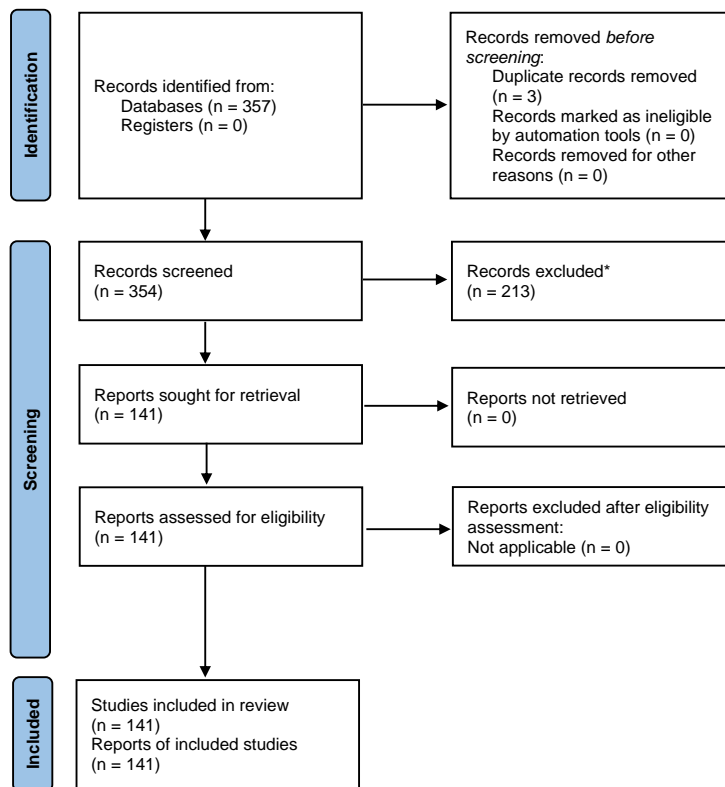
This study employed a bibliometric review design to map the intellectual structure of research on agile leadership and organizational agility in higher education. Bibliometric analysis was used to identify publication trends,

dominant themes, collaboration patterns, and intellectual foundations within the field (Donthu et al., 2021; Zupic & Čater, 2015).

Data were retrieved from the Scopus database. The search was conducted in the Title, Abstract, and Keywords fields using the following query: TITLE-ABS-KEY (“agile leader*” OR “agile leadership” OR “adaptive leader*” OR “adaptive leadership” OR “strategic agility” OR “organizational agility” OR “organisational agility” OR “institutional agility” OR “agile governance” OR “agile management” OR “dynamic capabilities” OR “academic agility”) AND TITLE-ABS-KEY (universit* OR “higher education” OR “academic institution*” OR college* OR “tertiary education”). No initial year restriction was applied in order to capture the broader historical development of the field. The final dataset covered publications from 2003 to 2026; however, 2026 records were interpreted cautiously because Scopus indexing for that year was still incomplete at the time of extraction.

The document selection process followed the PRISMA 2020 flow diagram (Page et al., 2021). The initial search identified 357 records. After removing 3 duplicates, 354 records were screened based on titles, abstracts, author keywords, and indexed keywords. A total of 213 records were excluded because they were outside the higher education context, unrelated to agility, adaptive leadership, or dynamic capabilities, focused mainly on student or pedagogical issues without organizational relevance, or did not provide sufficient bibliographic relevance. The final corpus consisted of 141 Scopus-indexed documents. Only documents with sufficient bibliographic metadata and research relevance were included. Editorials, notes, non-research records, and records without sufficient metadata were excluded.

The inclusion criteria covered studies related to agile leadership, adaptive leadership, strategic agility, organizational agility, institutional agility, agile governance, agile management, or dynamic capabilities in higher education contexts. Studies were included when they addressed leadership, governance, digital transformation, knowledge management, innovation, organizational change, institutional performance, or university transformation. Records were excluded when they focused on non-higher-education sectors, mentioned universities only as affiliations, or lacked sufficient bibliographic metadata.



*Records were excluded for the following reasons:
 non-higher-education sector or non-HEI unit of analysis (n = 89);
 higher education context present but not related to agility, adaptive leadership, or dynamic capabilities (n = 44);
 student, pedagogical, or individual-level focus (n = 38);
 general theory or background only (n = 25);
 editorial, proceedings, or non-research record (n = 13);
 and university-related firm, spin-off, or collaboration rather than HEI management (n = 4).

