The Role of Leadership in Utilizing AI for School Improvement

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ABSTRACT

The contemporary educational landscape is undergoing a period of significant transformation driven by rapid technological advancements. School leaders are confronted with a multitude of challenges to prepare students for an increasingly AI-driven future, innovative leadership practices are crucial for navigating these complexities and fostering school improvement. This paper addresses the role and optimal style of school leadership in leveraging AI for school improvement. The research aims to explore how school leadership can employ AI-powered strategies to improve academic outcomes and optimize administrative processes which can unlock the potential of AI in schools. The rationale behind this research holds significant value for the field of education leadership by investigating the practical application and ways of integrating AI in schools and relate it to school leadership styles. This study employs a qualitative literature review, analyzing secondary sources such as scholarly research, official guidelines, and statistical reports. A systematic search across databases like ERIC, EBSCOhost, Web of Science, and IEEE used Boolean operators to refine results. The selection process screened 35 studies, narrowing to 25 rigorously analyzed papers. A thematic analysis identified key trends, gaps, and insights, ensuring a robust evaluation of leadership styles and AI-integration in education. As a resuly, the paper's findings prioritized transformational and ethical leadership styles for successful AI integration and highlighted the essential role of leadership to utilize AI technology by institutionalizing ethical principles, offering Gen-AI guidance and training for educators. The paper has valuable addition to the available body of literature by providing a clear roadmap for leaders on how to successfully utilize AI in their schools through promoting the ethical use of AI amongst educators and students and accommodate well-planned training for educators on how to utilize AI tools responsibly and productively. This contributes to bridging the gap in literature which lacks such clear guidance roadmap and outlined practices for leaders.

Themes
* Innovative educational practices and e-learning
* Effective technology in the classroom and education theory and practice
* Strategies enhancing education access, engagement

Introduction

The contemporary educational landscape is undergoing a period of significant transformation driven by rapid technological advancements. More School leaders are confronted with a multitude of challenges, including the need to personalize learning experiences, improve student engagement, optimize administrative processes, and prepare students for an increasingly technology-driven future. In this dynamic environment, innovative leadership practices are crucial for navigating these complexities and fostering continuous school improvement [1].

However, effectively harnessing the power of Artificial Intelligence (AI) emerging technologies presents a critical challenge for school leadership. While AI has the potential to revolutionize education by personalizing learning, automating administrative tasks, and enhancing student engagement, the problem lies in effectively utilizing this technology in a way that optimizes educational outcomes by the suitable leadership style.

This paper addresses this critical gap by exploring the role of school leadership in leveraging AI for school improvement. The research aims to: 1) Explore how school leadership can employ AI-powered solutions to improve academic outcomes and optimize administrative processes by investigating sufficient leadership strategies and practices that can unlock the transformative potential of AI in schools. 2) To provide a roadmap to school leaders for AI implementation and to embrace these transformative technologies for the benefit of their institutions. The study seeks to answer the main research question: **RQ1**- How does leadership utilize AI-powered tools for school improvement? Which leads to two sub-questions: **1.1**- What are the leadership practices that effectively utilize AI tools to enhance teaching and learning experience? and **1.2**- How can school leadership streamline administrative processes using AI powered tools?

The **rationale** behind this research holds significant value for the field of education leadership by investigating the practical application and ways of integrating AI in schools and relate it to school leadership styles. It contributes to bridge the research gap on the effective role of leadership styles in adopting Artificial Intelligence for school improvement in both academic and administrative aspects and also provides a guidance on sufficient educational practices in the age of AI the to achieve school improvement [2,3]. where the current literature lacks such roadmap guidance. Associated implication and challenges will be investigated by the researcher as well.

