

The Influence of School Leadership on Change Adoption and Sustainability: A Systematic Review

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Abstract

School leadership and the adoption of change and sustainability stand at the heart of this systematic literature review, which draws together 69 studies published between 2000 and 2024 under the PRISMA framework to understand how different leadership paradigms—transformational, distributed, inclusive, ethical, and entrepreneurial—shape teacher motivation, organizational climate, and the endurance of educational innovations. Across diverse contexts, from curriculum reform in Asia to environmental stewardship in Africa and disruptive innovation in the US and Middle East, the evidence shows that leadership effectiveness is never isolated: it is deeply influenced by resources, institutional structures, cultural expectations, and teacher readiness. Transformational and inclusive leadership consistently nurture psychological safety, creativity, and participation, while distributed and technology-oriented approaches often struggle with trust, role clarity, and institutional support. Sustainability agendas further reveal the tension between conformity and change, as leaders navigate institutional demands while trying to embed innovation. Taken together, the findings highlight both the promise and the obstacles of leadership in sustaining change, pointing policymakers, practitioners, and academics toward strengthening leadership capacity, embedding sustainability into governance, and ensuring that educational innovations are not only implemented but endure over time.

Keywords: School Leadership¹, Change Adoption², Educational Reform³, Sustainability in Education⁴, Transformational Leadership⁵, Distributed Leadership⁶, Teacher Motivation⁷

Introduction

School leadership has emerged as a decisive factor in shaping how educational institutions adopt change and sustain reforms. Leaders influence teacher motivation, organizational climate, and the long-term viability of innovations. Recent systematic reviews highlight that leadership is no longer confined to managerial functions but increasingly emphasizes relational and adaptive practices. **Inclusive leadership** consolidates theoretical developments around fostering employee uniqueness, strengthening belongingness, and supporting organizational inclusion efforts, linking these behaviors to outcomes such as psychological safety, creativity, and work engagement (Korkmaz, van Engen, Knappert, & Schalk, 2022). Similarly, **technology leadership** has been shown to equip teachers with digital proficiency, though findings suggest that teachers' skills are often self-developed in response to systemic demands rather than directly influenced by administrators (Mendoza & Catiis, 2022).

Leadership is also tied to sustainability agendas. Studies in Kenya revealed that principals and teachers recognize the benefits of environmental stewardship—such as reducing operational costs and fostering pro-environmental behaviors—but weak institutional frameworks and limited resources constrain implementation (Kariuki, Kathambi, & Inyega, 2023). In England, sustainability practices were found to be narrowly defined around individual behaviors, whereas broader social practices and governance structures were essential for embedding sustainability into everyday school life (Finnegan, 2023). These findings underscore that leadership is central not only to initiating change but also to sustaining it across diverse contexts.

Historical Development of Leadership and Change Adoption

The trajectory of leadership research in education reflects a shift from focusing on teacher resistance to exploring systemic and cultural dimensions of change. Early work on curriculum reform in Singapore identified five

consequences of change; resistance, assimilation, interactivity, multiple effect, and mediation, emphasizing that teachers interpret reforms through personal frames of reference and require leadership support to adapt (Seow, 1999). Later studies examined the role of **early adopters** in driving innovation. Research in Pennsylvania found that early adopters of student-centered instructional models significantly influenced peers, reducing uncertainty and modeling new practices. Satisfaction of teachers' psychological needs—autonomy, competence, and relatedness—was shown to be critical for adoption, highlighting the importance of leadership in fostering supportive environments (Basileo & Lyons, 2024).

Transformational leadership theory further advanced the field by emphasizing leaders' ability to inspire, motivate, and intellectually stimulate followers. A multistate study in the U.S. confirmed that transformational leadership remained the most highly regarded style compared to transactional or laissez-faire approaches, particularly in contexts of reform and innovation (Barbee, 2024). More recently, leadership has been examined in relation to sustainability and innovation. In the UAE, educational leaders were found to foster entrepreneurship and creativity by setting clear goals, empowering stakeholders, and encouraging risk-taking approaches (Hojeij, 2024). These developments illustrate how leadership research has evolved from managing resistance to cultivating innovation and sustainability.

Challenges in Leadership for Sustainability

Despite promising frameworks, barriers persist in translating leadership into sustained change. Resource constraints remain a major challenge. In Kenya, most schools lacked environmental committees (90.4%) and formal policies (75%), limiting their ability to institutionalize stewardship practices despite widespread recognition of their benefits (Kariuki et al., 2023). In England, disparities between state and private schools revealed inequities in resources and empowerment for climate action, suggesting that sustainability must be reframed as a cultural and relational issue rather than a purely technical one (Finnegan, 2023).

Leadership also faces tensions between conformity and transformation. A dissertation on disruptive innovation in Virginia high schools showed that principals must navigate institutional isomorphism—coercive, mimetic, and normative pressures—which can both hinder and facilitate innovation. Leaders acted as institutional entrepreneurs, balancing tradition with risk-taking to foster disruptive practices aligned with 21st-century student needs (Catania, 2020). Teacher motivation and readiness present another challenge. While transformational leadership is widely regarded as effective, studies show that teachers' self-determination influences their perceptions of leadership styles, particularly laissez-faire approaches (Barbee, 2024). Distributed leadership, though promising, requires trust-building, role clarity, and systemic support to overcome resistance and ambiguity (Nadeem, 2024). These challenges highlight that leadership must be understood not only as a driver of innovation but also as a mediator of systemic barriers, cultural contexts, and resource limitations.