Figure 1. PRISMA 2020 Flow Diagram of The Document Selection Process

The final dataset was exported from Scopus in CSV format and analyzed using VOSviewer version 1.6.20 (Van Eck & Waltman, 2010). Four types of bibliometric analysis were conducted. First, annual publication trends were analyzed to identify the growth of research output. Second, keyword co-occurrence analysis was used to map dominant themes using all keywords, fractional counting, association strength normalization, and a minimum occurrence threshold of 2; this produced 33 keywords and 6 clusters. Third, co-authorship analysis was conducted to examine author and country collaboration. The author network used fractional counting with a minimum of 1 document and 0 citations, resulting in 15 authors, 5 clusters, 21 links, and a total link

strength of 11.00. The country collaboration network used the same counting method and threshold, resulting in 55 countries and 7 clusters. Fourth, co-citation analysis of cited references was conducted using fractional counting. For co-citation analysis, the unit of analysis was cited references, using fractional counting and association strength normalization. The minimum citation threshold was 5, resulting in 30 cited references, and 4 clusters.

The findings were interpreted as patterns within the selected Scopus-indexed corpus rather than as a complete representation of all global research on agile leadership and organizational agility in higher education.

RESULTS AND DISCUSSION

Results

This section presents the results of the bibliometric analysis based on the final corpus of 141 Scopus-indexed documents. The analysis focuses on five main aspects: annual publication trends, keyword co-occurrence network, co-authorship network by authors, country collaboration network, and co-citation network of cited references. These analyses were used to identify the development, conceptual structure, collaboration patterns, and intellectual foundations of research on agile leadership and organizational agility in higher education.

Annual Publication Trends

The annual publication trend shows that research related to agile leadership and organizational agility in higher education began to appear in 2003. However, the number of publications remained limited during the early period, with only a small number of documents published before 2020. A more visible increase emerged after 2021, indicating growing scholarly attention to agility-related leadership, governance, and organizational adaptability in higher education institutions.

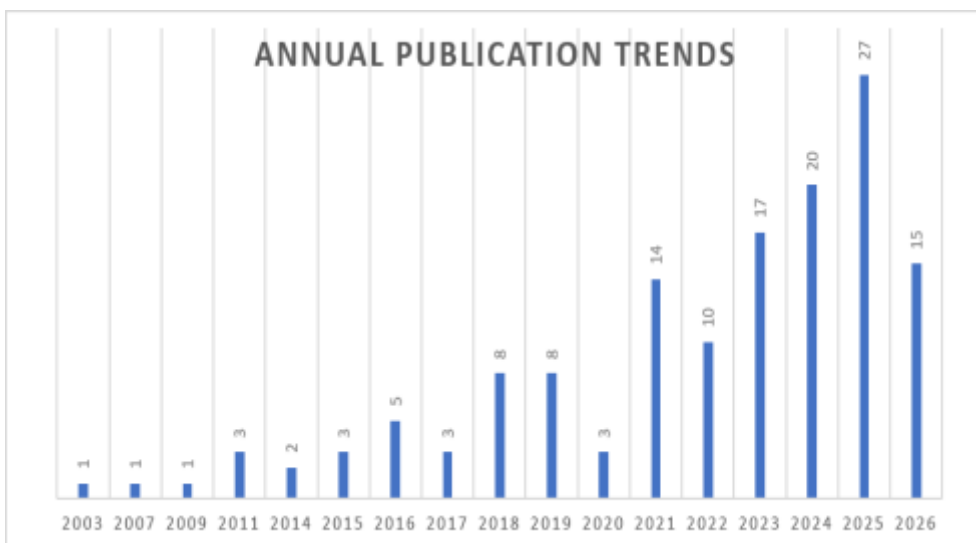


Figure 2. Annual Publication Trends of Scopus-Indexed Documents.

Of the 141 documents included in the final corpus, 103 documents were published between 2021 and 2026, representing approximately 73% of the total dataset. The highest number of publications was recorded in 2025, with 27 documents, followed by 2024 with 20 documents and 2023 with 17 documents. Although 15 documents were recorded in 2026, this number should be interpreted cautiously because Scopus indexing for 2026 was still incomplete at the time of data extraction. Overall, the publication trend indicates that agile leadership and organizational agility have become increasingly prominent topics in higher education research, particularly in the post-pandemic and digital transformation period.