Methodology

The research methodology followed in developing this study focuses solely on secondary sources to investigate the role of leadership in utilizing AI for school improvement. While the paper will not use primary techniques such as interviews or surveys, it will use a wide range of current data, scholarly literatures, official guide documents, and studies statistics to achieve its objectives. Here is the methodology breakdown :

- **Research Approach:** This study used a qualitative approach within comprehensive literature review technique to investigate the existing base of literatures on the role of leadership in implementing AI for school improvement. The review sought to identify key concepts, consolidate existing knowledge, and address any gaps in the available research.
- **Searching Process:** A systematic search approach was used to find relevant scholarly papers accessing database content such as ERIC, EBSCOhost, Web of Science, IEE, Research Gate, Proquest, ScienceDirect and Google Scholar. However, search strings were carefully built by combining keywords and Boolean operators (AND, OR, NOT).

The search was confined to Full text available publications published during the last 10 years for leadership context and mostly to last 5 years or less for the AI relevant context as it is a newly rapidly emerged topic. Reference chaining and in-text citation was used to locate additional relevant sources in the bibliographies of the reviewed articles.

- **Selection Process:** After gathering a list of 35 relevant articles, a two-step selection method was used. First, titles and abstracts were checked for addressing the research aim. Irrelevant or confusing publications were eliminated. Second, full-text papers considered likely relevant were thoroughly reviewed to verify they meet the research objectives and methodological requirements. Consequently, around 25 papers remained for the review process.
- **Review Process:** The selected papers were evaluated using a critical and analytical methodology. This entailed thoroughly going over each study's research questions, techniques, findings, and conclusions. Thematic analysis was used to find common themes, similarities, and conflicts in the literature.
- **Considerations:** Both the reliability and repute of the source were evaluated.

The methodology and research design were assessed for suitability and potential biases.

The findings were critically evaluated for validity and addition to the available knowledge evolving the researcher experience in the targeted domain as an AI engineer works as a curriculum specialist in educational institution.

The table below outlines the inclusion criteria has been applied through the methodological apporach.

Table 1: Selection Process Inclusion Criteria

Stage	Description	Inclusion Criteria	Exclusion Criteria
Identification	Systematic search of databases (ERIC, EBSCOhost, Web of Science, IEE, ResearchGate, ProQuest, ScienceDirect, Google Scholar)	Scholarly articles, guide documents, and research statistics	- Non-scholarly sources- Non-English publications
Screening	Review of titles and abstracts	- Articles that discuss AI in education or leadership in school improvement - Publications issued by UNESCO as guidelines on AI for education.	- Titles/abstracts not relevant to leadership or AI context- Unclear or vague abstracts
Eligibility	Full-text review	- Studies with clear methodology and findings - Published within last 10 years (leadership); last 5 years (AI)	- Outdated materials- Studies lacking research focus or methodological detail
Included in Review	Final selection for analysis (n=25)	- Articles aligning with research aim and quality standards	- Redundant or low-impact studies

Reporting Process: The literature review findings will be presented in a standard APA style. Each part will be designed to emphasize key topics, consolidate study findings, and identify the gaps that will guide future research.

Overall, the PRISMA flowchart below summarizes the methodology process followed by the researcher.

Figure 1: Methodology PRISMA flowchart

Literature Review
Conceptual Analysis
Effective school leadership is critical for achieving the promise of artificial intelligence (AI) to improve schools' results. School leaders have an important role in negotiating the intricacies of AI integration, guaranteeing its appropriate and ethical use, and creating a supportive climate in which instructors and students may benefit from new technologies [4].

The conceptual framework for this study is based on the junction of school leadership, AI utilization, and school improvement. It investigates how school leaders can strategically use AI technologies and data-driven insights to improve teaching and learning and build continuous improvement inside their schools.

Artificial Intelligence in Education
The use of artificial intelligence (AI) in education greatly improves traditional teaching approaches. AI facilitates the animation and visualization of natural processes, making studying more interesting for pupils. It transforms knowledge distribution and encourages self-directed, independent learning [5]. While existing AI applications in education include mobile app teaching aids, online training platforms, and automatic assignment correction systems, the utilization of sophisticated AI goods such as smart classrooms and robotic assistants is still restricted. This highlights the need for more AI tool development and teacher training, as well as the tremendous future potential for revolutionizing education [6].