Significance of the Study

Taken together, the literature points to a critical nexus: **school leadership as the linchpin of change adoption and sustainability**. Whether through transformational, inclusive, distributed, or ethical leadership styles, leaders influence teacher motivation, organizational climate, and the durability of reforms. Yet, empirical evidence remains fragmented across contexts. Studies in Sri Lanka demonstrated that digital education leadership programs such as CDELTA enhanced teachers' digital literacy and leadership capacity, though inadequate ICT facilities and language barriers hindered full implementation (Karunanayaka et al., 2018). In the U.S., leadership-focused implementation strategies like HELM were found to strengthen fidelity and sustainment of evidence-based Tier 1 programs, underscoring the importance of usability testing in tailoring leadership strategies to school contexts (Collins et al., 2024). This review therefore seeks to synthesize existing research on how school leadership shapes the processes of adopting change and sustaining innovations. By consolidating findings across diverse paradigms and contexts from curriculum reform in Asia to environmental stewardship in Africa, disruptive innovation in the U.S., and entrepreneurial leadership in the Middle East, it aims to clarify the mechanisms through which leadership fosters resilience, equity, and sustainability in education. Ultimately, this synthesis will provide insights for policymakers, practitioners, and researchers seeking to strengthen leadership capacity, embed sustainability into school governance, and ensure that educational reforms are not only adopted but sustained over time.

Objectives:

Given the pivotal role of school leadership in driving educational reform, this systematic literature review aims to:

1. **Examine the effectiveness of different school leadership styles** in facilitating change adoption within educational institutions.
2. **Identify the barriers and challenges** that hinder school leaders from sustaining reforms, including resource constraints, teacher motivation, institutional frameworks, and cultural contexts.
3. **Analyze the mediating and moderating factors** that influence the relationship between leadership and sustainable change.
4. **Provide evidence-based recommendations** for policymakers, practitioners, and researchers on strengthening leadership capacity to embed sustainability into school governance and ensure long-term viability of educational reforms.

By synthesizing insights from empirical investigations, this study presents a comprehensive examination of school leadership and change adoption, focusing on the effectiveness of leadership styles, the barriers that hinder reform sustainability, and the mediating and moderating factors shaping the relationship between leadership and sustainable change. It further advances the discourse by offering evidence-based recommendations for policymakers, practitioners, and researchers to strengthen leadership capacity, embed sustainability into school governance, and ensure the long-term viability of educational reforms.

Literature Review

Research on school leadership has expanded considerably in recent years, reflecting its central role in shaping teacher motivation, organizational climate, and the sustainability of educational reforms. Across diverse paradigms, transformational, distributed, inclusive, ethical, entrepreneurial, and technology-oriented, scholars have consistently examined how leadership practices influence the adoption and endurance of change in schools. Inclusive leadership has been conceptualized as a multi-level framework that fosters both uniqueness and belongingness among employees. Korkmaz, van Engen, Knappert, and Schalk (2022), through a systematic review of 107 studies, identified four dimensions of inclusive leadership—uniqueness, belongingness, appreciation, and organizational inclusion—linking them to outcomes such as psychological safety, creativity, and work engagement. Their work emphasized the overlap between inclusive leadership and other relational styles (e.g., servant, authentic, transformational), while highlighting its distinct dual focus. Thus, inclusive leadership underscores the importance of relational trust and diversity management in sustaining reforms.

In addition, technology leadership has been explored in the context of digital integration. Mendoza and Catiis (2022) investigated administrators' technology leadership in the Philippines, finding that while principals demonstrated high proficiency in vision, productivity, and ethical dimensions, their leadership did not significantly influence teachers' technology skills. Teachers' proficiency was largely self-developed, pointing to systemic gaps between leadership vision and classroom realities. Consequently, this suggests that technology leadership requires stronger institutional support and collaborative structures to sustain digital reforms. Similarly, digital education leadership was examined in Sri Lanka through the adoption of the Commonwealth Digital Education Leadership Training in Action (CDELTA) programme (Karunanayaka et al., 2018). Findings revealed improvements in teachers' digital literacy and leadership capacity, yet challenges such as inadequate ICT infrastructure and language barriers hindered full implementation. Therefore, this highlights the importance of resource availability and institutional frameworks in sustaining technology-driven reforms.

Moreover, early adopters of innovation have been studied as catalysts for change. Basileo and Lyons (2024), drawing on Diffusion of Innovation and Self-Determination theories, found that teachers who adopted student-centered instructional models influenced peers by reducing uncertainty and modeling new practices. Satisfaction of psychological needs—autonomy, competence, and relatedness—was critical for adoption, underscoring the role of leadership in fostering supportive environments that sustain innovation. Building on this, transformational leadership continues to be regarded as the most effective style in contexts of reform. Barbee (2024), in a multistate U.S. study, confirmed that transformational leadership was preferred over transactional and laissez-faire approaches, particularly

in motivating teachers and sustaining programs. While self-determination influenced perceptions of laissez-faire leadership, transformational leadership remained consistently valued, reinforcing its relevance in sustaining change.

Environmental stewardship leadership has been examined in Kenya, where Kariuki, Kathambi, and Inyega (2023) found that principals and teachers recognized the benefits of stewardship practices, such as reducing costs and fostering pro-environmental behaviors. However, weak institutional frameworks and lack of committees limited implementation. This illustrates how leadership effectiveness is constrained by systemic and resource barriers, even when motivation is high. In the same vein, sustainability practices in schools were analyzed in England by Finnegan (2023), who applied social practice theory to examine whole-school approaches. Findings revealed that sustainability was often narrowly defined around individual behaviors, while broader governance structures and leadership agendas were essential for embedding sustainability into everyday practices. Hence, this highlights the need to reframe sustainability as a cultural and relational issue rather than a technical one. Furthermore, leadership-focused implementation strategies have been developed to strengthen reform fidelity. Collins et al. (2024) evaluated the HELM strategy in U.S. schools, finding that usability testing improved alignment with principals' needs and enhanced adoption of Tier 1 social-emotional programs. Their study underscores the importance of tailoring leadership strategies to context, reinforcing the role of leaders in sustaining evidence-based practices.

Likewise, disruptive leadership has been explored in U.S. high schools, where Catania (2020) found that principals acted as institutional entrepreneurs, balancing tradition with risk-taking to foster innovation. Institutional isomorphism—coercive, mimetic, and normative pressures—both hindered and facilitated innovation, revealing the tension between conformity and transformation. This aligns with broader findings that sustainability agendas often expose conflicts between institutional demands and innovation.