Keyword Co-occurrence Network

Keyword co-occurrence analysis was conducted to identify the dominant themes and conceptual relationships within the corpus. The analysis used all keywords as the unit of analysis, fractional counting as the counting method, association strength as the normalization method, and a minimum occurrence threshold of 2. From 594 total keywords identified in the dataset, 33 keywords met the threshold and were visualized in the network. The analysis produced 6 clusters.

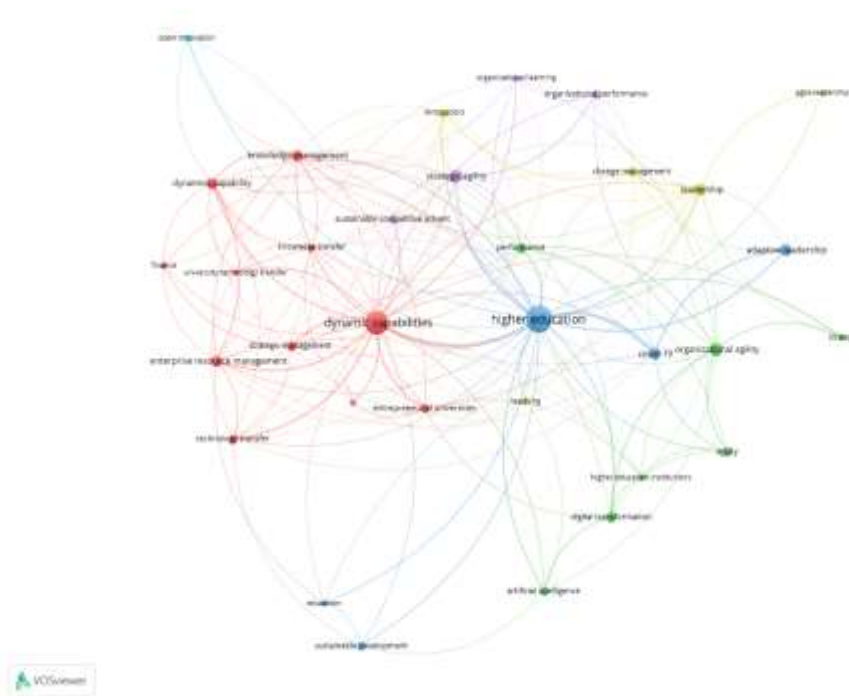


Figure 3. Keyword Co-occurrence Network.

The keyword co-occurrence network shows that research on agile leadership and organizational agility in higher education is structured around several interconnected themes. The largest and most central nodes are higher education and dynamic capabilities, indicating that agility-related studies in higher education are strongly associated with institutional adaptability and the ability of universities to reconfigure resources in response to environmental change. Organizational agility is closely connected with digital transformation, agility, artificial intelligence, and strategy, suggesting that institutional agility is increasingly discussed in relation to technological transformation and strategic responsiveness.

Leadership-related terms, including leadership, adaptive leadership, agile leadership, and change management, form another thematic area that highlights the role of leadership in supporting organizational adaptation. The network also shows connections among knowledge management, knowledge transfer, technology transfer, open innovation, and strategic management. This indicates that agility in higher education is closely related to knowledge-based innovation and university transformation. Overall, the keyword co-occurrence network suggests that agile leadership remains an emerging but relevant theme, while

organizational agility is more strongly embedded within broader discussions of dynamic capabilities, digital transformation, knowledge management, and strategic agility.

Co-authorship Network by Authors

Co-authorship analysis by authors was conducted to examine scholarly collaboration patterns within the final corpus. The analysis used authors as the unit of analysis, fractional counting as the counting method, a minimum threshold of 1 document per author, and 0 citations. The network visualized 15 authors, resulting in 5 clusters, 21 links, and a total link strength of 11.00.