Leadership Styles: Link to AI Adoption
The key objective of this section is to review literatures on various leadership styles in the context of innovation and technology management to investigate the most suitable leadership style to perform effective role in implementing AI in the schools in their study focuses on leadership styles that make a substantial

contribution to innovation management, with an examination of four main dimensions: people, means, effects, and goals [7]. Their research expressly addresses the role of people, frequently contradicting the implicit assumption of a single leader. For means, both empirical and conceptual approaches to leadership are explored. The effect component examines empirical research into the influence of various leadership styles on followers. Finally, the goals element looks at the objectives connected with different leadership styles.

Provided empirical evidence that strategic/CEO leadership may help create organizational innovations [8]. However, considering that the strategic/CEO leadership was the only leadership style associated with organizational innovation in his study does not imply that no other styles have the potential to do so, it is just that no empirical data evidence has been provided for other leadership style.

To delve further towards linking the leadership style with AI integration and according to study, they stated that strong leadership is required for effective AI deployment and integration in higher education [9]. Visionary leaders who embrace innovation may promote a culture of change, encouraging professors and staff to experiment with AI-driven research approaches. This strategy positions AI technologies as facilitators, resulting in a seamless and successful integration. Investigated AI's influence on Malaysian education, focusing on how AI-powered learning systems boost student engagement and customize learning [10]. They highlighted AI's importance in creative education and advised institutional administrators to embrace AI integration for academic achievement.

Transformational Leadership
According to study, transformational leadership has continuously appeared as an important leadership style for AI-driven research [11]. Leaders with transformative skills inspire and encourage their teams by presenting a compelling vision for the future of AI-driven research. They promote creativity and innovation, cultivating a culture in which academics and researchers are eager to study and use AI technology. Similarly has confirmed that Transformational leaders also encourage professional growth and empower individuals, allowing them to boldly pursue AI-driven research initiatives [12].

Servant Leadership
Servant leadership style prioritizes the well-being and advancement of academics and researchers, complements AI-driven research in education. Servant leaders focus active listening, assistance, and cooperation while cultivating a trust culture , respect, and inclusion. This leadership style supports significant involvement in AI technology [13].

Adaptive Leadership
Adaptive Leadership is critical in the rapidly evolving field of AI, allowing leaders to handle risk and adjust methods as needed. They encourage experiment and failure-based learning, supporting and promoting AI incorporation [9].

Ethical Leadership
Ethical leadership is essential considering the ethical implications of AI. Ethical leaders promote ethical AI usage by

addressing issues including data privacy, algorithmic bias, and impact on society. They guarantee that AI integration maintains transparency and fairness [1,14].

Collaborative Leadership

It is vital for multidisciplinary AI utilization, since it promotes cross-disciplinary cooperation and information exchange. Collaborative leaders encourage cooperation and communication, allowing staff members to address difficult problems using various AI tools collaboratively [1, 9].

Overall, effective leadership styles are necessary for incorporating AI into schools and education context to enhance the school performance. Transformational, servant, adaptive, ethical, and collaborative leadership styles have been highlighted as critical for AI-powered applications and utilization. Following these styles allows academic institutions to manage AI challenges, stimulate creativity and cooperation, and take the initiative in AI integration .

Theoretical Framework

Leadership theories are useful frameworks for understanding and assessing the role of leadership in directing and supporting AI integration and use activities for school improvement. The integration of Artificial Intelligence (AI) technology has transformed academic processes, and successful leadership is required to fully realize the benefits of AI adoption. This review digs into major leadership theories and their application in the context of AI implementation, emphasizing how different leadership styles might impact the effective adoption and integration of AI technology to improve school performance.