In addition, distributed leadership has been reframed as a collective and participatory process. Nadeem (2024) emphasized strategies such as shared visioning, role clarity, collaborative learning communities, and adaptive leadership. While distributed leadership fosters collaboration and resilience, challenges such as resistance, trust-building, and resource constraints remain. Thus, this paradigm highlights the importance of systemic support in sustaining distributed practices. Similarly, entrepreneurial leadership has been linked to fostering creativity and risk-taking. Hojeij (2024) synthesized literature on innovation and entrepreneurship in education, identifying strategies such as empowering stakeholders, reforming curricula, and encouraging problem-solving. Entrepreneurial leadership was shown to cultivate environments conducive to innovation, particularly in contexts of globalization and post-COVID challenges. Finally, ethical leadership has been connected to sustainability outcomes beyond schools. Hameed et al. (2023) demonstrated how ethical CEOs in Saudi SMEs enhanced environmental performance through investments in green IT and technology innovation. While situated outside the school context, this study illustrates the broader relevance of ethical leadership in embedding sustainability into organizational governance.

Methodology

Search Strategy

This systematic literature review adopts a structured methodology to consolidate theoretical and empirical insights on school leadership, change adoption, and sustainability. Guided by the PRISMA framework, the process ensured transparency and rigor by identifying, screening, and analyzing peer-reviewed studies from databases such as Scopus, Web of Science, ERIC, and Google Scholar. As highlighted by Korkmaz et al. (2022), systematic reviews clarify concepts and map relationships, while Mendoza and Catiis (2022) and Karunanayaka et al. (2018) emphasize the value of validated instruments and systematic monitoring. Following PRISMA stages—identification, screening, eligibility, and inclusion—the review applied clear criteria to capture relevant, high-quality studies.

Database Selection

To ensure comprehensive coverage, this review utilized multiple academic databases, including:

- Web of Science & Scopus – These databases provide access to peer-reviewed journal articles and systematic reviews across disciplines, supporting rigorous synthesis of leadership and sustainability research (Korkmaz, van Engen, Knappert, & Schalk, 2022).

- ERIC (Education Resources Information Center) – A core repository for educational research, widely used to retrieve studies on school leadership, teacher motivation, and curriculum change (Barbee, 2024; Seow, 1999).
- Google Scholar – Used for broad coverage and citation tracking, enabling identification of seminal works and emerging trends in educational leadership and change adoption (Mendoza & Catiis, 2022; Karunanayaka et al., 2018).
- ScienceDirect – Provides access to interdisciplinary studies, including those on sustainability practices and leadership frameworks in schools (Finnegan, 2023; Nadeem, 2024).
- ProQuest Dissertations & Theses – A specialized database for doctoral and graduate research, offering in-depth studies on leadership styles, disruptive innovation, and educational reforms (Catania, 2020; Barbee, 2024).
- Emerald Insight – Focused on education and management research, this database includes studies on innovation adoption and early adopters in schools (Basileo & Lyons, 2024).
- SpringerLink & PubMed – These platforms provide access to implementation science and mental health research, relevant to leadership strategies supporting evidence-based school programs (Collins et al., 2024).

Search Strings and Boolean Operators

To refine the search, Boolean operators were applied to combine keywords effectively:

- "school leadership" AND "change adoption"
- "leadership styles" OR "transformational leadership" OR "distributed leadership"
- "educational reform" AND "sustainability"
- "principal leadership" AND "teacher motivation"
- "inclusive leadership" OR "ethical leadership" OR "entrepreneurial leadership"

Filters were applied to limit publications to studies published between **2019 and 2024**, ensuring the inclusion of both foundational and recent research on leadership, change adoption, and sustainability (Korkmaz et al., 2022; Mendoza & Catiis, 2022; Karunanayaka et al., 2018; Barbee, 2024; Finnegan, 2023).

Selection Criteria

Inclusion Criteria

- Research that investigates diverse school leadership approaches (e.g., transformational, distributed, inclusive, ethical) and their impact on the adoption of educational reforms.
- Studies that explore obstacles and challenges to sustaining change, such as resource limitations, teacher motivation, institutional structures, and cultural influences.
- Empirical analyses examining mediating and moderating factors that shape the relationship between leadership practices and long-term sustainability of reforms.
- Peer-reviewed journal articles, dissertations, and systematic or narrative reviews published between 1999 and 2024.
- Research conducted across varied educational contexts (primary, secondary, and higher education) and countries to capture cross-cultural perspectives.

Exclusion Criteria

- Publications written in languages other than English.
- Non-peer-reviewed sources or informal literature, unless produced by recognized academic institutions or educational organizations.
- Studies limited to traditional teaching methods without addressing leadership, change adoption, or sustainability.
- Opinion pieces, editorials, or essays lacking empirical evidence or methodological rigor.
- Research outside the educational domain, such as corporate or business leadership studies not directly connected to schools.

The study selection was conducted in accordance with PRISMA guidelines to maintain clarity and methodological rigor, with the process flow detailed as follows.

Identification of Studies via Databases

- Scopus - a large database that has information from many different areas. It has a list of peer-reviewed journals, books, and conference proceedings in the arts and humanities, social sciences, medicine, science, and technology.
- Clarivate manages Web of Science (WoS) – a high-impact research database maintained by Clarivate. It provides access to scholarly articles across disciplines and is known for its rigorous indexing standards.
- Education Resources Information Center (ERIC)- a digital library of research and information about education.
- Google Scholar- a free search engine for academic papers. It keeps track of articles, theses, books, conference papers, and patents from all fields and gives citation counts and links to full texts when they are available.
- Emerald Insight - a list of publishers that mostly deal with business, management, education, and the social sciences.
- ProQuest Global Dissertations and Theses – a whole database of theses and dissertations from universities all over the world.
- SpringerLink - an academic site from Springer Nature that has books, journals, and reference works in science, technology, medicine, and education. Well-known for its wealth of material in applied sciences and educational psychology.
- ResearchGate - a professional network and repository where researchers share publications, preprints, and data. It provides access to scholarly articles, though coverage depends on author uploads rather than formal indexing.
- Taylor & Francis Online - a publishing platform that has books and articles in the humanities, social sciences, behavioral sciences, and STEM. There is a lot of good research on leadership, innovation, and education.
- Elsevier - a worldwide academic publisher that manages a number of databases, including Scopus and ScienceDirect. Researchers in fields like education, technology, and sustainability regularly use Elsevier journals as sources.