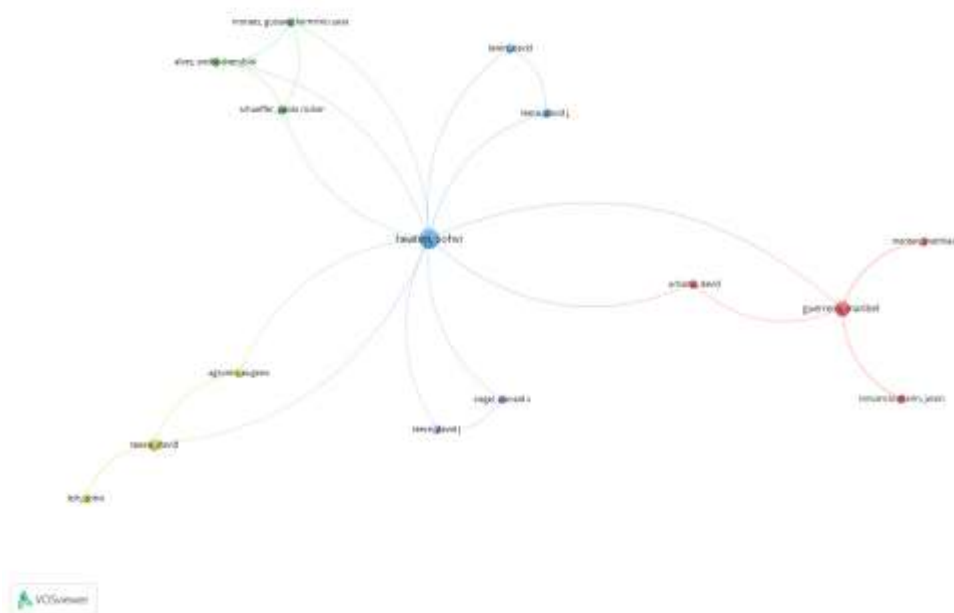


Figure 4. Co-authorship Network by Authors.

The co-authorship network shows that collaboration in research on agile leadership and organizational agility in higher education remains relatively fragmented. Rather than forming a single dominant collaborative community, the authors are distributed across several small clusters. Heaton, Sohvi appears as one of the most central authors in the network, connecting with several authors such as Teece, David; Lewin, David; and Moraes, Gustavo Hermínio Salat. Another smaller collaborative cluster is formed around Guerrero, Maribel, together with Urbano, David; Menter, Matthias; and Roncancio-Marín, Jason.

Overall, the author collaboration pattern suggests that this research field is still developing, with scholarly collaboration emerging through small and dispersed research groups.

Country Collaboration Network

Country collaboration analysis was conducted to identify the geographical distribution and international collaboration patterns within the Scopus-indexed corpus. The analysis identified 55 countries that met the threshold, producing 7 country collaboration clusters.

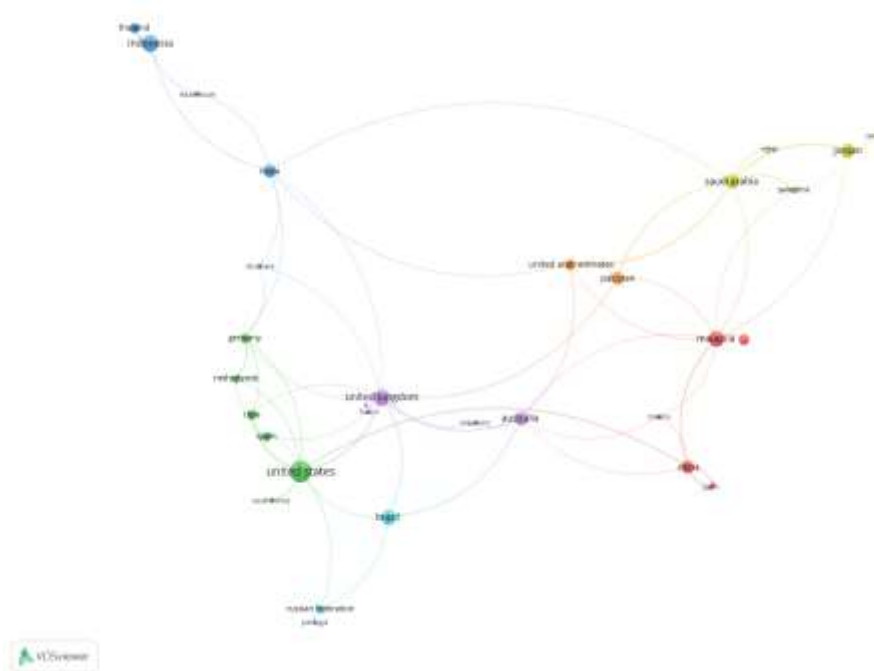


Figure 5. Country Collaboration Network.