Transformational leadership Theory

Transformational leadership is critical for creating an innovation- and technology-driven culture in academic environments. According to transformational leaders have the ability to inspire and encourage their people to perform at greater levels [15]. These executives present a compelling vision for AI integration while encouraging risk-taking and experimentation. Their motivating leadership approach encourages professors and researchers to investigate AI technology, resulting in good adjustments and breakthroughs in academic procedures. As a result, transformational leadership is crucial for allowing AI-driven research by empowering stakeholders to accept new technology paradigms [16].

Transactional leadership Theory

While transactional leadership, characterized by reward-penalty exchanges might not directly inspire AI research like transformational leadership, it can still play a role in its adoption [17]. By offering incentives like recognition or resources for successful AI projects, transactional leaders can motivate faculty and researchers. This focus on rewards tied to AI use fosters a culture where educators are driven to pursue AI-utilization initiatives.

Situational leadership Theory

According to (Hersey & Blanchard's, 1969) Situational Leadership Theory, it is critical to modify leadership approaches based on followers' ability and preparedness. This flexibility is essential in the context of AI-driven research since researchers and academics have differing degrees of comfort and knowledge with AI technology. Leaders may modify their strategies to promote people with greater AI experience while supporting those who are not as familiar with the technology. By meeting the various demands of teachers and researchers, this flexibility guarantees a more seamless incorporation of AI-driven research procedures [9].

Ethical leadership Theory

Because of the ethical issues surrounding AI technologies such as algorithmic bias, data privacy, and transparency, ethical leadership is crucial in AI-driven research. As to morally upright leaders give priority to these matters while making decisions and provide an example of moral conduct [19]. Ethical leaders create trust among stakeholders and cultivate a favorable view of AI integration in higher education by encouraging responsible AI practices and guaranteeing honesty and justice in AI implementation. According to researchers this ethical framework is crucial for upholding public trust and guaranteeing the proper application of AI in scholarly research [14].

Overall, situational leadership adjusts to stakeholders' preparedness, transformational leadership fosters innovation, transactional leadership encourages the use of AI, and ethical leadership guarantees ethical AI practices. Schools leaders can create a collaborative and innovative culture, to successfully employ AI tools to improve and enhance their schools and put them at the forefront of academic technology growth by utilizing these theories.

Leadership Roles In Utilizing Ai For School Improvement
Utilizing AI for School Administrative Improvement

As evident by study, leaders can employ AI in the educational institutions in a variety of ways, including the automation of administrative tasks and processes as AI has increased productivity in the execution of administrative duties with web-based platforms or intelligent computer programs [19].

Claimed that artificial intelligence (AI) has improved institutional and administrative service efficiency, especially in distance and online learning [20]. The completion of many administrative activities involved in the educational process, such as reviewing and grading student papers and assignments and offering constructive feedback to students, has been recognized as one of the important areas in education that is likely to be influenced by AI.

Leadership can support and enhance the admin staff performance by providing certain AI tools that reduce the workload on instructors by offering a platform for student feedback based on their interactions on the platforms. Other research and publications that address AI technologies that simplify administrative work clearly take similar stances. For example, Rus et al. proposed that intelligent tutoring systems (ITSs) carry out a variety of tasks, such as assigning grades and giving students feedback on their assignments [20].

Referring to the guidance it is evident how utilizing AI in education has increased productivity and efficacy when it comes

to carrying out administrative duties like assigning grades and managing students' attendance data [21].

According to AI is recently being utilized to improve statistical analysis by enabling more intricate data mining [22]. Among these data-mining technologies, big data analytics and AI-enhanced predictive modeling have emerged as two popular categories. Moreover, AI predictive modeling is the ability of machines to forecast the probability of specific events based on historical and current data. However, AI-based solutions that "allow the collection, management, and analysis of data sets that are too large for conventional database systems" are referred to as big data analytics where leadership is expected to issue clear and firm directives to effectively utilize such AI tools to achieve notable school improvement in the operational and administrative aspect.