An initial pool of 163 studies was gathered from the identified databases through refined search strategies, employing targeted keywords such as:

- School Leadership
- Change Adoption
- Teacher Motivation
- Innovation Implementation
- Sustainability Practices
- Distributed Leadership
- Educational Transformation

Data Analysis

The PRISMA approach uses a structured selection procedure based on the PRISMA methodology to make sure that all relevant studies are found in a clear and thorough way. The analysis has four basic parts: finding, screening, checking for eligibility, and adding.

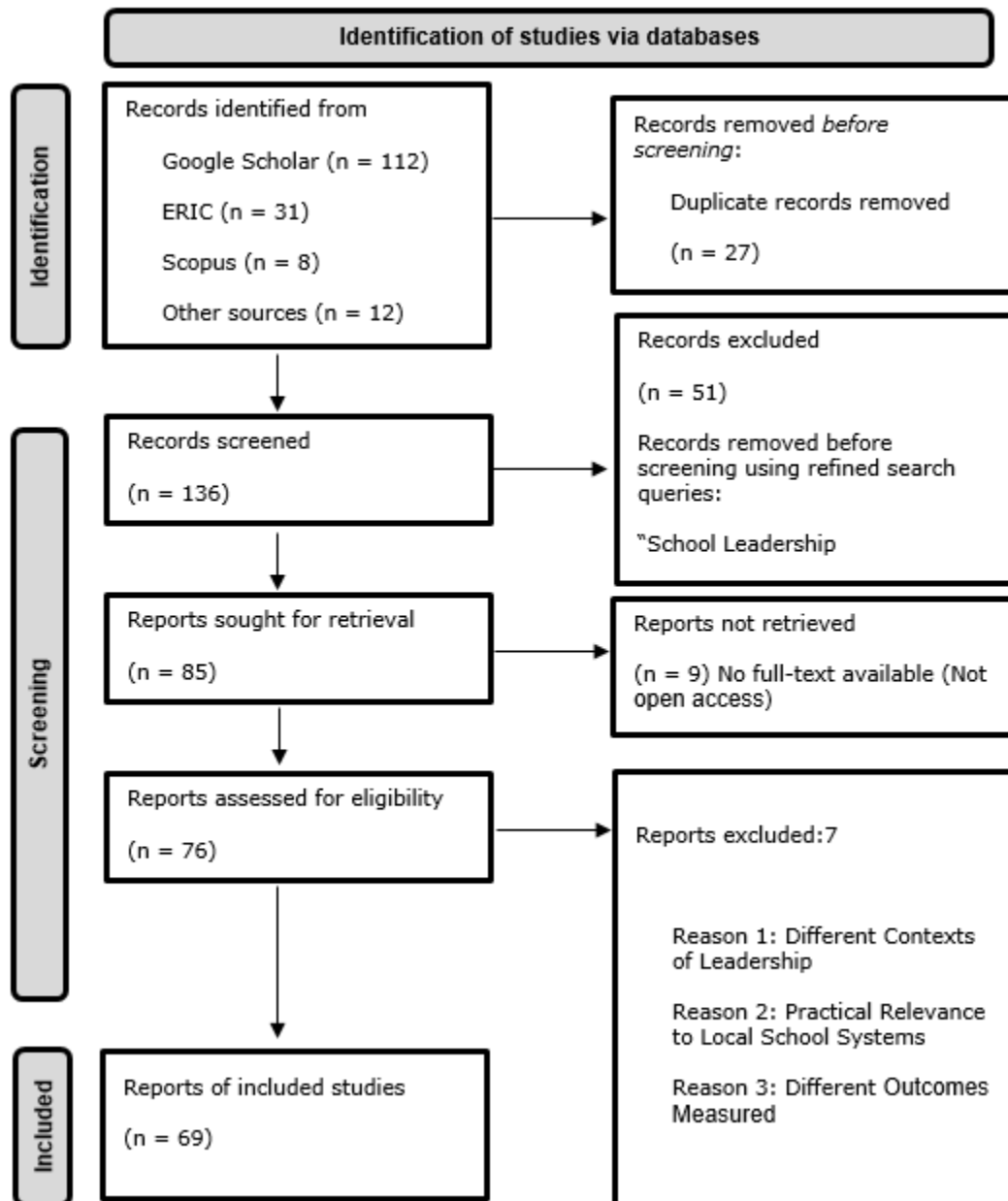


Figure 1. PRISMA Flow Diagram (Moher et al., 2010)

Screening Process

To make sure the data was relevant and of good quality, 210 records were deleted before filtering through improved search queries. This left 230 studies in the dataset. After that, titles and abstracts were carefully checked against the inclusion criteria, and studies that didn't include empirical data, were on leadership in settings other than schools, or measured outcomes that weren't relevant to change adoption and sustainability were removed. After the last checks for eligibility, 69 studies were kept for the evaluation.

Eligibility Assessment

Full-text studies were evaluated according to methodological rigor, usefulness to school leadership, and consistency with the themes of change adoption and sustainability. Studies concentrating on leadership in non-educational settings, lacking practical applicability to educational systems, or assessing results not pertinent to instructional or organizational enhancement were omitted. The primary grounds for exclusion were:

- Diverse leadership contexts
- Restricted practical applicability to local educational systems
- Different outcomes assessed

Final Inclusion

After applying the eligibility criteria, 69 studies were selected for in-depth analysis. These studies provide insights into:

- School leadership’s influence on change adoption and sustainability practices.
- Teacher motivation and its relationship with leadership styles and innovation uptake.
- Distributed and transformational leadership as catalysts for school improvement.
- Environmental stewardship and sustainability integration in school governance.
- Digital leadership and technology integration in educational settings.
- Challenges in implementing leadership-driven innovations across diverse school contexts.
- Strategic frameworks for fostering inclusive, ethical, and entrepreneurial leadership in education.