The country collaboration network shows that research on agile leadership and organizational agility in higher education is distributed across diverse geographical contexts. Within the Scopus-indexed corpus, the United States appears as the most productive country, while the United Kingdom appears as the most connected country in terms of collaboration links. The presence of 55 countries in the network indicates that agility-related research in higher education has attracted international scholarly attention. However, the collaboration structure also suggests that international cooperation remains uneven, with several countries forming stronger collaborative ties while others appear more peripheral in the network. Therefore, the findings should be

entrepreneurship appear in the network, suggesting that the field integrates leadership adaptability, organizational strategy, and innovation-based transformation. Overall, the co-citation analysis demonstrates that research on agile leadership and organizational agility in higher education is theoretically interdisciplinary, combining dynamic capabilities, resource-based view, adaptive leadership, strategic management, and university innovation studies.

Discussion

Annual Publication Trends

The annual publication trend indicates that research on agile leadership and organizational agility in higher education has grown substantially after 2021. Although the earliest publication in the corpus appeared in 2003, the topic remained relatively limited before the post-pandemic period. The increase after 2021 reflects the growing urgency for higher education institutions to develop more adaptive leadership and organizational capabilities in response to crisis, digital transformation, and institutional uncertainty. This pattern is consistent with studies showing that the COVID-19 pandemic accelerated the need for agile decision-making, digital leadership, and institutional resilience in universities (Nissim & Simon, 2023; Varga-Atkins et al., 2021).

However, the development of this field should not be interpreted only as a pandemic-related phenomenon. The intellectual roots of agility predate COVID-19 and are closely linked to strategic agility, organizational agility, resource-based theory, and dynamic capabilities (Barney, 1991; Doz & Kosonen, 2010; Harraf et al., 2015; Teece et al., 1997; Teece, 2007). Therefore, the inclusion of publications from 2003 to 2026 strengthens the historical scope of this review and responds to the need for a broader intellectual mapping of the field. The publication trend also shows that 2025 recorded the highest number of publications, while the 2026 records should be interpreted cautiously because Scopus indexing for that year was incomplete at the time of data extraction. Overall, the trend suggests that agile leadership and organizational agility have become increasingly important topics in higher education management, especially in relation to digital transformation, institutional resilience, and innovation.

Keyword Co-occurrence Network

The keyword co-occurrence network shows that higher education and dynamic capabilities are among the most central themes in the field. This finding indicates that research on agility in higher education is strongly connected to the ability of universities to sense environmental change, seize opportunities, and reconfigure institutional resources. This is theoretically consistent with the

dynamic capabilities perspective, which emphasizes organizational adaptation in rapidly changing environments (Teece et al., 1997; Teece, 2007). In higher education, dynamic capabilities are reflected in the ability of universities to redesign governance, strengthen digital infrastructure, develop innovation ecosystems, and respond to changing stakeholder demands.

The prominence of dynamic capabilities is also supported by empirical studies in higher education. Qu and Kim (2022) show that universities require dynamic capabilities to manage AI-enabled innovation ecosystems involving government, industry, and academic actors. Elayan and Sleimi (2021) demonstrate that dynamic capability mediates the relationship between human resource information systems and competitive advantage in Jordanian higher education institutions. These findings confirm that agility in higher education is not only a matter of leadership style, but also an institutional capability involving resources, knowledge, technology, and strategic responsiveness.

The keyword network also highlights the close relationship among organizational agility, digital transformation, artificial intelligence, strategy, and innovation. This indicates that agility in higher education is increasingly shaped by digital transformation. Srivastava et al. (2023) found that digital transformational leadership contributes to digital agility in higher education institutions through internal branding and digital self-efficacy. Hernández et al. (2025) also show that strategic digital transformation affects organizational agility and innovation performance in higher education. Similarly, Yıldırım et al. (2025) demonstrates that digital transformation is linked to organizational agility in a university context. These studies suggest that technology alone does not automatically produce agility; rather, digital transformation becomes meaningful when it is supported by leadership, organizational learning, and institutional capability.