Utilizing Ai For School Academic Improvement

Teaching and instructions are one of the main sectors that have experienced an invasion of AI systems, according to the analysis of the papers that were found and included in the research. Artificial Intelligence has enabled the development and implementation of systems that are Clearly highly effective teaching instruments. The quality of training has increased thanks to these resources [23]. The several papers that have been examined analyze and highlight various platforms and uses of artificial intelligence as a teaching aid. Timms talks about the different ways that artificial intelligence (AI) can be used as a teaching tool or platform. One such application is simulation-based instruction, which uses various technologies, like virtual reality, to show students concepts or practically demonstrate materials, providing an experiential or practical learning experience [23].

Analysis & Roadmap on the Role of leadership to use AI for school improvement
Leadership Roles & Responsibilities

According to an analysis of the academic sources chosen for the study, there is a crucial and essential role of the schools leader to sufficiently employ and integrate AI in their school to improve both administrative and academic performance found out that implementing AI requires effective leadership, where leadership has pivotal role to set a strategic vision, steer a change management, and commitment to ethical principles [24]. Establishing a clear AI roadmap that incorporates AI into the organization's strategy must be the first step for leaders. This entails realizing AI's potential, figuring out where it can be most useful, establishing realistic goals, and coordinating AI projects with organizational goals. In addition, cultivating an innovative culture is essential. In order to properly enable the business to capitalize on the revolutionary potential of artificial intelligence, leaders should foster experimentation, cultivate a learning attitude, and have an open mind to new ideas and methods.

Prioritized the leaders' responsibilities with supporting staff motivation and involvement during the AI transformation; Address concerns and worries about implementing AI; Emphasize the advantages of AI for job responsibilities inside the organization [25].

Recognize the ethical ramifications of AI, including bias in decision-making and data privacy; Establish ethical standards for the organization's usage of AI.

In their case study conducted in high school in Hong Kong, they investigate the effective use of an adaptive learning platform (ALP) in a high school. This study demonstrates how supportive school leadership may provide a favorable climate for technology adaption in educational settings, emphasizing the critical role that supportive school leadership plays in supporting teacher adoption of AI and improving student learning [26].

Leadership Strategies to Utilize Ai in Schools

Based on the recent release of UNESCO Guidance for generative AI in education and research school leadership ought to implement a comprehensive approach and strategies to enable the responsible and creative use of AI in learning environments, hence augmenting the overall enhancement of school progress by implementing key strategies as [27].

- **Institutionalizing Ethical Principles:** School administrators are responsible for ensuring that researchers, educators, and students utilize AI technologies in an ethical and responsible manner. This involves encouraging a critical mindset while assessing the reliability and correctness of outputs produced by AI.
- **Guidance and Training:** It is essential to give all educational stakeholders thorough guidance and training about AI tools. Ethical concerns include biases in data labeling and algorithms, as well as adherence to data privacy and intellectual property laws, should be covered in this training.
- **Constructing Prompt-Engineering Capabilities for GenAI:** Researchers and educators need to become experts in engineering and critically analyzing AI-generated prompts in addition to their subject-specific knowledge. They must receive excellent training and assistance in order to acquire the abilities needed to handle the challenging problems that AI technologies provide.
- **Identifying GenAI-Based Plagiarism:** Educational institutions need to handle the possibility of AI-generated plagiarism in student submissions in order to uphold academic integrity. This entails putting policies in place to rigorously identify information created by AI and reconsidering the structure of written assignments to concentrate on activities that call for skills that are exclusive to humans, such using empathy and creativity to solve problems in the real world.

In conclusion, by integrating these strategies, school leadership can guarantee that AI is utilized in a responsible manner to contribute on the school improvement especially in teaching and learning practices. Moreover, in addition to UNISCO guidelines, similar recommendations have been addressed and evident by many researchers on respective topics separately such as (Ronanki et al.,2024) [23, 28].