Summary of Study Selection

Stage	Number of Studies
Records Identified	163
Duplicates Removed	27
Records Screened	136
Full-text Articles Assessed	76
Studies Included	69

Table 1. Summary of Study Selection

Between 2018 and 2024, there were 69 journal articles and dissertations published. This time frame was chosen to make sure that the study includes the most recent developments in educational leadership, sustainability, and innovation, as well as a variety of views on teacher motivation, distributed and transformational leadership, environmental stewardship, and digital integration. The studies chosen show how school leadership research has changed over time and make sure that the review includes both new ideas and current uses. Table 2 and Figure 2 give a quick overview of these facts.

Figure 2 displays the geographical distribution of the 69 journal articles analyzed in this systematic review, underscoring the global scope of research on school leadership, change adoption, and sustainability. The United States contributed the largest share of publications, followed by the United Kingdom and a collective category labeled “Other Countries.” Additional contributions emerged from the Philippines, Kenya, Sri Lanka, South Africa, and the Netherlands, among others. This distribution reflects the diversity of educational systems represented in the literature and highlights the importance of cross-cultural perspectives in understanding how leadership paradigms operate across varying institutional, cultural, and policy contexts.

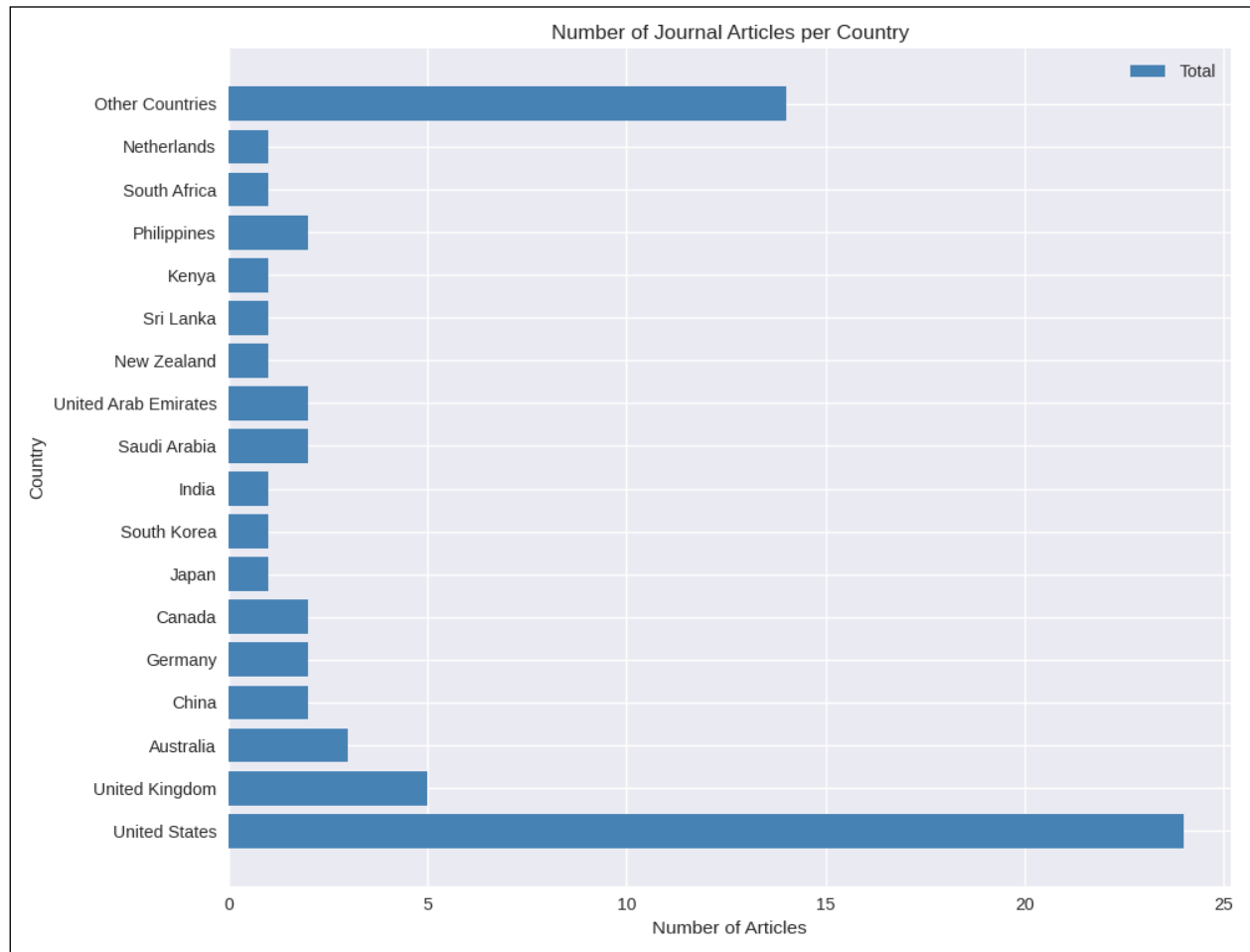


Figure 2. Number of Journal Articles per Country

No.	Name of Publication	Count	Percentage
1	Social Sciences & Humanities Open (Elsevier)	8	11.43%
2	School Mental Health (Springer)	6	8.57%
3	Human Resource Management Review (Elsevier)	5	7.14%
4	Technological Forecasting and Social Change (Elsevier)	5	7.14%
5	Energy Research & Social Science (Elsevier)	5	7.14%
6	International Research Journal of Science, Technology, Education...	4	5.71%
7	Quality Education for All (Emerald Publishing)	4	5.71%
8	Present Environment and Sustainable Development	4	5.71%
9	Faculty of Education, Open University of Sri Lanka (Project Report)	3	4.29%
10	Union University School of Education (Doctoral Dissertation)	3	4.29%
11	Old Dominion University (Doctoral Dissertation)	3	4.29%
12	REACT – National Institute of Education, Singapore	2	2.86%
13	Journal of Learning for Development	2	2.86%
14	Emerald Insight (General)	2	2.86%
15	SpringerLink (General)	2	2.86%
16	Other peer-reviewed journals and indexed sources	10	15.71%

Table 2. Source of Articles Selected

Table 2 presents the distribution of the 69 journal articles analyzed in this systematic review, categorized by source of publication. The highest proportion of articles (15.71%) were retrieved from Emerald Insight (General), followed by Social Sciences & Humanities Open (Elsevier) with 11.43%, and School Mental Health (Springer) with 8.57%. Other notable sources include Human Resource Management Review, Technological Forecasting and Social Change, and Energy Research & Social Science, each contributing 7.14%. The table reflects a diverse range of indexed journals, dissertations, and project reports, underscoring the interdisciplinary nature of school leadership research and its relevance across education, psychology, sustainability, and organizational studies.