Leadership-related keywords, such as agile leadership, adaptive leadership, leadership, and change management, appear as relevant but still developing themes. This suggests that agile leadership is emerging within the field, while organizational agility and dynamic capabilities are more conceptually established. This finding is important because it indicates a gap for future research: agile leadership needs to be examined more deeply as an antecedent or enabling mechanism of organizational agility in higher education. Samodien et al. (2024) provide evidence that agile leadership contributes to institutional performance in higher education, while Schophuizen et al. (2023) argue that innovation in universities requires the interaction of administrative, adaptive, and enabling leadership. Thus, agile leadership should be understood not merely as fast decision-making, but as a leadership orientation that enables collaboration, experimentation, communication, and adaptive capacity.

The keyword network also shows the importance of knowledge management, knowledge transfer, technology transfer, open innovation, and strategic management. This finding reflects the nature of universities as knowledge-intensive organizations. Organizational agility in higher education depends on how institutions create, share, and apply knowledge across internal and external networks. Kusumawardani et al. (2023) show that knowledge management maturity and digital capability can support knowledge utilization and organizational agility in higher education institutions. Abuaneh et al. (2022) further demonstrate that knowledge management mediates the relationship between strategic agility and competitiveness in public higher education institutions. This confirms that agility in universities must be understood as a knowledge-based and innovation-oriented capability.

Co-authorship Network by Authors

The co-authorship network by authors reveals that collaboration in this research field remains fragmented. The network is composed of several small clusters rather than a single dominant scholarly community. This suggests that research on agile leadership and organizational agility in higher education is still developing and has not yet formed a consolidated academic network. Such fragmentation may also explain why the literature uses multiple overlapping terms, such as agile leadership, adaptive leadership, strategic agility, organizational agility, institutional agility, agile governance, and dynamic capabilities.

This fragmentation has both limitations and opportunities. On the one hand, it indicates that the field still lacks a unified conceptual framework. On the other hand, it opens opportunities for interdisciplinary research that connects higher education management, strategic management, leadership studies, innovation studies, and digital transformation. The presence of scholars associated with dynamic capabilities and university entrepreneurship in the network indicates that this field is not limited to education research but is also shaped by strategic management and innovation scholarship. Belitski and Sikorski (2024), for example, show that entrepreneurial universities require dynamic capabilities to support entrepreneurial processes, knowledge transfer, and commercialization. This supports the interpretation that future collaboration should integrate leadership, organizational capability, and innovation ecosystem perspectives.

The fragmented co-authorship structure also suggests the need for stronger research communities focusing specifically on agile leadership in higher education. Future studies could develop collaborative research agendas that examine how agile leadership influences organizational agility, institutional

performance, innovation capacity, and resilience across different types of higher education institutions. More comparative and multi-institutional studies are needed to move the field beyond isolated case studies and toward more cumulative theoretical development.

Country Collaboration Network

The country collaboration network shows that research on agile leadership and organizational agility in higher education is distributed across 55 countries. Within the Scopus-indexed corpus, the United States appears as the most productive country, while the United Kingdom appears as the most connected country in terms of collaboration links. This pattern indicates that agility-related research in higher education has attracted international attention, although collaboration remains uneven across regions.

The presence of multiple countries in the network suggests that agility has become a relevant issue across different higher education systems. However, the implementation of agile leadership and organizational agility may differ depending on institutional culture, governance structure, funding systems, digital readiness, and national higher education policy. For example, Hajjaj et al. (2025) emphasize the importance of digital leadership in higher education transformation, while Muir et al. (2025) highlight organizational resilience in a medicine and health sciences university context. Sidani and Harb (2025) also show that resilient capabilities are important for universities facing digital sustainability challenges. These studies suggest that agility is shaped by both global pressures and local institutional conditions.

The uneven collaboration pattern also implies the need for broader international research partnerships, particularly involving developing and emerging higher education systems. Many universities in these contexts face digital transformation, resource constraints, governance complexity, and increasing pressure to improve institutional competitiveness. Cross-country research can help identify whether agile leadership and organizational agility operate similarly across contexts or whether they require context-specific models. Therefore, future research should not only expand the geographical scope of studies but also examine how cultural, technological, and policy environments influence the development of organizational agility in higher education.