Findings & Discussion
Implications of utilizing AI for School Leadership

- Initially, the expectation from any school leader to integrate digital leadership into their management strategies and provide guidance on how to use the recent AI technology

most effectively for the improvement of operational procedures and the teaching and learning process. This task mandates enabling intelligent learning environment by integrating AI technologies onto sufficient and effective management and leadership practices.

- The leadership models used in the current education setting have changed dramatically throughout the time, transformational leadership and ethical leadership styles should replace the traditional models with a leader-centered perspective.

- School leaders need to be more aware of how AI is being used in their organizations, for both low-level classroom activities and high-level organizational process. This flag the important need for new selection and preparation criterion for leaders training to be capable of leading their school to effectively employ AI for the educational environment enhancement.

- Different leadership styles offer varying levels of support when it comes to this shift. For example, transformational leaders, who are known for inspiring change and encouraging innovation, tend to be better positioned to lead AI adoption. They're often open to trying new approaches, whether it's using AI to personalize learning, reduce routine tasks, or make better decisions through data. On the other hand, transactional leadership, which focuses more on rules and performance targets, may not offer enough flexibility for schools to truly take advantage of what AI can offer.

- Ethical leadership is also becoming more important. With AI bringing up concerns around things like privacy, bias in algorithms, and data protection, leaders who prioritize values and fairness can help ensure that technology is used responsibly. These leaders are more likely to put in place clear ethical guidelines and align school practices with global recommendations—such as those from UNESCO—emphasizing a human-centered approach to AI in education.

- As AI continues to influence everything from lesson planning to school-wide decisions, leaders need to be well-prepared. That includes having a solid understanding of what AI can and can't do, and knowing how to use it to improve learning outcomes. It also means we need to rethink how to prepare and select school leaders—technical literacy and an openness to innovation are now essential skills. Moreover, leaders must be updated about AI's capabilities and limitations to effectively integrate it

into their school strategic planning employing AI tools to promote innovation.

- Finally, school leaders have a responsibility to think about the bigger picture. That means setting the ethical tone, making sure AI is used in ways that support - not replace- teachers, and putting student well-being at the center. When leadership combines a clear vision, ethical awareness, and a strong understanding of technology, schools are much more likely to see meaningful improvements through AI. Consequently, leadership should address the ethical implications of AI in corporate operations, develop guidelines for its appropriate application, and make sure that new rules are followed.

However, understanding these implications is imperative for effectively leading the utilization process of AI technologies by the leadership to attain a notable school improvement on both academic and administrative aspects.

Result & Key Findings

Comprehend research and analysis to wide range of recent published literature studies and articles during last ten years -and mostly in last five years- on AI utilization in the educational landscape and linking it to the role of leadership in the context of school improvement led the researcher to confirm the crucial role of school leadership to enable effective utilization of Artificial Intelligence technologies across the school environment to achieve a remarked improvement in the academic and administrative aspects. The role and required responsibilities can be implemented as practical strategies [29,30].

According to the latest UNISCO guidelines has been released, and the data retrieved and analyzed by the researcher from the reviewed literatures with few cases studies included , there are key practices can be held by school leadership to steer the AI utilization wheel to maintaining successful implementation and attain a school improvement [27]. For example, the case study on HongKong school ended up with effective leadership practice on utilizing AI for Personalized Learning Pathways where students reported increased competence and a more positive attitude towards AI, while teachers gained enhanced knowledge and autonomy in integrating AI into their classrooms. However, more successful leadership practices can be summarized in the Table 2 below:

Table 2: AI-Powered Leadership practices for school Improvement

School Improvement Aspect	Leadership Directed Practices
Administrative	• Establish clear policies for the ethical Al usage & responsible use. • Direct admin staff to utilize Al tools to optimize data-driven decision- making, career guidance, attendance tracking, and HR operations. • Provide Al adaptive learning platform to be used by all academic staff.
Teaching	• Manage the teachers' usage for adaptive learning platform to ensure personalized learning experience opportunities for all students. • Foster innovation & creativity in classwork & capstone projects • Monitor sufficient utilization of Al tools by teachers in all lessons. • Instruct teachers to develop Personalized learning plan for each learner using Gen AI tool.