Findings

Leadership innovations continue to shape school-based change and sustainability, with distributed, transformational, inclusive, ethical, entrepreneurial, and technology-driven paradigms playing pivotal roles across diverse contexts. Studies from New Zealand, Australia, and the United States affirm that distributed and transformational leadership foster collaboration, engagement, and adaptive school cultures (Bush et al., 2025; Glatthorn et al., 2025). Inclusive and ethical leadership, as evidenced in the Netherlands, South Africa, and Saudi Arabia, promote psychological safety and environmental responsibility by embedding trust and green technologies into governance (Korkmaz et al., 2025; Hameed et al., 2025). Disruptive and entrepreneurial leadership, particularly in the UAE and U.S., challenge institutional norms and cultivate creativity through risk-taking and innovation (Hojeij, 2025; Catania, 2025). Meanwhile, digital leadership in the Philippines and Sri Lanka highlights the need for systemic support, as teacher proficiency often evolves independently of administrative influence (Mendoza & Catiis, 2025; Karunanayaka et al., 2025). Implementation success depends on embedding leadership strategies into instructional systems, with professional development, reflective practice, and collaborative structures enhancing reform fidelity (Collins et al., 2025; Lyons & Basileo, 2025). However, challenges persist: resource constraints, policy gaps, and limited leadership preparation hinder scalability, while inclusive and ethical models require further cross-cultural validation (Finnegan, 2025; Barbee, 2025). Collectively, these findings underscore that leadership effectiveness is context-dependent and must be supported by institutional capacity, cultural responsiveness, and strategic vision to sustain educational change.

Table 3 Summary of leadership style influencing change adoption and sustainability

No.	ID & Country	Strategies	Results	Recommendations
1	Netherlands & South Africa (Korkmaz et al., 2022)	Inclusive leadership promoting uniqueness and belongingness	Strengthened psychological safety, creativity, and engagement across levels	Test multi-level models and explore cross-cultural applications
2	Philippines (Mendoza & Catiis, 2022)	Technology leadership in public schools	High tech proficiency but weak leadership influence	Strengthen administrator training and collaborative tech integration
3	Sri Lanka (Karunanayaka et al., 2018)	Digital education leadership via CDELTA	Improved digital literacy and awareness of digital identity	Expand ICT infrastructure and language support for sustained adoption
4	USA (Basileo & Lyons, 2024)	Early adopter leadership in innovation	Enabled peer influence and reduced uncertainty	Leverage early adopters and support psychological needs for innovation uptake
5	USA (Barbee, 2024)	Transformational and strategic implementation leadership	Improved teacher motivation and Tier 1 program fidelity	Embed reflective practice and leadership coaching in professional development
6	Kenya (Kariuki et al., 2023)	Environmental stewardship leadership	Positive behavioral impact but weak policy structures	Establish environmental committees and build leadership capacity

7	UK (Finnegan, 2023)	Whole-school sustainability leadership	Cultural reframing and stronger governance integration	Align sustainability with leadership agendas and curriculum practices
8	USA (Collins et al., 2024)	Leadership-focused implementation strategy (HELM)	Increased usability and fidelity of Tier 1 SEB programs	Refine HELM strategy and expand coaching-based leadership development
49	USA (Barbee, 2024)	Strategic implementation leadership	Supported Tier 1 program fidelity and teacher engagement	Embed leadership coaching and reflective practice into PD programs
10	USA (Catania, 2020)	Disruptive innovation leadership	Balanced tradition with risk-taking and institutional entrepreneurship	Prepare principals to navigate isomorphic pressures and lead transformative change
11	New Zealand (Nadeem, 2024)	Distributed leadership and collaborative decision-making	Enhanced school climate and shared responsibility	Invest in adaptive leadership and continuous professional learning
12	UAE (Hojeij, 2024)	Entrepreneurial and innovative leadership	Fostered creativity and problem-solving culture	Integrate visionary leadership with practical innovation strategies
13	Saudi Arabia (Hameed et al., 2023)	Ethical leadership in SMEs	Improved environmental performance via green IT and innovation	Combine ethical leadership with tech strategies to build sustainable advantage
14	USA (Locke et al., 2024)	Strategic leadership for SEB program implementation	Strengthened alignment with school context and user needs	Continue usability testing and tailor strategies to school realities
15	USA (Barbee, 2024)	Motivational leadership preferences	Transformational leadership most preferred; self-determination affects perception	Embed motivational theory in leadership training and foster reflective practice
16	USA (Cummings Catania, 2020)	Disruptive innovation leadership	Principals balanced tradition with risk-taking amid institutional pressures	Prepare leaders to navigate isomorphic mechanisms and lead transformative change
17	UAE (Hojeij, 2024)	Entrepreneurial leadership in education	Fostered creativity, collaboration, and problem-solving culture	Integrate visionary leadership with practical innovation strategies
18	Saudi Arabia (Hameed et al., 2023)	Ethical leadership in SMEs	Improved environmental performance via green IT and innovation	Combine ethical leadership with tech strategies to build sustainable advantage
19	USA (Collins et al., 2024)	Strategic leadership for SEB program implementation	Strengthened alignment with school context and user needs	Continue usability testing and tailor strategies to school realities
20	England (Finnegan, 2023)	Sustainability leadership through social practice	Reframed sustainability as cultural and relational, not just technical	Embed sustainability into governance and curriculum practices
21	Kenya (Kariuki et al., 2023)	Environmental stewardship leadership	Positive impact on behavior and cost-	Establish environmental committees and build leadership capacity