Co-citation Network of Cited References

The co-citation network provides the strongest evidence of the intellectual structure of the field. The centrality of dynamic capabilities, resource-based view, strategic management, adaptive leadership, and university

innovation studies indicates that research on agile leadership and organizational agility in higher education is theoretically interdisciplinary. The dominance of dynamic capabilities is consistent with the argument that organizations must integrate, build, and reconfigure resources to respond to environmental change (Teece et al., 1997; Teece, 2007). In higher education, this means that universities must develop capabilities to adapt governance, human resources, digital systems, knowledge processes, and external partnerships.

The connection with Barney's (1991) resource-based view indicates that organizational agility can be understood as a strategic capability that helps universities sustain institutional advantage. In this context, valuable institutional resources may include academic expertise, leadership capacity, digital infrastructure, organizational culture, knowledge management systems, and innovation networks. The resource-based view helps explain why some universities are more capable of adapting to change than others: agility depends not only on external pressure but also on the internal resources and capabilities that institutions can mobilize.

The co-citation findings also show that strategic agility and organizational agility are connected to broader discussions on innovation and university transformation. Haidegger et al. (2024) show that successful university research and innovation ecosystems require coordinated strategies and institutional capacity. Fernandes and O'Sullivan (2023) demonstrate that university–industry research and development collaborations require project management practices capable of handling complex coordination. Meanwhile, Belitski and Sikorski (2024) explain that entrepreneurial universities need dynamic capabilities to support knowledge transfer and engagement with entrepreneurial ecosystems. These studies reinforce the view that organizational agility in higher education is not only internal flexibility but also the ability to connect institutional resources with external innovation networks.

Based on the co-citation structure, agile leadership and organizational agility in higher education can be understood through a multi-level framework. At the leadership level, agile and adaptive leadership support communication, collaboration, experimentation, and responsiveness. At the organizational level, dynamic capabilities enable universities to sense change, seize opportunities, and reconfigure resources. At the ecosystem level, knowledge management, technology transfer, open innovation, and university–industry collaboration connect universities with external opportunities. This interpretation suggests that future research should not study agile leadership in isolation. Instead, it should investigate how leadership interacts with digital capability, knowledge management, governance structures, and innovation ecosystems to produce organizational agility.

Overall, the discussion confirms that agile leadership remains an emerging but important research theme, while organizational agility is more firmly embedded in dynamic capabilities, digital transformation, knowledge management, and strategic management. Future research should develop clearer conceptual distinctions among agile leadership, adaptive leadership, strategic agility, organizational agility, and dynamic capabilities. It should also examine the mechanisms through which agile leadership contributes to organizational agility, institutional performance, innovation capacity, and resilience in different higher education contexts.

CONCLUSION

This study mapped the intellectual structure of research on agile leadership and organizational agility in higher education through a bibliometric review of 141 Scopus-indexed documents published between 2003 and 2026. The findings show that scholarly attention to this topic has increased substantially after 2021, reflecting the growing importance of adaptive leadership, digital transformation, and institutional agility in higher education. The keyword co-occurrence analysis indicates that the field is strongly shaped by dynamic capabilities, organizational agility, digital transformation, knowledge management, and innovation, while agile leadership remains an emerging but increasingly relevant theme.

The co-authorship and country collaboration analyses reveal that this research area is internationally distributed but still relatively fragmented. Collaboration among authors tends to form small clusters, suggesting that the field has not yet developed a consolidated scholarly community. Meanwhile, the co-citation analysis confirms that the intellectual foundation of the field is interdisciplinary, combining dynamic capabilities, resource-based view, strategic management, adaptive leadership, and university innovation studies. These findings suggest that agility in higher education should be understood not only as a leadership style, but also as an organizational capability supported by digital readiness, knowledge processes, innovation ecosystems, and strategic resource reconfiguration.

Overall, this study contributes to higher education management literature by providing a structured overview of the development, conceptual themes, collaboration patterns, and intellectual foundations of agile leadership and organizational agility research. Future studies are encouraged to examine more empirically how agile leadership influences organizational agility, institutional performance, innovation capacity, and resilience across different higher education contexts. Further bibliometric studies may also expand the

dataset beyond Scopus by incorporating Web of Science, Dimensions, ERIC, or Google Scholar to obtain a broader understanding of the field.■

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