Learning	• Lead the process of detecting the learning state and implementing tailored intervention plan to students. • Monitor the short achieving cases and address them early for personalized supportive plan. • Automate the elective courses selection mechanism.

Overall, by accumulating the results from 4.2.1 and 4.2.2 this study can confidently answer the research question proposed as following:

RQ1- How does leadership utilize AI-powered tools for school improvement?

It is evident by the researcher that there is a crucial and essential role for the leadership in integrating AI in the school context based on the literature data analysis as confirmed in 4.2.1 and as per the provided roadmap of analyzed role and responsibilities in 3.4.1 & 3.4.2

- **1.1**- What are the leadership practices that effectively utilize AI tools to enhance teaching and learning experience?
- **1.2**- How can school leadership streamline administrative processes using AI powered tools?

The answer for both sub-questions has been outlined by the researcher as a summarized result from comprehensive review for around 30 published articles and papers in the Table1.

Conclusion
Challenges & Limitation

Despite of the great opportunities and benefits can be brought to the school improvement record upon implementing sufficient practices on AI utilization as outlined in Table(1), there are serious challenges would be faced by school leadership which may vary based on different factors such as school size, staff professionalism, cultural considerations and others. However, the main challenges can be demonstrated in Figure(1) chart below:
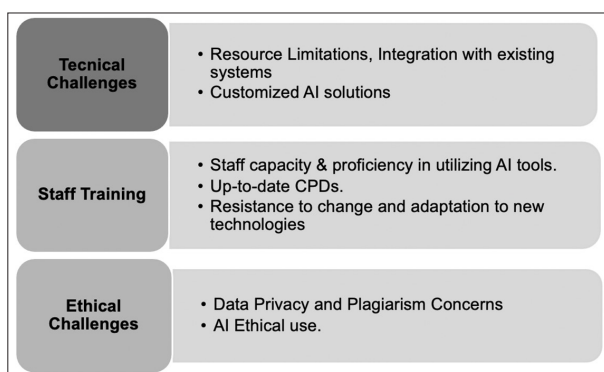

Figure 2: Leadership challenges on AI utilization. Source: The author's summary from literatures reviewed

Recommendations for Future AI-Utilization& Studies

Based on reviewing the current studies and literatures, the researcher could come up with the following recommendations for school leadership to achieve notable school improvement:

- More empirical research is required to determine and measure how various leadership styles affect the integration of AI to improve the school performance. Investigating the connection between AI utilization and applying different leadership theories would provide more perspectives on effective leadership strategies for AI adoption.
- Comparative studies focus on Cross-Country Comparisons can uncover how diverse educational systems and cultural contexts shape AI implementation, offering scalable insights.
- Future studies on AI in the education context should focus more on the teachers upskilling and capacity building and training to empower them for optimal AI-utilization.
- AI integration should be implemented as a long-term strategic plan, with an emphasis on continued enhancements and improvement as technology advances.

Conclusion Note

This study examines the vital connection between leadership role and the effective utilization of Artificial Intelligence (AI) within the context of school improvement on academic and administrative extends. It thoroughly reviewed more than 25 full-text studies were accessible on scholarly databases, and UNESCO guidelines documents for adopting AI in education were also investigated.

The findings prioritized transformational and ethical leadership styles for successful AI integration and highlighted the essential role of leadership to harness and utilize AI technology while simultaneously considering the implications that accompany its integration. The paper has valuable addition to the available body of literature by providing a clear roadmap for leaders to utilize AI for school improvement through proposed sufficient academic and administrative practices. By providing these, the researcher contributes to bridging the gap in literature which lacks such clear guidance roadmap and outlined practices for leaders.

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