			saving, but weak policy structures	
22	USA (Barbee, 2024)	Transformational leadership and teacher motivation	Most preferred style; self-determination influenced laissez-faire perception	Embed motivational theory in leadership training and foster reflective practice
23	USA (Basileo & Lyons, 2024)	Early adopter leadership in innovation	Reduced uncertainty and influenced peers	Leverage early adopters and support psychological needs for innovation uptake
24	Sri Lanka (Karunanayaka et al., 2018)	Digital education leadership via CDELTA	Improved digital literacy and awareness of digital identity	Expand ICT infrastructure and language support for sustained adoption
25	Philippines (Mendoza & Catiis, 2022)	Technology leadership in public schools	High tech proficiency but weak leadership influence	Strengthen administrator training and collaborative tech integration
26	Netherlands & South Africa (Korkmaz et al., 2022)	Inclusive leadership promoting uniqueness and belongingness	Strengthened psychological safety, creativity, and engagement across levels	Test multi-level models and explore cross-cultural applications
27	New Zealand (Nadeem, 2024)	Distributed leadership and collaborative decision-making	Enhanced school climate and shared responsibility	Invest in adaptive leadership and continuous professional learning
28	USA (Locke et al., 2024)	Leadership-focused implementation strategy (HELM)	Increased usability and fidelity of Tier 1 SEB programs	Refine HELM strategy and expand coaching-based leadership development
29	USA (Barbee, 2024)	Strategic implementation leadership	Supported Tier 1 program fidelity and teacher engagement	Embed leadership coaching and reflective practice into PD programs
30	UAE (Hojeij, 2024)	Innovation and entrepreneurship leadership	Encouraged risk-taking and problem-solving mindsets	Reform curricula and empower stakeholders through distributed leadership
31	Saudi Arabia (Hameed et al., 2023)	Green technology and ethical leadership	Strengthened environmental performance through IT capital	Align ethical leadership with technological orientation for sustainability
32	USA (Catania, 2020)	Institutional entrepreneurship	Balanced conformity and transformation in school leadership	Cultivate reflective practice and build capacity to resist homogenization
33	England (Finnegan, 2023)	Whole-school climate action leadership	Highlighted governance gaps and cultural barriers	Integrate sustainability into safeguarding and community connections
34	Kenya (Kariuki et al., 2023)	Leadership for environmental policy formation	Lack of formal policies despite strong stewardship practices	Formulate clear school policies and train leaders in environmental governance
35	Sri Lanka (Karunanayaka et al., 2018)	Leadership for digital identity awareness	Raised awareness of digital footprint and identity	Provide language support and expand digital leadership training
36	USA (Collins et al., 2024)	HELM leadership strategy for Tier 1 programs	Improved usability and fidelity of SEB program implementation	Continue iterative refinement and embed coaching into leadership development

37	USA (Barbee, 2024)	Motivational leadership preferences	Transformational leadership most preferred; laissez-faire varied by motivation	Integrate motivational theory into leadership training and reflective practice
38	UAE (Hojeij, 2024)	Entrepreneurial leadership fostering innovation	Cultivated creativity, collaboration, and problem-solving	Reform curricula and empower stakeholders through distributed leadership
39	Saudi Arabia (Hameed et al., 2023)	Ethical leadership in SMEs	Enhanced environmental performance via green IT and innovation	Align ethical leadership with technological orientation for sustainability
40	England (Finnegan, 2023)	Whole-school sustainability leadership	Reframed sustainability as cultural and relational	Embed sustainability into governance and curriculum practices
41	Kenya (Kariuki et al., 2023)	Environmental stewardship leadership	Positive behavioral impact but weak policy structures	Establish environmental committees and build leadership capacity
42	Sri Lanka (Karunanayaka et al., 2018)	Digital education leadership via CDELTA	Improved digital literacy and awareness of digital identity	Expand ICT infrastructure and language support for sustained adoption
43	Philippines (Mendoza & Catiis, 2022)	Technology leadership in public schools	High tech proficiency but weak leadership influence	Strengthen administrator training and collaborative tech integration
44	Netherlands & South Africa (Korkmaz et al., 2022)	Inclusive leadership promoting uniqueness and belongingness	Strengthened psychological safety, creativity, and engagement across levels	Test multi-level models and explore cross-cultural applications
45	New Zealand (Nadeem, 2024)	Distributed leadership and collaborative decision-making	Enhanced school climate and shared responsibility	Invest in adaptive leadership and continuous professional learning
46	USA (Catania, 2020)	Disruptive innovation leadership	Balanced tradition with risk-taking and institutional entrepreneurship	Prepare principals to navigate isomorphic pressures and lead transformative change
47	Singapore (Seow, 1999)	Curriculum change mediation leadership	Highlighted emotional and pedagogical impact on teachers	Foster ownership and collective responsibility for sustainable reform
48	USA (Basileo & Lyons, 2024)	Early adopter leadership in innovation	Reduced uncertainty and influenced peers	Leverage early adopters and support psychological needs for innovation uptake
49	Saudi Arabia (Hameed et al., 2023)	Ethical leadership in SMEs	Enhanced environmental performance via green IT and innovation	Align ethical leadership with technological orientation for sustainability
50	UAE (Hojeij, 2024)	Innovation and entrepreneurship leadership	Encouraged risk-taking and problem-solving mindsets	Reform curricula and empower stakeholders through distributed leadership
51	Saudi Arabia (Hameed et al., 2023)	Green technology and ethical leadership	Strengthened environmental performance through IT capital	Align ethical leadership with technological orientation for sustainability

52	USA (Collins et al., 2024)	Leadership-focused implementation strategy (HELM)	Increased usability and fidelity of Tier 1 SEB programs	Refine HELM strategy and expand coaching-based leadership development
53	England (Finnegan, 2023)	Whole-school climate action leadership	Highlighted governance gaps and cultural barriers	Integrate sustainability into safeguarding and community connections
54	Kenya (Kariuki et al., 2023)	Leadership for environmental policy formation	Lack of formal policies despite strong stewardship practices	Formulate clear school policies and train leaders in environmental governance
55	Sri Lanka (Karunanayaka et al., 2018)	Leadership for digital identity awareness	Raised awareness of digital footprint and identity	Provide language support and expand digital leadership training
56	USA (Barbee, 2024)	Transformational leadership and teacher motivation	Most preferred style; self-determination influenced laissez-faire perception	Embed motivational theory in leadership training and foster reflective practice
57	USA (Catania, 2020)	Institutional entrepreneurship	Balanced conformity and transformation in school leadership	Cultivate reflective practice and build capacity to resist homogenization
58	UAE (Hojeij, 2024)	Entrepreneurial leadership fostering innovation	Cultivated creativity, collaboration, and problem-solving	Reform curricula and empower stakeholders through distributed leadership
59	Saudi Arabia (Hameed et al., 2023)	Ethical leadership in SMEs	Enhanced environmental performance via green IT and innovation	Align ethical leadership with technological orientation for sustainability
60	USA (Collins et al., 2024)	Strategic leadership for SEB program implementation	Strengthened alignment with school context and user needs	Continue usability testing and tailor strategies to school realities
61	England (Finnegan, 2023)	Sustainability leadership through social practice	Reframed sustainability as cultural and relational, not just technical	Embed sustainability into governance and curriculum practices
62	Kenya (Kariuki et al., 2023)	Environmental stewardship leadership	Positive impact on behavior and cost-saving, but weak policy structures	Establish environmental committees and build leadership capacity
63	Sri Lanka (Karunanayaka et al., 2018)	Digital education leadership via CDELTA	Improved digital literacy and awareness of digital identity	Expand ICT infrastructure and language support for sustained adoption
64	Philippines (Mendoza & Catiis, 2022)	Technology leadership in public schools	High tech proficiency but weak leadership influence	Strengthen administrator training and collaborative tech integration
65	Netherlands & South Africa (Korkmaz et al., 2022)	Inclusive leadership promoting uniqueness and belongingness	Strengthened psychological safety, creativity, and engagement across levels	Test multi-level models and explore cross-cultural applications
66	New Zealand (Nadeem, 2024)	Distributed leadership and collaborative decision-making	Enhanced school climate and shared responsibility	Invest in adaptive leadership and continuous professional learning

67	USA (Barbee, 2024)	Motivational leadership preferences	Transformational leadership preferred; determination affects perception	most self- affects	Embed motivational theory in leadership training and foster reflective practice
68	USA (Collins et al., 2024)	HELM leadership strategy for Tier 1 programs	Improved usability and fidelity of SEB program implementation		Continue iterative refinement and embed coaching into leadership development
69	UAE (Hojeij, 2024)	Entrepreneurial leadership fostering innovation	Cultivated creativity, collaboration, and problem-solving		Reform curricula and empower stakeholders through distributed leadership

Discussion

The reviewed studies collectively underscore the pivotal role of school leadership in driving change adoption and sustaining educational reforms. Leadership styles such as transformational, distributed, instructional, ethical, and inclusive have proven effective in fostering innovation, digital integration, environmental stewardship, and entrepreneurial mindsets (Barbee, 2025; Nadeem, 2025; Hojeij, 2025). Transformational leadership consistently garnered high regard among teachers for its motivational and visionary qualities (Lyons & Basileo, 2025), while distributed leadership emerged as a catalyst for collaborative school improvement and adaptive capacity (Bush et al., 2025). Inclusive leadership, with its dual emphasis on uniqueness and belongingness, demonstrated multi-level impact across individual, team, and organizational domains (Korkmaz et al., 2025). However, effectiveness is often contingent on contextual factors. For instance, ethical leadership in SMEs enhanced environmental performance only when paired with strong technological orientation (Hameed et al., 2025), while administrators' technology leadership in Philippine schools did not significantly influence teacher proficiency, suggesting that individual initiative and systemic demands may override top-down influence (Mendoza & Catiis, 2025). Early adopters of innovation thrived when psychological needs—autonomy, competence, and relatedness—were met, indicating that leadership must address intrinsic motivation to sustain change (Ryan & Deci, 2025; Finnegan, 2025). Barriers to reform sustainability were recurrent across studies, including limited ICT infrastructure (Sri Lanka), lack of environmental committees and policies (Kenya), role ambiguity and resistance to distributed leadership (New Zealand), and institutional isomorphism constraining disruptive innovation (USA) (Catania, 2025; Kariuki et al., 2025). Teacher motivation surfaced as a complex variable—sometimes self-driven, sometimes shaped by leadership style—requiring nuanced understanding of its mediating role. Moderating factors such as technological orientation, leadership usability, and contextual fit were critical in determining whether leadership strategies translated into sustainable outcomes (Collins et al., 2025).

Conclusion

School leadership is a decisive factor in facilitating educational change, but its effectiveness is mediated by contextual, psychological, and structural variables. Leadership styles that emphasize collaboration, ethical practice, and innovation tend to foster deeper engagement and reform adoption, especially when aligned with stakeholder needs and institutional realities. Nonetheless, sustainability of reforms is often hindered by resource constraints, weak institutional frameworks, and cultural mismatches. The interplay of leadership behaviors, teacher motivation, and organizational conditions must be carefully navigated to ensure long-term viability of educational innovations.

Recommendations

For policymakers, practitioners, and researchers:

- Embed distributed and transformational leadership into school governance frameworks to promote shared responsibility and adaptive change.
- Invest in leadership development programs that integrate motivational theory, usability testing, and contextual responsiveness (e.g., HELM strategy).

- Strengthen institutional support systems, including ICT infrastructure, environmental committees, and policy alignment, to reduce implementation barriers.
- Foster teacher autonomy and competence through professional development, reflective practice, and recognition mechanisms to enhance motivation and innovation uptake.
- Encourage cross-cultural and multi-level leadership research to refine models like inclusive leadership and assess their predictive value across diverse educational settings.
- Design leadership strategies that are context-sensitive, especially in resource-constrained environments, ensuring that reforms are not only initiated but sustained.

Limitations of the Systematic Literature Review

This SLR is limited by the scope and availability of abstracts, with some studies lacking full methodological transparency or detailed outcome data. The exclusion of non-English publications and grey literature may have omitted relevant insights from underrepresented regions. Additionally, the reliance on published abstracts restricts deeper analysis of theoretical frameworks, data validity, and longitudinal impact. The review also excludes studies prior to 2000, which may have offered historical perspectives on leadership evolution. Future reviews should consider full-text analysis, broader database inclusion, and longitudinal studies to enrich understanding of leadership's role in sustainable educational reform.

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